

# TABLE OF CONTENTS

Undergraduate Catalogue .....	8	Computer Science (CS) .....	57
Academic Offerings .....	8	Counseling (CNSL) .....	61
Undergraduate Majors .....	8	Critical Race and Ethnic Studies (CRES) .....	61
Undergraduate Minors and Undergraduate Certificates .....	9	Curriculum & Instruction (EDCI) .....	61
Courses .....	10	Dance (DNCE) .....	62
Course List .....	10	Early Childhood Pre K-3 (EDEC) .....	64
Agriculture & Life Science (CALS) .....	10	Early Childhood Special Educ (ECSP) .....	66
American Sign Language (ASL) .....	11	Economics (ECON) .....	67
Anatomy (ANAT) .....	12	Education (EDSS) .....	70
Anatomy & Neurobiology (ANNB) .....	12	Education for Cultural and Linguistic Diversity (ECLD) .....	71
Anatomy/Physiology (ANPS) .....	13	Education Research Methods (EDRM) .....	72
Anesthesiology (ANES) .....	13	Electrical Engineering (EE) .....	72
Animal Biosciences (ABIO) .....	13	Elementary Education (EDEL) .....	75
Animal Science (ASCI) .....	14	Emergency Medicine (EMED) .....	77
Anthropology (ANTH) .....	17	Engineering (ENGR) .....	77
Arabic (ARBC) .....	20	Engineering Management (EMGT) .....	78
Art History (ARTH) .....	20	English (ENGL) .....	79
Art Studio (ARTS) .....	22	Engl for Spkr of Other Langs (ESOL) .....	84
Arts and Sciences Interdisciplinary (CAS) .....	25	Engr & Math Sciences (CEMS) .....	85
Astronomy (ASTR) .....	26	Environmental Sciences (ENSC) .....	86
Athletic Training (AT) .....	26	Environmental Studies (ENVS) .....	87
Biochemistry (BIOC) .....	27	Exercise Science (EXSC) .....	88
BioCore (BCOR) .....	28	Family Medicine (FM) .....	89
Biology (BIOL) .....	29	Film & Television Studies (FTS) .....	90
Biomedical and Health Sciences (BHSC) .....	32	Food Systems (FS) .....	92
Biomedical Engineering (BME) .....	33	Foreign Language (LANG) .....	93
Business Administration (BUS) .....	35	Forestry (FOR) .....	93
Chemistry (CHEM) .....	40	Foundations (EDFS) .....	94
Chinese (CHIN) .....	43	French (FREN) .....	95
Civil and Environmental Engineering (CEE) .....	44	Geography (GEOG) .....	97
Classics (CLAS) .....	47	Geology (GEOL) .....	99
Clinical&Translational Science (CTS) .....	48	German (GERM) .....	100
College of Medicine Undergraduate (COMU) .....	48	Global and Regional Studies (GRS) .....	102
Comm Sciences & Disorders (CSD) .....	49	Gndr, Sexuality, & Wms Stdies (GSWS) .....	103
Community Development & Applied Economics (CDAE) .....	51	Greek (GRK) .....	104
Complex Systems (CSYS) .....	56	Health and Society (HSOC) .....	105
Computer Information Systems (CIS) .....	57	Health Education (EDHE) .....	105
		Health (HLTH) .....	106

Health Sciences (HSCI) .....	108	Overseas Study Program (OSSP) .....	153
Hebrew (HEBR) .....	110	Parks, Recreation and Tourism (PRT) .....	153
Higher Education (EDHI) .....	110	Pathology (PATH) .....	154
Historic Preservation (HP) .....	111	Pediatrics (PED) .....	155
History (HST) .....	111	Pharmacology (PHRM) .....	155
Holocaust Studies (HS) .....	116	Philosophy (PHIL) .....	156
Honors College (HCOL) .....	116	Physical Education (PEAC) .....	158
Human Development & Family Science (HDF) .....	117	Physical Education-Prof (EDPE) .....	159
Humanities (HUMN) .....	118	Physics (PHYS) .....	160
Internship (SINT) .....	119	Plant Biology (P BIO) .....	162
Italian (ITAL) .....	119	Plant & Soil Science (PSS) .....	164
Japanese (JAPN) .....	121	Political Science (POL S) .....	167
Jewish Studies (JS) .....	122	Professional Nursing (PRNU) .....	171
Latin (LAT) .....	123	Psychiatry (MDPS) .....	173
Leadership and Policy Studies (EDLP) .....	124	Psychological Science (PSYS) .....	173
Learning Community (LC) .....	124	Public Administration (PA) .....	175
Library Science (EDLI) .....	125	Public Health (PH) .....	175
Linguistics (LING) .....	125	Radiation Therapy (RADT) .....	176
Literacy (EDLT) .....	127	Radiology (RAD) .....	177
Mathematics (MATH) .....	127	Rehabilitation & Movement Sci (RMS) .....	177
Mechanical Engineering (ME) .....	130	Religion (REL) .....	178
Medical - Gen COM Course (MD) .....	133	Russian (RUSS) .....	180
Medical Laboratory Science (MLS) .....	133	Secondary Education (EDSC) .....	181
Micr & Molecular Genetics (MMG) .....	134	Social Work (SWSS) .....	182
Middle Level Teacher Education (EDML) .....	136	Sociology (SOC) .....	184
Military Studies (MS) .....	137	Spanish (SPAN) .....	187
Molecular Physiology & Biophys (MPBP) .....	138	Special Education (EDSP) .....	190
Music Ensemble (MUE) .....	139	Speech (SPCH) .....	191
Music Lessons (MUL) .....	139	Statistics (STAT) .....	192
Music (MU) .....	141	Surgery (SURG) .....	193
Natural Resources (NR) .....	144	Teacher Education (EDTE) .....	194
Neurology (NEUR) .....	147	Theatre (THE) .....	195
Neuroscience (NSCI) .....	148	Vermont Studies (VS) .....	197
Nursing & Health Sciences (NH) .....	149	Wildlife & Fisheries Biology (WFB) .....	198
Nursing (NURS) .....	150	World Literature (WLIT) .....	199
Nutrition and Food Sciences (NFS) .....	150	Catamount Core Curriculum .....	201
Obstetrics & Gynecology (OBGY) .....	152	CCC: Liberal Arts .....	201
Orientation (ORNT) .....	153	Arts (AH1) .....	202
Orthopedic Surgery (ORTH) .....	153	Literature (AH2) .....	204

Humanities (AH3) .....	205	Applied Design Minor .....	246
Pure Mathematics (MA) .....	206	Biosecurity Minor .....	246
Natural Science without Lab (N1) .....	206	Community and International Development Minor .....	247
Natural Science with Lab (N2) .....	207	Community Entrepreneurship Minor .....	247
Social Sciences (S1) .....	208	Consumer and Advertising Minor .....	247
CCC: Core Skills .....	209	Food Systems Minor .....	248
Oral Communication (OC) .....	210	Green Building and Community Design Minor .....	249
Quantitative and Data Literacy (QD) .....	211	Public Communication Minor .....	250
Writing and Information Literacy (WIL1) .....	212	Sports Management Minor .....	251
Writing and Information Literacy Tier 2 (WIL2) .....	214	Food Systems .....	252
CCC: Common Ground Values .....	214	Food Systems B.S. ....	252
Diversity of Human Experience (D2) .....	215	Food Systems Minor .....	248
Global Citizenship: Global Systems and Problems (GC1) .....	218	Department of Microbiology and Molecular Genetics .....	254
Global Citizenship: Developing Global Citizens (GC2) .....	218	Microbiology B.S. ....	255
Race and Racism in the US (D1) .....	220	Molecular Genetics B.S. ....	256
Sustainability (SU) .....	221	Bioinformatics Minor .....	257
General Education Categories: Catalogue Edition 2022-23 or Earlier .....	222	Microbiology Minor .....	257
Foundational Writing and Information Literacy (FW) .....	223	Molecular Genetics Minor .....	257
Quantitative Reasoning (QR) .....	223	Department of Nutrition and Food Sciences .....	258
Colleges/Schools .....	225	Nutrition and Food Sciences B.S. ....	259
The College of Agriculture and Life Sciences .....	225	Nutrition and Food Sciences Minor .....	260
Department of Animal and Veterinary Sciences .....	230	Department of Plant and Soil Science .....	260
Animal Science B.S. ....	230	Agroecology and Landscape Design B.S. ....	261
Animal Sciences Minor .....	235	Agroecology Minor .....	262
Biochemistry in the College of Agriculture and Life Sciences .....	235	Soil Science Minor .....	262
Biochemistry B.S. ....	236	Sustainable Landscape Horticulture Minor .....	262
Biochemistry Minor .....	237	Plant Biology Department .....	263
Biological Science in the College of Agriculture and Life Sciences .....	237	Plant Biology B.S. ....	263
Biological Science B.S. ....	238	Plant Biology Minor .....	264
Department of Community Development and Applied Economics .....	239	Self-Designed B.S. ....	264
Community and International Development B.S. ....	240	The College of Arts and Sciences .....	264
Community-Centered Design B.S. ....	241	Department of Anthropology .....	271
Community Entrepreneurship B.S. ....	243	Anthropology B.A. ....	271
Public Communication B.S. ....	244	Anthropology B.S. ....	272
		Anthropology Minor .....	274
		Art and Art History Program .....	275
		Art History B.A. ....	275
		Art: Studio Art B.A. ....	276

Art Minor .....	276	English B.A. ....	304
Art History Minor .....	277	Film and Television Studies B.A. ....	305
School of the Arts .....	277	English Minor .....	305
Asian Languages and Literatures Program .....	277	Film and Television Studies Minor .....	306
Chinese B.A. ....	278	Writing Minor .....	307
Japanese B.A. ....	279	Environmental Studies in the College of Arts and Sciences	
Chinese Minor .....	280	.....	307
Japanese Minor .....	281	Environmental Studies B.A. ....	307
Biochemistry in the College of Arts and Sciences .....	281	Environmental Studies Minor .....	308
Biochemistry B.S. ....	282	French and Italian Program .....	309
Biochemistry Minor .....	283	French B.A. ....	309
Department of Biology .....	283	French Minor .....	310
Biology B.A. ....	284	Italian Studies Minor .....	311
Biological Science B.S. ....	286	Gender, Sexuality, and Women's Studies Program .....	311
Zoology B.A. ....	288	Gender, Sexuality, and Women's Studies B.A. ....	312
Zoology B.S. ....	289	Gender, Sexuality, and Women's Studies Minor .....	312
Biology Minor .....	290	Sexuality and Gender Identity Studies Minor .....	313
Zoology Minor .....	290	Department of Geography and Geosciences .....	313
CAS College-wide Curriculum .....	291	Geography B.A. ....	314
Individually Designed B.A. ....	292	Geography Minor .....	314
Individually Designed Minor .....	292	Geospatial Technologies Minor .....	315
Center for Research on Vermont .....	293	German, Russian, and Hebrew Program .....	316
Reporting and Documentary Storytelling Minor .....	293	German B.A. ....	316
Department of Chemistry .....	294	Russian B.A. ....	316
Chemistry B.A. ....	294	German Minor .....	317
Chemistry B.S. ....	295	Russian Minor .....	317
Chemistry Minor .....	296	Global and Regional Studies Program .....	318
Classics Program .....	297	Asian Studies B.A. ....	318
Classics B.A. ....	298	Global Studies B.A. ....	319
Classics Minor .....	298	African Studies Minor .....	322
Computer Science in Arts and Sciences .....	299	Asian Studies Minor .....	322
Computer Science B.A. ....	300	Canadian Studies Minor .....	323
Critical Race and Ethnic Studies .....	301	European Studies Minor .....	323
Critical Race and Ethnic Studies Minor .....	301	Global Studies Minor .....	324
Department of Economics .....	301	Latin American and Caribbean Studies Minor .....	325
Economics B.A. ....	302	Middle East Studies Minor .....	325
Economics B.S. ....	302	Russian and East European Studies Minor .....	326
Economics Minor .....	303	Health and Society .....	327
Department of English .....	304	Health and Society B.A. ....	327

Health and Society Minor .....	329	Physical Activity Promotion in Children and Youth Undergraduate Certificate .....	353
Department of History .....	330	Psychological Science Minor .....	353
History B.A. ....	330	Department of Religion .....	354
History Minor .....	332	Religion B.A. ....	354
Holocaust Studies Program .....	332	Jewish Studies Minor .....	355
Holocaust Studies Minor .....	333	Religion Minor .....	355
Linguistics Program .....	333	Religious Literacy in Professions Undergraduate Certificate .....	355
Linguistics B.A. ....	334	Department of Sociology .....	356
Linguistics Minor .....	334	Sociology B.A. ....	356
Teaching English to Speakers of Other Languages Undergraduate Certificate .....	334	Law and Society Minor .....	357
Mathematics and Statistics in the College of Arts and Sciences .....	334	Sociology Minor .....	357
Mathematics B.A. ....	335	Spanish Program .....	358
Music Program .....	336	Spanish B.A. ....	358
Music B.A. ....	336	Spanish Minor .....	359
Community Music: Organ Undergraduate Certificate .....	339	Theatre and Dance Program .....	359
Music Minor .....	340	Dance B.A. ....	360
Music Technology and Business Minor .....	340	Theatre B.A. ....	361
Musical Theatre Minor .....	341	Dance Minor .....	362
Neuroscience in the College of Arts and Sciences .....	341	Musical Theatre Minor .....	341
Neuroscience B.A. ....	342	Theatre Minor .....	362
Neuroscience B.S. ....	343	School of World Languages and Cultures .....	363
Neuroscience Minor .....	344	The Grossman School of Business .....	363
Department of Philosophy .....	344	Business Administration B.S.BA. ....	366
Philosophy B.A. ....	345	Accounting Minor .....	370
Philosophy Minor .....	345	Business Administration Minor .....	371
Physics in the College of Arts and Sciences .....	346	Sports Management Minor .....	372
Physics B.A. ....	346	The College of Education and Social Services .....	372
Plant Biology in the College of Arts and Sciences .....	347	Department of Counseling, Human Development, and Family Science .....	374
Plant Biology B.S. ....	347	Human Development and Family Science B.S. ....	374
Department of Political Science .....	348	Human Development and Family Science Minor .....	375
Political Science B.A. ....	348	Department of Education .....	376
International Politics Minor .....	349	Individually Designed B.S.Ed. ....	377
Political Science Minor .....	350	Teacher Education / Art Education (Grades PreK-12) B.S.AE. ....	378
Public Policy Analysis Minor .....	350	Teacher Education / Early Childhood Education (Birth- Grade 3) B.S.Ed. ....	378
Department of Psychological Science .....	351	Teacher Education / Elementary Education (Grades K-6) B.S.Ed. ....	380
Psychological Science B.A. ....	351		
Psychological Science B.S. ....	352		

Teacher Education / Middle Level Education (Grades 5-9) B.S.Ed. ....	382	Computer Science Minor .....	421
Teacher Education / Music Education (Grades PreK-12) B.S.MS. ....	383	Mathematics and Statistics Department .....	421
Teacher Education / Secondary Education (Grades 7-12) B.S.Ed. ....	385	Data Science B.S. ....	419
American Sign Language Minor .....	393	Mathematics B.S.MSC. ....	423
Coaching Minor .....	393	Statistics B.S.MSC. ....	427
Computer Science Education Minor .....	394	Mathematics: Pure Minor .....	428
Education for Cultural and Linguistic Diversity Minors .....	394	Statistics Minor .....	429
Place-Based Education Undergraduate Certificate .....	395	Physics Department .....	429
Post-Baccalaureate Teacher Preparation .....	395	Physics B.S. ....	429
Special Education Minor .....	396	Astronomy Minor .....	430
Sports Management Minor .....	397	Physics Minor .....	431
Teaching English to Speakers of Other Languages Undergraduate Certificate .....	397	The College of Nursing and Health Sciences .....	431
Department of Social Work .....	398	Biomedical and Health Sciences .....	432
Social Work B.S.W. ....	398	Medical Laboratory Science B.S. ....	433
The College of Engineering and Mathematical Sciences .....	399	Medical Radiation Sciences B.S. ....	435
Civil and Environmental Engineering .....	403	Public Health Sciences B.S. ....	437
Civil Engineering B.S.CE. ....	403	Medical Diagnostics Minor .....	442
Environmental Engineering B.S.EV. ....	405	Department of Communication Sciences and Disorders .....	442
Electrical and Biomedical Engineering .....	406	Communication Sciences and Disorders B.S. ....	443
Biomedical Engineering B.S.BME. ....	407	Communication Sciences and Disorders Minor .....	445
Electrical Engineering B.S.EE. ....	408	Department of Nursing .....	445
Electrical Engineering Minor .....	409	Nursing B.S. ....	445
Geospatial Technologies Minor .....	410	Department of Rehabilitation and Movement Science .....	447
Mechanical Engineering .....	410	Exercise Science B.S. ....	447
Mechanical Engineering B.S.ME. ....	410	Emergency Medical Services Minor .....	449
Interdisciplinary Engineering Programs .....	412	Integrative Health Minor .....	449
Engineering B.S.E. ....	412	Integrative Health and Wellness Coaching Minor .....	450
Engineering Management B.S.EM. ....	413	The Rubenstein School of Environment and Natural Resources .....	450
Computer-Aided Engineering Technology Undergraduate Certificate .....	415	Environmental Sciences in the Rubenstein School of Environment and Natural Resources .....	452
Geospatial Technologies Minor .....	410	Environmental Sciences B.S. ....	452
Computer Science Department .....	416	Forestry Program .....	457
Computer Science B.S.CS. ....	417	Forestry B.S. ....	457
Computer Science and Information Systems B.S. ....	418	Forestry Minor .....	458
Data Science B.S. ....	419	Geospatial Technologies Minor .....	458
		Sustainability, Ecology and Policy Program .....	459
		Sustainability, Ecology and Policy B.S. ....	459

Parks, Recreation and Tourism Program .....	463	Application and Supporting Materials for Undergraduates .....	486
Parks, Recreation and Tourism B.S. ....	463	Residency Regulations, In-State Status Regulations .....	487
Parks, Recreation, and Tourism Minor .....	464	Admissions Programs for Undergraduate Students .....	488
Sports Management Minor .....	464	Admission to the Honors College .....	489
Wildlife and Fisheries Biology Program .....	464	Application Deadlines and Notification Dates for Undergraduates .....	489
Wildlife and Fisheries Biology B.S. ....	465	College Credit for High School Classes .....	490
Wildlife Biology Minor .....	465	Articulation Agreements .....	490
The Honors College .....	466	Transfer Student Admissions .....	495
Larner College of Medicine .....	468	International Student Admissions .....	496
Behavioral Change Health Studies Minor .....	468	Nontraditional Undergraduate Student Admissions .....	497
Pharmacology Minor .....	468	Reapplying to the University as an Undergraduate .....	497
General Information .....	470	Financial Information .....	498
Academic Information .....	470	Financial Aid and Scholarships .....	500
Academic Honors .....	470	Financial Aid .....	500
Academic Internships .....	470	Scholarships .....	501
Academic Minors .....	472	Unique Learning Opportunities .....	503
Academic Standing .....	472	Accelerated Master's Degree Programs .....	503
Alternative Methods for Earning Academic Credit .....	473	Exchange Programs with New England State Universities .....	503
Degree and University Requirements .....	473	Learning Communities .....	504
Directory Information Exclusion .....	474	Military Studies .....	504
Exams and Grading .....	474	Pre-Professional Options for Undergraduate Students .....	505
FERPA Rights Disclosure .....	477	Professional and Continuing Education .....	505
Graduate Course Enrollment for Undergraduate Students .....	477	Research Opportunities for Undergraduate Students .....	505
Independent Study Courses .....	478	Study Abroad .....	506
Repeated Courses .....	478	About the University .....	506
Student Rights and Responsibilities .....	478	University Administration and Governance .....	507
Transcripts .....	479	University Professorships .....	509
Undergraduate Certificates .....	480	Honorary and Recognition Societies .....	515
University Policies and Responsibility .....	481	Accreditations .....	515
Enrollment and Registration .....	481	UVM Equal Opportunity Statements .....	516
Enrollment .....	481	Faculty .....	517
Registration .....	483	Emeriti Faculty .....	517
Academic Calendar .....	484	Faculty List .....	544
Admission Information .....	485	Catalogue Archives .....	586
Admissions Requirements and Recommendations by College/School .....	485	Prior Year Addendum .....	586
Minimum Entrance Requirements .....	486	Index .....	592
Matriculation Status .....	486		
Acceptable Proof of Graduation .....	486		

## UNDERGRADUATE CATALOGUE

Students at the University of Vermont are responsible for knowing and complying with all requirements for their respective degrees as stated in the catalogue.

The University of Vermont reserves the right to make changes in the course offerings, mode of delivery, degree requirements, charges, regulations, and procedures contained herein as educational, financial, and health, safety, and welfare considerations require, or as necessary to be compliant with governmental, accreditation, or public health directives.

Mode and method of instruction for any given course, including, but not limited to, in-person vs. remote instruction (synchronous or asynchronous), use of mixed formats, and alternative scheduling, is at the discretion of the University.

The following undergraduate academic programs are not currently accepting students: Consumer Affairs minor, Early Childhood Special Education major, Geology major, Geology minor, Gerontology minor, Physical Education major, RN-BS major.

## ACADEMIC OFFERINGS

### UNDERGRADUATE MAJORS

- Agroecology and Landscape Design B.S. (p. 261)
- Animal Science B.S. (p. 230)
- Anthropology B.A. (p. 271)
- Anthropology B.S. (p. 272)
- Art History B.A. (p. 275)
- Art: Studio Art B.A. (p. 276)
- Asian Studies B.A. (p. 318)
- Biochemistry B.S. (p. 236) (College of Agriculture and Life Sciences)
- Biochemistry B.S. (p. 282) (College of Arts and Sciences)
- Biological Science B.S. (p. 238) (College of Agriculture and Life Sciences)
- Biological Science B.S. (p. 286) (College of Arts and Sciences)
- Biology B.A. (p. 284)
- Biomedical Engineering B.S.BME (p. 407).
- Business Administration B.S.BA. (p. 366)
- Chemistry B.A. (p. 294)
- Chemistry B.S. (p. 295)
- Chinese B.A. (p. 278)
- Civil Engineering B.S.CE. (p. 403)
- Classics B.A. (p. 298)
- Communication Sciences and Disorders B.S. (p. 443)
- Community and International Development B.S. (p. 240)
- Community-Centered Design B.S. (p. 241)
- Community Entrepreneurship B.S. (p. 243)
- Computer Science B.A. (p. 300) (College of Arts and Sciences)
- Computer Science B.S.CS. (p. 417) (College of Engineering and Mathematical Sciences)
- Computer Science and Information Systems B.S. (p. 418)
- Dance B.A. (p. 360)
- Data Science B.S. (p. 419)
- Economics B.A. (p. 302)
- Economics B.S. (p. 302)
- Electrical Engineering B.S.EE. (p. 408)
- Engineering B.S.E. (p. 412)
- Engineering Management B.S.EM. (p. 413)
- English B.A. (p. 304)
- Environmental Engineering B.S.EV. (p. 405)
- Environmental Sciences B.S. (p. 452) (Rubenstein School of Environment and Natural Resources)
- Environmental Studies B.A. (p. 307) (College of Arts and Sciences)
- Exercise Science B.S. (p. 447)
- Film and Television Studies B.A. (p. 305)
- Food Systems B.S. (p. 252)
- Forestry B.S. (p. 457)
- French B.A. (p. 309).
- Gender, Sexuality and Women's Studies B.A. (p. 312)
- Geography B.A. (p. 314)
- German B.A. (p. 316)
- Global Studies B.A. (p. 319)
- Health and Society B.A. (p. 327)
- History B.A. (p. 330)
- Human Development and Family Science B.S. (p. 374).
- Individually Designed B.A. (p. 292)
- Individually Designed B.S.Ed. (p. 377)
- Japanese B.A. (p. 279)
- Linguistics B.A. (p. 334)
- Mathematics B.A. (p. 335) (College of Arts and Sciences)
- Mathematics B.S.MSC. (p. 423) (College of Engineering and Mathematical Sciences)
- Mechanical Engineering B.S.ME. (p. 410)
- Medical Laboratory Science B.S. (p. 433)
- Medical Radiation Sciences B.S.
- Microbiology B.S. (p. 255)
- Molecular Genetics B.S. (p. 256)
- Music B.A. (p. 336)
- Neuroscience B.A. (p. 342)
- Neuroscience B.S. (p. 343)
- Nursing B.S. (p. 445)
- Nutrition and Food Sciences B.S. (p. 259)
- Parks, Recreation and Tourism B.S. (p. 463)
- Philosophy B.A. (p. 345)
- Physics B.A. (p. 346) (College of Arts and Sciences)
- Physics B.S. (p. 429) (College of Engineering and Mathematical Sciences)
- Plant Biology B.S. (p. 347) (College of Arts and Sciences)
- Plant Biology B.S. (p. 263) (College of Agriculture and Life Sciences)
- Political Science B.A. (p. 348)
- Psychological Science B.A. (p. 351)
- Psychological Science B.S. (p. 352)
- Public Communication B.S. (p. 244)
- Public Health Sciences B.S. (p. 437)
- Religion B.A. (p. 354)
- Russian B.A. (p. 316)
- Self-Designed B.S. (p. 264)
- Social Work B.S.W. (p. 398)
- Sociology B.A. (p. 356)



Spanish B.A. (p. 358)  
 Statistics B.S.MSC. (p. 427)  
 Sustainability, Ecology and Policy B.S. (p. 459)  
 Teacher Education: Art Education (PreK-12) B.S.AE. (p. 378)  
 Teacher Education: Early Childhood Education (Birth-Gr3) B.S.Ed. (p. 378)  
 Teacher Education: Elementary Education (K-6) B.S.Ed. (p. 380)  
 Teacher Education: Middle Level Education (5-9) B.S.Ed. (p. 382)  
 Teacher Education: Music Education (Pre-K - 12) B.S.MS. (p. 383)  
 Teacher Education: Secondary Education (7 - 12) B.S.Ed. (p. 385)  
 Theatre B.A. (p. 361)  
 Wildlife and Fisheries Biology B.S. (p. 465)  
 Zoology B.A. (p. 288)  
 Zoology B.S. (p. 289)

## UNDERGRADUATE MINORS AND UNDERGRADUATE CERTIFICATES

Accounting (p. 370)  
 African Studies (p. 322)  
 Agroecology (p. 262)  
 American Sign Language (p. 393)  
 Animal Science (p. 235)  
 Anthropology (p. 274)  
 Applied Design (p. 246)  
 Art (p. 276)  
 Art History (p. 277)  
 Asian Studies (p. 322)  
 Astronomy (p. 430)  
 Behavioral Change Health Studies (p. 468)  
 Biochemistry (p. 283)  
 Bioinformatics (p. 257)  
 Biology (p. 290)  
 Biosecurity (p. 246)  
 Business Administration (p. 371)  
 Canadian Studies (p. 323)  
 Chemistry (p. 296)  
 Chinese (p. 280)  
 Classics (p. 298)  
 Coaching (p. 393)  
 Communication Sciences and Disorders (p. 445)  
 Community and International Development (p. 247)  
 Community Entrepreneurship (p. 247)  
 Community Music: Organ (p. 339) - Undergraduate Certificate  
 Computer-Aided Engineering Technology (p. 415) - Undergraduate Certificate  
 Computer Science (p. 421)  
 Computer Science Education (p. 394)  
 Consumer and Advertising (p. 247)  
 Critical Race and Ethnic Studies (p. 301)  
 Dance (p. 362)  
 Economics (p. 303)  
 Education for Cultural and Linguistic Diversity (p. 394)  
 Education for Cultural and Linguistic Diversity: Endorsement  
 Electrical Engineering (p. 409)  
 Emergency Medical Services (p. 449)  
 English (p. 305)  
 Environmental Studies (p. 308)  
 European Studies (p. 323)  
 Film and Television Studies (p. 306)  
 Food Systems (p. 248)  
 Forestry (p. 458)  
 French (p. 310)  
 Gender, Sexuality and Women's Studies (p. 312)  
 Geography (p. 314)  
 Geospatial Technologies (p. 458)  
 German (p. 317)  
 Global Studies (p. 324)  
 Green Building and Community Design (p. 249)  
 Health and Society (p. 329)  
 History (p. 332)  
 Holocaust Studies (p. 333)  
 Human Development and Family Science (p. 375)  
 Individually Designed (p. 292)  
 Integrative Health (p. 449)  
 Integrative Health and Wellness Coaching (p. 450)  
 International Politics (p. 349)  
 Italian Studies (p. 311)  
 Japanese (p. 281)  
 Jewish Studies (p. 355)  
 Latin American and Caribbean Studies (p. 325)  
 Law and Society (p. 357)  
 Linguistics (p. 334)  
 Mathematics: Pure (p. 428)  
 Medical Diagnostics (p. 442)  
 Microbiology (p. 257)  
 Middle East Studies (p. 325)  
 Molecular Genetics (p. 257)  
 Music (p. 340)  
 Music Technology and Business (p. 340)  
 Musical Theatre (p. 341)  
 Neuroscience (p. 344)  
 Nutrition and Food Sciences (p. 260)  
 Parks, Recreation and Tourism (p. 464)  
 Pharmacology (p. 468)  
 Philosophy (p. 345)  
 Physical Activity Promotion in Children and Youth (p. 353) - Undergraduate Certificate  
 Physics (p. 431)  
 Place-Based Education (p. 395) - Undergraduate Certificate  
 Plant Biology (p. 264)  
 Political Science (p. 350)  
 Psychological Science (p. 353)  
 Public Communication (p. 250)  
 Public Policy Analysis (p. 350)  
 Religion (p. 355)  
 Religious Literacy in Professions (p. 355) - Undergraduate Certificate  
 Reporting and Documentary Storytelling (p. 293)  
 Russian (p. 317)  
 Russian and East European Studies (p. 326)

Sexuality and Gender Identity Studies (p. 313)  
 Sociology (p. 357)  
 Soil Science (p. 262)  
 Spanish (p. 359)  
 Special Education (p. 396)  
 Sports Management (p. 464)  
 Statistics (p. 429)  
 Sustainable Landscape Horticulture (p. 262)  
 Teaching English to Speakers of Other Languages (p. 334) -  
 Undergraduate Certificate  
 Theatre (p. 362)  
 Wildlife Biology (p. 465)  
 Writing (p. 307)  
 Zoology (p. 290)

## COURSES

**TO VIEW THE COURSE LIST, SELECT "MENU" AND THEN "COURSE LIST"**

The University reserves the right to change course offerings at any time.

A student who lacks the stated prerequisites for a course may be permitted to enroll by the Instructor. Such students must inform the Instructor that they lack the prerequisites, and the Instructor will make appropriate efforts to ascertain that they are properly qualified. Students enrolled who do not meet the prerequisites of a course may be disenrolled from that course. The Instructor will notify the Registrar's Office of this action.

Where appropriate, a department may limit enrollment in a particular course. Such limitations, other than class size, must be explicitly stated.

Some departments will make further subdivisions of courses at some levels.

## ABOUT UVM UNDERGRADUATE COURSES

### Course Levels

Undergraduate courses are offered at the following levels:

- 0000-Level courses do not count toward graduation requirements and are used for pre-college, other unique undergraduate experiences, and administrative purposes.
- 1000-Level courses are introductory courses and have no prerequisites unless they are in a sequence.
- 2000-Level courses are intermediate courses and have a minimum prerequisite of 3 hours of prior study at the introductory level in the discipline, or in another specified discipline, or some specified equivalent preparation.
- 3000-Level courses are advanced Junior/Senior courses and have a minimum prerequisite of 3 hours of prior study at the intermediate level in the discipline, or in a related discipline, or some specified equivalent preparation.
- 4000-Level courses are capstone/Senior courses and have a minimum prerequisite of 3 hours of prior study at the

intermediate level in the discipline, or in a related discipline, or some specified equivalent preparation.

### Enrollment Restrictions

Provided students meet the course prerequisites/restrictions, enrollment restrictions by undergraduate course-level follow:

- Undergraduate and Professional and Continuing Education students may enroll in courses at levels 0000-4000.
- Graduate students may only enroll in courses at levels 0000-4000 with permission from the Graduate College. Courses at levels 0000-2000 will not count toward the graduate degree. Master's students can count 3 credits at levels 3000-4000 towards their degree. Doctoral students can count 6 credits at level 3000-4000 towards their degree.

### Other Course Information

Information about UVM graduate courses can be found here.

Course subjects are alphabetized by name in the course list. Course prefixes appear in major and minor requirement descriptions.

## SPECIAL TOPICS COURSE POLICY - INFORMATION FOR FACULTY

A course offered under the Special Topics course rubric (i.e., X990) may be presented up to three times within a ten-year period before it must be submitted for review as a permanent course offering listed under a unique course number in the Catalogue.

## COURSE LIST

### AGRICULTURE & LIFE SCIENCE (CALs)

#### Courses

**CALS 1010. Foundations: Communication Meth. 0 or 3 Credits.**  
 Foundational course to acclimate College of Agriculture & Life Science First-Year students to college life and develop individual and group public speaking skills through giving and critically analyzing presentations. Catamount Core: OC.

**CALS 1020. Foundation: Information Tech. 0 or 3 Credits.**  
 Foundational course to acclimate College of Agriculture & Life Science First-Year students to college life and develop information technology skills through use of computer hardware and software and internet applications.

**CALS 1850. Computer Applications. 0 or 3 Credits.**  
 Use of computer operating systems programming languages, electronic communications, word processing, spreadsheet modeling and graphics, and internet software related to the agricultural and life sciences.

**CALS 1990. Special Topics. 1-18 Credits.**  
 See Schedule of Courses for specific titles.

**CALS 1991. Internship. 1-3 Credits.**  
 On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CALS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CALS 2250. Teaching Assistant Development. 3 Credits.**

TAs develop skills in areas of leadership, group dynamics, interpersonal effectiveness, and assertiveness as group facilitators in Beginnings course. Prerequisite: Sophomore standing only; Instructor permission.

**CALS 2830. Communication Methods. 0 or 3 Credits.**

Introduction to informational and persuasive public speaking. Developing individual and group oral communication skills through giving and critically analyzing presentations. Catamount Core: OC.

**CALS 2990. Special Topics. 1-18 Credits.**

Appropriate for interdepartmental and interdisciplinary topics in Agriculture and Life Sciences. Permission of Dean's Office.

**CALS 2991. Internship. 0.5-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CALS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CALS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CALS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CALS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CALS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CALS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CALS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CALS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**AMERICAN SIGN LANGUAGE (ASL)****Courses****ASL 1100. American Sign Language I. 4 Credits.**

Introduction of American Sign Language with emphasis on visual receptive and expressive use including facial expressions and gestures. Elements of the Deaf Culture are explored.

**ASL 1200. American Sign Language II. 4 Credits.**

Discusses concepts and principles: advanced vocabulary, grammar patterns, use of space/modulation of signs for time/location. Further explores Deaf Culture. Prerequisites: ASL 1100 or equivalent.

**ASL 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ASL 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ASL 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASL 2100. American Sign Language III. 4 Credits.**

Stresses fluency of expressive and receptive skills for conversational competence. Introduces increasingly complex grammatical aspects. In-depth study of Deaf Culture. Prerequisites: ASL 1200 or equivalent.

**ASL 2200. American Sign Language IV. 4 Credits.**

Expansion of ASL III. Intended to refine competence in receptive and expressive abilities through exposure to stylistic and regional ASL renditions. Deaf Community involvement. Prerequisites: ASL 2100 or equivalent.

**ASL 2300. Understanding Deaf Culture. 3 Credits.**

Provides students a comprehensive orientation to Deaf communities as linguistic and cultural minorities. Students will explore various aspects of American Deaf culture. Catamount Core: D2.

**ASL 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ASL 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ASL 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASL 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ASL 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASL 3100. American Sign Language V. 3 Credits.**

Designed to increase students' ASL proficiency. Emphasis on grammatical and linguistic aspects of ASL, including ASL morphology, ASL syntax, pronominalization, classifiers, agreement verbs, pluralization, time concepts, and sociolinguistic aspects of Deaf people. Prerequisite: ASL 2200.

**ASL 3200. American Sign Language VI. 3 Credits.**

A continuation of ASL V. Focus on grammatical and linguistic aspects of ASL and the use of ASL discourses in formal settings. Prerequisite: ASL 3100.

**ASL 3300. ASL Literature. 3 Credits.**

Introduces students to ASL literature by exploring and examining a wide range of videos produced by Deaf artists. ASL literature covers classic and modern Deaf folklores, ASL storytelling/narratives, ASL poetry, Deaf humor, theatre, cinema, and other genres. Prerequisite: ASL 2100.

**ASL 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**ASL 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ASL 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASL 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ASL 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASL 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANATOMY (ANAT)****Courses****ANAT 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANAT 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANAT 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANAT 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANATOMY & NEUROBIOLOGY (ANNB)****Courses****ANNB 1990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**ANNB 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ANNB 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ANNB 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANNB 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ANNB 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ANNB 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ANNB 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Prerequisite: Department permission.

**ANNB 3010. Human Gross Anatomy. 6 Credits.**

Lectures and detailed regional cadaver dissections emphasize functional anatomy of major systems (e.g. musculoskeletal, cardiovascular, nervous). Required of Physical Therapy students; others with Department permission.

**ANNB 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Undergraduate only.

**ANNB 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ANNB 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ANNB 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ANNB 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small tea research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ANNB 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANATOMY/PHYSIOLOGY (ANPS)****Courses****ANPS 1190. Ugr Hum Anatomy & Physiology 1. 4 Credits.**

Part I of two-semester course sequence. Structure and function of human body.

**ANPS 1200. Ugr Hum Anatomy & Physiology 2. 4 Credits.**

Part II of two-semester course sequence. Structure and function of human body. Prerequisite: ANPS 1190.

**ANPS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANPS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ANPS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ANPS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANPS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ANPS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ANPS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ANPS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Prerequisite: Department permission.

**ANPS 3990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**ANPS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ANPS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ANPS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ANPS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ANPS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANESTHESIOLOGY (ANES)****Courses****ANES 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANES 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANES 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANES 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANIMAL BIOSCIENCES (ABIO)**

## ANIMAL SCIENCE (ASCI)

### Courses

#### **ASCI 1000. Introductory Animal Sciences. 0 or 3 Credits.**

An overview of the genetics, nutrition, reproduction, and management of livestock and recreation species; introduction to animal behavior, animal disease, and biotechnology. Prerequisite: Animal Science major or Instructor permission. Catamount Core: N2.

#### **ASCI 1040. Intro to Animal Nutrition. 3 Credits.**

Comprehensive study of specific nutrients in terms of their digestion, availability, function, and utilization in animals.

#### **ASCI 1070. ABCs of Biosecurity. 3 Credits.**

Covers the acronyms of relevant agencies, organizations, and preparedness strategies for agrosecurity, biosecurity, and communication to protect food and agriculture from disaster. Introduces food and agriculture threats, vulnerabilities, and disease disaster mitigation strategies.

#### **ASCI 1090. One Health: an Exploration. 3 Credits.**

Explores the interconnection of human, animal, and environmental health, covering topics like pollution, zoonoses, and comparative medicine. Examines the science behind these issues and what can be done about them and the role of other factors such as economics, culture, and the skills needed to tackle them. Catamount Core: SU.

#### **ASCI 1100. The World of Working Animals. 3 Credits.**

Explores the diversity of working animals including many lesser known animals such as landmine-sniffing Gambian pouched rats and military marine mammals, the people with which they work, the context of their job, the human-animal bonds that are formed, and some of the challenges faced. Catamount Core: D2.

#### **ASCI 1400. Intro to the Horse. 3 Credits.**

Starting with evolution and domestication and progressing to current breeds, colors, uses, health, and management of horses, provides a basic understanding of one of our most beloved domestic animals. No prior horse experience or knowledge is required. Catamount Core: N1.

#### **ASCI 1410. Beginner Horseback Riding. 1 Credit.**

Instruction in the basics of balanced seat horseback riding, including both ground skills (grooming, tacking and untacking) and mounted skills (mounting, dismounting, walking, trotting, cantering). Emphasizes safety and control.

#### **ASCI 1450. Horse Barn Cooperative. 1 Credit.**

Develops skills in the practical aspects of equine management of individual horses and horses maintained in a group setting using hands-on experiences and peer teaching. Students care for their own horse or an Animal Science horse. Prerequisites: For students currently accepted into the UVM Horse Barn Cooperative Program or currently enrolled in ASCI 2400; Instructor permission.

#### **ASCI 1500. Companion Animal Care & Mgmt. 3 Credits.**

Scientific principles of nutrition, breeding selection, health, management practices, pet therapy, and animal bonding. Primary emphasis on cat and dog.

#### **ASCI 1510. Understanding & Speaking Dog. 3 Credits.**

With dogs as a model, explores the impact of genetic modification and selection, neonatal to adult development of the brain, the science of how the brain learns, human involvement and its impact, and the factual language of dogs. Prerequisite: Animal Science major or minor, Psychological Science major.

#### **ASCI 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **ASCI 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **ASCI 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **ASCI 2040. Animal Nutrit, Metab & Feeding. 0 or 4 Credits.**

Principles of meeting the nutrient requirements of animals, especially as they relate to the practical problems of formulation and production systems. Prerequisite: Minimum Sophomore standing.

#### **ASCI 2110. Animal Anatomy. 0 or 4 Credits.**

A comprehensive study of anatomical structure of vertebrate animals with emphasis on domestic animals. Taught from a systemic anatomy approach and incorporating microscopic and developmental anatomy, comparative vertebrate anatomy, and applied/clinical anatomy. Some physiology will be introduced to reinforce the link between structure and function. Prerequisites: BIOL 1400 or BCOR 1400 or BCOR 1425; CHEM 1100 or CHEM 1400; or Instructor permission.

#### **ASCI 2120. General Physiology. 3 Credits.**

A comprehensive review of the physiology of mammalian animals. Prerequisites: ASCI 2110 or ANPS 1190 and ANPS 1200; BIOL 1400, BCOR 1400, or BCOR 1425.

#### **ASCI 2130. Animals in Soc/Animal Welfare. 3 Credits.**

Designed to heighten awareness and understanding of human-animal relationships in society, agriculture, and science. Prerequisites: Animal Science major; Sophomore standing.

#### **ASCI 2160. Animal Genetics. 3 Credits.**

The study of DNA with an emphasis in genetics of animal species, included but not limited to livestock and companion animals. Topics include patterns of inheritance, molecular genetics, gene regulation, biotechnology, genomics, population and quantitative genetics. Prerequisite: BIOL 1400, BIOL 1450, BCOR 1400, BCOR 1450, or BCOR 1425.

#### **ASCI 2180. Appl Animal Health. 0 or 3 Credits.**

A study of small and large domestic animal diseases. Natural response to disease, methods of diagnosis, control, and treatment. Prerequisite: ASCI 1000, a Biology course, or Instructor permission.

**ASCI 2240. Forage and Pasture Mgmt. 4 Credits.**

Forage crops and grasslands play a central role in sustainable and diversified agriculture. Covers the scientific principles and practical applications of the production, management, and utilization of perennial and annual forage crops used by livestock and equine. Pre/co-requisite: BIOL 1400 or BIOL 1450 or BCOR 1400 or BCOR 1450 or P BIO 1040 or P BIO 1060 or Instructor permission. Cross-listed with: PSS 2430.

**ASCI 2300. CREAM 1. 4 Credits.**

The first of a two-course sequence. Students perform the work and make the financial and management decisions associated with the CREAM dairy herd. Prerequisites: Sophomore standing; Instructor permission.

**ASCI 2310. CREAM 2. 4 Credits.**

The second of a two-course sequence. Students perform the work and make the financial and management decisions associated with the CREAM dairy herd. Prerequisites: Sophomore standing; Instructor permission.

**ASCI 2350. Dairy Management Seminar. 2 Credits.**

Seminar course addresses research, policy, and production topics in the dairy industry and develops leadership roles through guest speakers, field trips, and group projects. Prerequisites: Minimum Junior standing or with Instructor permission any student interested in dairy industry.

**ASCI 2400. Equus. 2-4 Credits.**

A hands-on equine management experience. Students perform horse duties, recordkeeping, and make financial and management decisions on a horse boarding operation. Prerequisites: ASCI 1000 or ASCI 1400.

**ASCI 2410. Intermediate Horseback Riding. 1 Credit.**

Students gain further experience with balanced seat horseback riding, including ground skills (grooming, tacking and untacking) and mounted skills (walking, trotting and cantering). Emphasizes safety and control. Prerequisites: Instructor permission. Student should be able to walk, trot and canter off the lunge line.

**ASCI 2420. Equine Training Techniques. 0 or 3 Credits.**

Behavior modification and training of the young horse under saddle and in the cart. Introduction to interdisciplinary directions open to the equine athlete and to conditioning programs associated with these options. Prerequisite: ASCI 1000 or ASCI 1400.

**ASCI 2430. Equine Instructing Techniques. 0 or 2 Credits.**

Examines philosophies, concepts and teaching-learning strategies needed for the development of sound equine instructing skills. Students gain hands-on horseback riding teaching experience during the second half of the semester in a supported environment. Prerequisite: ASCI 1000 or ASCI 1400.

**ASCI 2450. Horse Barn Coop Exec Committee. 1 Credit.**

Student leaders, chosen by their Horse Barn Cooperative peers and Horse Barn Faculty Advisor(s), oversee the management of the UVM Horse Barn, including facilities, schedule, events, horse care, and student responsibilities. Students are supported by the Horse Barn Faculty Advisor(s). Prerequisites: ASCI 1450 and Instructor permission.

**ASCI 2470. Equine Enterprise Management. 3 Credits.**

Provides guidelines for understanding risks, liabilities and other pertinent topics necessary for running a successful equine-related business. Prerequisite: ASCI 1000 or ASCI 1400.

**ASCI 2480. Horse Health and Disease. 3 Credits.**

After an introduction to equine anatomy and physiology, students are presented with common diseases and their corresponding description, cause, clinical signs, diagnosis, treatment, prognosis and prevention. Weekly small-group case studies highlight core principles. Optional hands-on opportunities at UVM Horse Barn. Prerequisite: ASCI 1000 or ASCI 1400.

**ASCI 2510. Canine Behavior. 3 Credits.**

Identify, assess and treat/manage canine behavior issues. Learn bite prevention, interviewing and communication skills. Formulate and implement treatment plan or alternative options. Analyze efficacy of plan. Theoretical hands-on practice. Prerequisite: ASCI 1510.

**ASCI 2600. Zoos, Exotics & Endang Species. 3 Credits.**

From gorillas to golden lion tamarinds, how human attitudes, activities, utilization, and management strategies impact wild and captive animal populations. Prerequisite: ASCI 1000, BIOL 1400, BIOL 1450, BCOR 1400, or BCOR 1450.

**ASCI 2700. Wildlife Hlth & Consvrvation. 3 Credits.**

Explores wildlife health in the context of conservation. How is health defined? How does it relate to conservation at the population/species level? What are major threats to wildlife health? What tools can be used to understand, detect, and manage it? What ethical issues arise? What might a career in this field look like? Prerequisites: BCOR 1400 and BCOR 1450; or BIOL 1400 and BIOL 1450; or BCOR 1425. Catamount Core: SU.

**ASCI 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ASCI 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**ASCI 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASCI 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ASCI 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: Junior standing; Department Chair permission.

**ASCI 3040. Advanced Animal Nutrition. 0 or 4 Credits.**

Discusses the principles of meeting the nutrient requirements of animals, including an introduction to feedstuffs, animal metabolism and feed formulation for domestic or captive vertebrate animals. Prerequisites: ASCI 1040, ASCI 2110; or Instructor permission. Pre/co-requisite: ASCI 2120. Catamount Core: N2.

**ASCI 3070. Animal and Human Parasitology. 3 Credits.**

Emphasizes the morphology, life cycles, and pathogenesis of representative taxa from the parasitic protozoa, helminthes, and arthropods of humans and domestic animals. Prerequisite: BIOL 1400, BIOL 1450, BCOR 1400, BCOR 1450, or BCOR 1425; and ASCI 2480 or ASCI 2180 or another 2000-level ASCI course; or Instructor permission.

**ASCI 3080. Molecular Epidemiol Infect Dis. 3 Credits.**

Provides a foundation of knowledge on the use of molecular biology tools to study infectious disease problems; explores how biologists and health scientists link epidemiological methods and molecular biology techniques to address global health issues. Prerequisites: Minimum Junior standing, one 2000-level course in BioCore, Biology, Health, Health Sciences, or Microbiology and Molecular Genetics or ASCI 2180 or ASCI 2170 or Graduate student standing or Instructor permission.

**ASCI 3090. One Health: Antimicrob Resist. 3 Credits.**

Provides a foundation of knowledge on the problem of antimicrobial resistance and factors that contribute to the emergence and spread of resistant micro-organisms. Considers antimicrobial resistance from a One Health perspective, integrating animal, environmental and human health. Prerequisites: Minimum Junior standing, one 2000-level course in BioCore, Biology, Health, Health Sciences, or Microbiology and Molecular Genetics or ASCI 2180 or ASCI 2170 or Graduate student standing or Instructor permission.

**ASCI 3150. Physiology of Reproduction. 3 Credits.**

Fundamental principles of the physiology of reproduction with emphasis on, but not limited to, farm animals. Prerequisite: ASCI 2110 and ASCI 2120; or ASCI 2105; or Instructor permission.

**ASCI 3160. Topics in Applied Reproduction. 1 Credit.**

Laboratory for fundamental principles of the physiology of reproduction with emphasis on, but not limited to, farm animals. Must be taken concurrently with ASCI 3150. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ASCI 2110 and ASCI 2120; or ASCI 2105; or Instructor permission. Co-requisite: ASCI 3150.

**ASCI 3180. Endocrinology. 3 Credits.**

Physiology of endocrine and autocrine/paracrine systems and growth factors. Prerequisites: BIOL 1400, BCOR 1400, or BCOR 1425; ASCI 2120, ASCI 2105, or Instructor permission.

**ASCI 3200. Lactation Physiology. 3 Credits.**

Physiological mechanisms that control and affect lactation in domestic and laboratory animals with emphasis on dairy cattle. Includes mammary anatomy, development and health, and milk synthesis. Prerequisite: CHEM 1100 or CHEM 1400; and ASCI 2105 or both ASCI 2110 and ASCI 2120.

**ASCI 3280. Clin Topics:Livestock Medicine. 3 Credits.**

An advanced study of diseases in cattle, sheep, goats, and pigs, emphasizing disease detection, pathobiology, treatment and prevention. Prerequisites: ASCI 2180; ASCI 2105 or both ASCI 2110 and ASCI 2120.

**ASCI 3300. CREAM Advising. 4 Credits.**

Augments learning acquired during previous CREAM experience; students provide technical, logistical, organizational support to the current group of CREAM students. Prerequisite: ASCI 2300 or ASCI 2310.

**ASCI 3355. Advanced Dairy Management. 15 Credits.**

An intensive, residential program at the Miner Institute providing an in-depth experiential program in the management of the dairy herd. Prerequisite: Junior standing or Farms 2+2 enrollment.

**ASCI 3400. Equus Advising. 1-6 Credits.**

Students are responsible for overseeing the care and health of the 6 Animal Science teaching horses. In addition, these students schedule and teach riding lessons, provide instruction during class time, oversee and coordinate the completion of weekly chores, and share important information between Coop and Equus. Prerequisites: ASCI 2470, ASCI 2480, ASCI 2400, ASCI 2430 or Instructor permission.

**ASCI 3470. Equine Industry Issues. 3 Credits.**

Case-based course enhances students' abilities to integrate information, use logical thought processes, and produce concise, organized solutions to real problems, from individual horses to industry-wide. Prerequisite: ASCI 2470 or ASCI 2400 or ASCI 2130.

**ASCI 3480. Clin Topics Equine Med & Surg. 3 Credits.**

Students work through medical and surgical cases from chief complaint to treatment, prognosis and prevention. Diagnostic techniques and treatment options prioritized. Hands-on opportunities include physical, orthopedic, and neurologic exams, as well as field trips to local equine facilities and the UVM Morgan Horse Farm. Prerequisite: ASCI 2480.

**ASCI 3490. Lameness in Horses. 0 or 4 Credits.**

Focuses on normal equine anatomy related to movement and what happens when horses are injured. Students learn common causes of lameness, as well as how to diagnose, treat, and prevent those causes. Labs are hands-on with horses. Prerequisites: ASCI 2480.

**ASCI 3580. Clin Top:Companion Animal Med. 3 Credits.**

Case studies in companion animal medicine are used to develop clinical, analytical, and diagnostic skills based on a knowledge of anatomy and physiology. This course also explores problem-based learning in medicine. Prerequisites: ASCI 2180; and ASCI 2105 or both ASCI 2110 and ASCI 2120; minimum Junior standing.

**ASCI 3600. Adv Top:Zoo,Exotic,Endang Spec. 3 Credits.**

An exploration of modern zoo philosophy and ethics and the extent of human intervention necessary for the preservation of endangered species. Prerequisites: ASCI 2600 and Instructor permission.



**ASCI 3990. Special Topics. 1-18 Credits.**

Written courses, seminars or topics beyond the scope of existing offerings. See Schedule of Courses for specific titles. Prerequisite: Department Chair permission. May enroll more than once for maximum of fifteen hours.

**ASCI 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ASCI 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASCI 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ASCI 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASCI 4990. Special Topics. 1-18 Credits.**

Written courses, seminars or topics beyond the scope of existing offerings. See Schedule of Courses for specific titles. Prerequisite: Department Chair permission. May enroll more than once for maximum of fifteen hours.

**ANTHROPOLOGY (ANTH)****Courses****ANTH 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**ANTH 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**ANTH 1023. Topics In: LASP: Div & Sustain. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: D2, SU, WIL1.

**ANTH 1100. Cultural Anthropology. 3 Credits.**

Introduction to cultural anthropology, using fieldwork-based concepts and methods to study diverse cultural views and practices, varied forms of social organization, and contemporary global issues. Catamount Core: D2, S1, SU.

**ANTH 1140. Food and Culture. 3 Credits.**

Examination of the cultivation, preparation, and consumption of food as rich symbolic processes through which humans interact with our natural and social environments. Catamount Core: AH3, D2.

**ANTH 1190. Global Health Devel & Diversit. 3 Credits.**

An anthropological exploration of connections between global health, economic development, and cultural diversity in contemporary times. Considers ways in which informed global citizens can make a positive difference in human health, taking socioeconomic and cultural diversity into account. Cross-listed with: HSOC 1700. Catamount Core: D2, GC1, SU.

**ANTH 1400. Biological Anthropology. 3 Credits.**

Introduction to the study of the evolution and physical variation of humanity from a biocultural perspective. Catamount Core: D2, N1.

**ANTH 1470. Parenting and Childhood. 3 Credits.**

Introduction to the anthropology of parenting and childhood from birth to adolescence. Both biological anthropological and cultural anthropological approaches are explored through a cross-cultural perspective.

**ANTH 1600. Linguistic Anthropology. 3 Credits.**

Introduction to linguistic anthropology, focusing on language and communication as they pertain to human culture and human social interaction. Catamount Core: D2, S1.

**ANTH 1800. Prehistoric Archaeology. 3 Credits.**

Examination of the origins and development of culture from the earliest human fossils through the appearance of civilization; the nature of archaeological data and interpretations. Catamount Core: D2, S1, SU.

**ANTH 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANTH 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**ANTH 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ANTH 1995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**ANTH 2000. Introduction to the Major. 1 Credit.**

Seminar-style introduction to the Anthropology major focusing on skill-building, course selection, internships, service learning, research or teaching assistantships, study abroad, fieldwork, senior projects/theses, and grant opportunities. Prerequisites: Anthropology major and one of the following: ANTH 1100, ANTH 1800, ANTH 1400, or ANTH 1600.

**ANTH 2110. Topics in Cultural Anthro. 3 Credits.**

Explores intermediate level topics in cultural anthropology. May be repeated for credit with different content. Sample topics include: Cultural Anthropology in the Media, Indigenous Cultures and Social Change, Economic Anthropology. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ANTH 1100.

**ANTH 2152. Environmental Anthropology. 3 Credits.**

Introduction to how culture mediates human-environmental interactions. Topics include cultural, spiritual, and political ecology; forms of resource management; environmentalism; sustainable development; and environmental justice. Prerequisite: ANTH 1100 or ANTH 1800 or Instructor permission. Catamount Core: D2.

**ANTH 2170. Culture, Health and Healing. 3 Credits.**

Introduction to medical anthropology. Social and cultural perspectives on health and illness experiences, doctor-patient interactions, healing practices, and access to health and health care. Prerequisite: ANTH 1100 or ANTH 1190 or three hours of Sociology. Catamount Core: D2.

**ANTH 2181. Aging in Cross-Cultural Persp. 3 Credits.**

Aging from an anthropological perspective. Topics include exploration of biological and sociocultural aspects of human aging across the adult lifecycle in a variety of cultural groups. Prerequisites: ANTH 1100 or ANTH 1400 or ANTH 1190. Catamount Core: D2.

**ANTH 2191. Foundations of Global Health. 3 Credits.**

Explores global health and global health challenges affecting people primarily in developing or resource-constrained countries. Prerequisite: Minimum Sophomore standing. Cross-listed with: HSCI 2100. Catamount Core: D2.

**ANTH 2205. Gender Sex Race & the Body. 3 Credits.**

Cross-cultural study of gender, sex, sexuality, and race including exploring the cultural construction of categories and cultural practices related to the body and gender, sex, sexuality, and race. Prerequisite: ANTH 1100 or GSWS 1500. Catamount Core: D2.

**ANTH 2220. Political Anthropology. 3 Credits.**

Exploration of the cultural aspects of political institutions, structures, and processes in societies from around the world. Prerequisite: ANTH 1100.

**ANTH 2242. People, Poison, Place. 3 Credits.**

Focus on social inequality, toxin exposure, and human health impacts within the context of place, culture, history, and political economy. Examination of the interaction of political economy, toxic waste, history, culture, and place, and how constellations of inequality translate into exposure to various toxins. Prerequisite: ANTH 1100.

**ANTH 2250. Race and Ethnicity. 3 Credits.**

Description and analysis of ethnic, racial, and religious groups in the United States. Examination of social/cultural patterns in the larger society and in these groups themselves. Prerequisite: ANTH 1100.

**ANTH 2310. North American Indians. 3 Credits.**

Ethnographic survey of major Native American cultures the United States against background of aboriginal culture history and problems of contact with European cultures. Prerequisite: ANTH 1100 or 3 credits in a social science. Catamount Core: D1.

**ANTH 2325. Latinos in the US. 3 Credits.**

Survey of peoples of Latino/Hispanic descent living in the U.S. Course examines their similarities and differences in history, ethnic identification, and cultural practices. Prerequisite: ANTH 1100. Catamount Core: D1.

**ANTH 2340. The Roma Holocaust. 3 Credits.**

The Roma genocide is underrepresented in scholarly materials on the Holocaust and underrepresented or unknown in popular narratives of the Holocaust. Examines the experience of Europe's Roma people in the Holocaust, considering how it connects to earlier genocides and more recent forms of nationalist or racist hate directed at Roma. Prerequisites: ANTH 1100 or HST 1715.

**ANTH 2410. Topics in Biological Anthro. 3 Credits.**

Explores intermediate level topics in biological anthropology. May be repeated for credit with different content. Sample topics include: Bioarchaeology of Identities, Biological Anthropology of Race and Gender, Human Variation. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ANTH 1400.

**ANTH 2440. Primates and Anthropology. 3 Credits.**

A survey of behavior and anatomy of nonhuman primates (monkeys, apes and prosimians) from an anthropological perspective. Prerequisite: ANTH 1100 or ANTH 1400.

**ANTH 2610. Topics in Linguistic Anthro. 3 Credits.**

Explores intermediate-level topics in linguistic anthropology. Sample topics include: Language, Peace, and Conflict; Languages of Asia. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ANTH 1600 or LING 1500.

**ANTH 2810. Topics in Archaeology. 3 Credits.**

Explores intermediate level topics in archaeology. May be repeated for credit with different content. Sample topics include: Archaeology of Disaster, Ruins, Archaeology in the Media. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ANTH 1800.

**ANTH 2860. Preserving the Past. 3 Credits.**

Explores approaches to cultural heritage worldwide and the political, economic, and legal contexts that influence the preservation and destruction of cultural resources such as archaeological sites and architecture. Prerequisite: ANTH 1100 or ANTH 1800.

**ANTH 2880. Archaeology of the Americas. 3 Credits.**

Archaeological overview of North and South America from the peopling of the New World to European contact in the sixteenth century. Prerequisite: Minimum Sophomore standing. Catamount Core: D2.

**ANTH 2885. Ancient Mesoamerica. 3 Credits.**

Archaeological, epigraphic, historic, architectural, and ideological information from ancient Mesoamerican civilizations will be analyzed to understand their origins, florescence, and decline. Prerequisite: ANTH 1800.

**ANTH 2894. Indians of the NE: Vermont. 3 Credits.**

Native peoples of Vermont from their earliest appearance in the region until today. Archaeological and ethnographic data reviewed in the broader perspective of aboriginal Northeastern cultural history. Prerequisite: ANTH 1100 or ANTH 1800. Catamount Core: D1.

**ANTH 2895. Prehistory of the US Southwest. 3 Credits.**

Archaeological overview of the American Southwest, from the peopling of the New World to European contact in the sixteenth century. Prerequisite: ANTH 1800.

**ANTH 2910. Europe: Neanderthals-Stonehenge. 3 Credits.**

Traces the prehistory of Europe from the first hominids to set foot on the continent up through the earliest literate societies. Explores prehistoric developments such as the emergence of domestication, agriculture, and metallurgy; the florescence of regional artistic and ritual/religious traditions; and the development of socially-stratified, state-level societies. Prerequisites: ANTH 1800 or ANTH 1400.

**ANTH 2930. Hunters and Gatherers. 3 Credits.**

Explores how the category hunter-gatherer has been studied over the years by anthropologists and archaeologists as a form of human social organization. The range of behavioral variation that exists among living and sub-recent hunter-gatherer groups will be discussed, along with the utility of this information, and the various stakeholder issues facing modern hunter-gatherers today. Prerequisite: ANTH 1100 or ANTH 1800.

**ANTH 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ANTH 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**ANTH 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**ANTH 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**ANTH 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**ANTH 3000. Advanced Proseminar in Anthro. 1 Credit.**

Designed to be taken in conjunction with any 3000-level class, this capstone pro-seminar in Anthropology will provide a forum for majors to build and package anthropological skill sets and to identify, explore, and plan for future educational and career opportunities. Prerequisites: Anthropology major; minimum Junior standing. Pre/co-requisite: Any three-credit 3000-level Anthropology course.

**ANTH 3115. Museum Anthropology. 3 Credits.**

The cultural context of selected archaeological and ethnographic collections at Fleming Museum; cataloguing, conservation, research, and interpretation of objects; exhibition design and ethical issues. Prerequisites: Three credits in Anthropology at the 2000-level; Anthropology major or minor; minimum Sophomore standing.

**ANTH 3130. Ethnographic Field Methods. 3 Credits.**

Examination of theoretical and ethical premises of field work methodology with practical experience in research design, proposal writing, participant observation, interviewing, and qualitative data analysis. Prerequisite: ANTH 1100, one course at the 2000-level in cultural anthropology.

**ANTH 3145. Anthropology of Food and Labor. 3 Credits.**

Through investigating the ways that people work through, around, and with food in the public sphere, we will unpack the political, cultural, and economic dimensions of both local and global food systems. Prerequisites: ANTH 1100; one course at the 2000-level in cultural anthropology.

**ANTH 3192. Anthro Research Global Health. 3 Credits.**

Examines core concepts, approaches, and findings of discipline of medical anthropology in examining problems of global health in resource-poor settings and considers the contributions of anthropology to interdisciplinary global health research. Trains students in critical review of related scholarly literature, research design, and proposal writing. Prerequisites: ANTH 1100 or ANTH 1400 or ANTH 1190; ANTH 2191 or ANTH 2170.

**ANTH 3475. Research in Hum Biol Diversity. 4 Credits.**

Lab-based course that explores methods from biology and biological anthropology to study human evolution and diversity through skeletal anatomy and genetic analyses. Heavy focus on research design and proposal development, literature research, data collection and interpretation, and dissemination of results. Prerequisites: BCOR 2300 or (ANTH 1400 and one 2000-level Anthropology course); minimum Junior standing.

**ANTH 3560. Human Osteology. 0 or 4 Credits.**

An exploration of the human skeleton as a means of reconstructing past lives both at the level of individuals (forensics) and populations (archaeology and bioarchaeology). Prerequisites: ANTH 1800, ANTH 1400, one 2000-level Anthropology course in archaeology or biological anthropology, or Instructor permission.

**ANTH 3820. Archaeological Theory. 3 Credits.**

Development of archaeology from the 19th century to the present including concepts of form, space and time, intellectual attitudes, current systems theory, and research strategies. Prerequisites: ANTH 1800 and one 2000-level Anthropology course, or HP 5201, or graduate standing in Historic Preservation Program.

**ANTH 3832. Topics in Lab Archaeology. 3 Credits.**

Exploration of laboratory methods for analyzing excavated materials, such as ceramics, chipped stone, or fauna. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ANTH 1800, one 2000-level course in Anthropology.

**ANTH 3965. Field Work in Archaeology. 1-6 Credits.**

Methods and techniques of archaeological investigation in field situations and the laboratory analysis of data. Periodic UVM offering that may occur at intervals longer than four years. Also utilized to transfer prior coursework from other institutions. Prerequisites: ANTH 1800, and one 2000-level course in Anthropology or History, or Instructor permission.

**ANTH 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: ANTH 1100, one 2000-level course.

**ANTH 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: ANTH 1100, one 2000-level course.

**ANTH 4991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**ANTH 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**ANTH 4995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Minimum Junior standing; Instructor permission.

**ANTH 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**ARABIC (ARBC)****Courses****ARBC 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ARBC 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ARBC 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ARBC 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ARBC 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ARBC 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ARBC 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ARBC 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ARBC 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ART HISTORY (ARTH)****Courses****ARTH 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**ARTH 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**ARTH 1410. Art History I. 3 Credits.**

Introduction to the visual arts, primarily painting, sculpture, and architecture from the prehistoric through the Gothic. Catamount Core: AH1.

**ARTH 1420. Art History II. 3 Credits.**

Introduction to the visual arts, primarily painting, sculpture, and architecture from the Renaissance to present. Prerequisite: It is recommended that ARTH 1410 be taken before ARTH 1420. Catamount Core: AH1.

**ARTH 1990. Special Topics. 1-18 Credits.**

Introductory courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**ARTH 2100. Topics in Ancient Art. 3 Credits.**

Topics examining the visual arts in the ancient world. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ARTH 1410.

**ARTH 2200. Topics in Medieval Art. 3 Credits.**

Study of visual arts of the medieval period with variable themes and/or geographic lenses. Students will develop skills as visual investigators and responsible interpreters of the art. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ARTH 1410.

**ARTH 2250. Topics in Euro Art 1300-1600. 3 Credits.**

Selected aspects of the visual and material culture of the Medieval and Early Modern world, 1300-1600. Material emphasis and geographical focus will vary with instructor. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ARTH 1410.

**ARTH 2300. Topics in Euro Art 1600-1800. 3 Credits.**

Selected aspects of the painting, sculpture, and architecture of the Baroque, Rococo, and/or Neo-Classical periods or other movements during that time around the world. Material emphasis and geographical focus will vary with instructor. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ARTH 1420.

**ARTH 2400. Topics in Modern Art. 3 Credits.**

Selected aspects of the painting, sculpture, and architecture of Europe and North America during the 19th and 20th centuries. Material and emphasis vary with instructor. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ARTH 1420, FTS 1420, or FTS 1430.

**ARTH 2570. 20th-Century Art. 3 Credits.**

A survey of movements and new media in European and American painting, sculpture, mixed media, performance, and the influences of film and photography on traditional media. Prerequisite: ARTH 1420 or FTS 1420 or FTS 1430.

**ARTH 2585. Identity Diversity Postmod Art. 3 Credits.**

Examination of art since 1960 with an emphasis on questions relating to identity and diversity. Prerequisite: ARTH 1420.

**ARTH 2600. Topics in Contemporary Art. 3 Credits.**

A study of selected examples of recent and current art and/or architecture. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ARTH 1420, FTS 1420, or FTS 1430.

**ARTH 2870. Art and Activism. 3 Credits.**

Activist/political art as discourse is an integral part of a new, more theoretically grounded and socially contextualized historical practice. Examines contemporary art conceived as social commentary and/or political protest, and positioning of art institutions within those political conversations. Prerequisite: Instructor permission.

**ARTH 2885. Topics in Identity in Art. 3 Credits.**

Study of selected aspects of gender, race, or ethnicity in art, and/or of the contributions of women or ethnically diverse people to the visual arts. Material and emphasis vary with instructor. May be repeated for credit with Instructor permission. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours in Art History.

**ARTH 2990. Special Topics. 1-18 Credits.**

Intermediate courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**ARTH 3000. Topics In: Senior Seminar. 3 Credits.**

Advanced seminar for Art History majors. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Six hours of 2000-level Art History, including three hours in the area of the seminar; minimum Junior standing.

**ARTH 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ARTH 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisites: Six hours of Art History courses at the 2000-level; Junior standing; departmental permission.

**ARTH 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: Six hours of Art History courses at the 2000-level; Junior standing; departmental permission.

**ARTH 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Department permission.

**ARTH 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ARTH 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ARTH 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**ART STUDIO (ARTS)****Courses****ARTS 1010. Topics In: First-Year Seminar. 3-4 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**ARTS 1020. Topics In: LASP Seminar. 3-4 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**ARTS 1100. Drawing. 4 Credits.**

Introductory study of visual experience through drawing and its transformation of the three-dimensional visual world onto a two-dimensional surface. Emphasis varies with Instructor. Catamount Core: AH1.

**ARTS 1400. Perspectives on Art Making. 4 Credits.**

Introduction to contemporary art practice in various media. Explores method and meaning in art making, the role of experimentation, and the translation of experience into artwork. Catamount Core: AH1.

**ARTS 1600. 4D: Sound, Video, Performance. 3 Credits.**

Introduction to the world of 4-dimensional art practice, including video art, performance art, and sound ART; the histories of these media; and an opportunity to learn their foundational skills. Catamount Core: AH1.

**ARTS 1700. Ceramic Studies. 3 Credits.**

The potter's wheel is used as the primary forming process for making functional and sculptural stoneware pieces. With emphasis on refining a technical approach to working on the wheel, students will develop the capacity to work individually towards the standard of good craftsmanship, proportion, form and function.

**ARTS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ARTS 2030. Topics in Expanded Practice. 3 Credits.**

Students will work with interdisciplinary approaches to art subjects. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2040. Topics in Artistic Forms. 3 Credits.**

Exploration of various themes and/or media. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2100. Intermediate Drawing. 3 Credits.**

Intensive investigation of drawing and elements related to the discipline. Focus on expanding techniques and developing strategies for making drawings. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2110. Topics in Drawing. 3 Credits.**

Topics exploring themes in drawing at the intermediate level. Students will learn and experience non-traditional approaches to drawing and the dialogues around them. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2200. Topics in Painting. 3 Credits.**

Topics exploring themes in painting at the intermediate level. Students will learn and work through technical, formal, and conceptual issues about painting. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2210. Painting: Observation & Image. 3 Credits.**

Exploration of the formal and conceptual practices of painting. Introduction of historical genres and issues in painting such as still life, figuration, and abstraction. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2220. Painting: Color and Invention. 3 Credits.**

Exploration of the role of color in painting. Projects will foster comprehension of color vocabulary and a critical understanding necessary for the effective use of color. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2300. Topics in Printmaking. 3 Credits.**

Topics exploring themes in printmaking at the intermediate level. Students will work with approaches to the print and the dialogues around them, beyond what is covered in our customary offerings. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2310. Printmaking: Etching. 3 Credits.**

Studio class using non-chemical procedures with copper plates. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2320. Printmaking: Silkscreen. 3 Credits.**

Studio class focusing on procedures in stencil printing that use photo-silkscreen technology. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2400. Topics in Graphic Design. 3 Credits.**

Topics exploring themes in graphic design at the intermediate level. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2410. Graphic Design. 3 Credits.**

The application of graphic design principles to practical problems, including the impact of popular design on society, and the exploration of visual elements in contemporary printing processes. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2510. Photography. 3 Credits.**

Introduction to making black-and-white photographs, emphasizing craft and conceptual problem solving. Students gain skill in camera operation, printing, and producing work of an individual nature. Prerequisites: ARTS 1010, ARTS 1100, ARTS 1400, FTS 1420, or FTS 1430.

**ARTS 2520. Color Photography. 3 Credits.**

Use of digital cameras, Adobe Photoshop, and inkjet printing processes as means for description, analysis, and expression of experience. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2600. Topics in Digital Art. 3 Credits.**

Topics exploring themes in digital art at the intermediate level. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2610. Digital Art. 3 Credits.**

Exploration of the computer as an artistic medium, focusing on a variety of approaches for creating and displaying imagery. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2620. Digital Fabrication. 3 Credits.**

Hands-on experience with digital fabrication technologies (both hardware and software) that are popular with contemporary artists; opportunities to practice design iteration and rapid prototyping and experiment with art-making practices such as tessellation, 3D Imaging, generative design, artificial life and interaction design. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400; or Computer Science major or College of Engineering & Mathematical Sciences student; minimum Junior standing. Cross-listed with: CIS 2460.

**ARTS 2630. Topics in Film and Video. 3 Credits.**

Topics exploring themes in film and video at the intermediate level. Students will work with non-traditional approaches to moving image arts and the dialogues around them. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ARTS 1010, ARTS 1100, ARTS 1400, ARTS 1600, FTS 1020, or FTS 1030.

**ARTS 2640. Introduction to Video Art. 3 Credits.**

Study of the conceptual and technical aspects of experimental and avant-garde film and video through exercises, viewing, reading and discussion, and creating films. Prerequisites: ARTS 1010, ARTS 1100, ARTS 1400, ARTS 1600, FTS 1420, or FTS 1430.

**ARTS 2660. Moving Image Manipulation. 3 Credits.**

Introduction to the foundational conceptual frameworks of moving image arts focusing on the post-production process and the basic technical elements of digital manipulation for film and video using Adobe After Effects and Premiere Pro. Students will create projects within the digital space using software, technology, and pre-existing images, using techniques of digital (non-character) animation. Prerequisites: ARTS 1010, ARTS 1100, ARTS 1400, ARTS 1600, FTS 1420, FTS 1400, or FTS 1430.

**ARTS 2710. Clay: Hand Building. 3 Credits.**

Investigation of surfaces and three-dimensional forms. Focus on variety of construction methods, surface treatment, and firing techniques. Related clay and glaze technology. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2720. Clay: Wheel Throwing. 3 Credits.**

Development of throwing skills and the capacity to create a range of forms. Investigation of surface treatment techniques such as slip painting and glazing. Low-fire and stoneware firing. Related clay and glaze technology. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2750. Sculpture. 3 Credits.**

Introduction to making and critiquing sculpture. Using visual elements of sculpture and concepts of 3D design, students establish a foundation for individualized inquiry and experimentation. Conceptual, practical, and analytical skills are developed through presentations, research, writing, problem solving, and critiques. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400.

**ARTS 2881. Topics in Curriculum&Practice. 4 Credits.**

Study and implementation of curriculum. Students work directly in a school classroom. Lectures and discussions. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Eighteen hours in Studio Art; minimum Junior standing.

**ARTS 2990. Special Topics. 1-18 Credits.**

Intermediate course or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**ARTS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion. Prerequisite: Six hours in Studio Art at the 2000-level; Studio Art or Art Education major; minimum Junior standing; faculty sponsor permission and contract required.

**ARTS 3100. Advanced Drawing. 3 Credits.**

Intense investigations of drawing and elements that relate to that discipline. Emphasis on conceptual method, contemporary techniques, and both objective and non-objective source material. Prerequisite: ARTS 2100; minimum Junior standing.

**ARTS 3200. Projects in Painting. 3 Credits.**

Further exploration of formal and conceptual concerns through studio work and critique. Each student will develop a coherent body of paintings. Prerequisite: ARTS 1400, and ARTS 2210 or ARTS 2220; minimum Junior standing.

**ARTS 3300. Projects in Printmaking. 3 Credits.**

Students conceive, research, develop, and realize their own projects in the print studio. Prerequisites: ARTS 2310 or ARTS 2320; minimum Junior standing.

**ARTS 3500. Advanced Photography. 3 Credits.**

Continuation of ARTS 2510 and ARTS 2520, exploring the implications of photography and encouraging students to use the medium to better understand their relationship to the world. Prerequisites: ARTS 2510 and ARTS 2520; minimum Junior standing.

**ARTS 3600. Advanced Digital Art. 3 Credits.**

Advanced exploration of the computer as an artistic medium for creating imagery. Focus on using the computer to animate images and integrate sound. Emphasis on conceptual issues in digital art. Prerequisites: ARTS 2410, ARTS 2520, or ARTS 2610; minimum Junior standing.

**ARTS 3650. Advanced Film/Video Projects. 3 Credits.**

Advanced study of the principles, properties, and potentials of film and video through production viewing, reading, and discussion. Includes self-directed individual and collective projects. Prerequisites: ARTS 2640 or ARTS 2655; minimum Junior standing.

**ARTS 3700. Advanced Ceramics. 3 Credits.**

Advanced investigations of methods exploring content, form, surface, and color of ceramics and elements related to the discipline. Prerequisites: ARTS 2710 or ARTS 2720; minimum Junior standing.

**ARTS 3750. Advanced Sculpture. 3 Credits.**

Advanced investigation of sculpture. Students develop a personal and disciplined approach to making art through independent exploration within a structured environment. Students design individual projects that include aspects of research and writing. Group discussion and analysis of work are ongoing. Prerequisite: ARTS 2750; minimum Junior standing.

**ARTS 3910. Community-Engaged Arts. 3 Credits.**

Service-learning course in which students will complete a semester-long internship at a community field site along with a weekly seminar that supports community engaged work. Internship sites are individualized based on students' interests and may include galleries, art studios, arts advocacy programs, afterschool programs, or other related sites. Prerequisites: ARTS 1100 or ARTS 1400; minimum Junior standing.

**ARTS 3990. Special Topics. 1-18 Credits.**

Advanced work in existing departmental offerings. Prerequisite: Instructor permission only.

**ARTS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisites: Six hours of Studio Art courses at the 2000-level; Junior standing; departmental permission.

**ARTS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: Six hours in Studio Art at the 2000-level; Studio Art or Art Education major; minimum Junior standing; faculty sponsor permission and contract required.

**ARTS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ARTS 4870. Topics In: Current Art & Ed. 3 Credits.**

Research and discussion of issues relevant to contemporary art and the teaching of art. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Senior standing or Instructor permission.

**ARTS 4881. Internship: Student Teaching. 12 Credits.**

Provides an opportunity for continuous contacts with the same group of students over a relatively long period of time. In addition, candidates continually interact with field site personnel in various phases of the total program. Provides a directed and supervised field experience. Prerequisites: Senior standing in Art Education major, PRAXIS Core, completion of all course requirements, GPA of at least 3. Co-requisites: EDSC 5230.

**ARTS 4990. Special Topics. 1-18 Credits.**

Advanced course or seminar on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Prerequisite: 2000-level Art Studio course in the studio area of the special topic.

**ARTS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.



**ARTS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**ARTS AND SCIENCES (CAS)****Courses****CAS 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**CAS 1019. AP Research. 3 Credits.**

Credit awarded for achieving a certain score on the Advanced Placement (AP) Research Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Catamount Core: WIL1.

**CAS 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**CAS 1100. Academic Success Strategies. 1 Credit.**

Overview of core skills needed to help students achieve academic success, at any point in their educational journey. Students will have the opportunity to both strengthen and practice essential academic skills including time-management, note taking, testing, effective listening, goal setting, and study skills.

**CAS 1701. Topics In: The Arts. 3 Credits.**

Interdisciplinary exploration of topics in the arts. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH1.

**CAS 1710. Drugs, Demons, & Dancing. 3 Credits.**

An interdisciplinary examination of the mind-body problem offering perspectives from anthropology, dance, neuroscience, performance studies, psychology, and religion. Explores relationships between mind, brain, body, and behavior, asking how the senses, the body, and consciousness interact in order to shape our knowledge of ourselves and the world. Catamount Core: AH3.

**CAS 1900. The Washington Center. 3 Credits.**

The Washington Center (TWC) Academic Internship Program is a semester-long UVM-partner internship program in Washington, D.C. Credit awarded for successful completion of the professional development programming run by The Washington Center. Co-requisites: CAS 2900, CAS 2991.

**CAS 1902. Semester in the City. 3 Credits.**

Semester in the City is a semester-long internship program in Boston run by the College for Social Innovation, a UVM partner. Credit awarded for the professional development course titled Becoming a Problem Solver and run via Semester in the City. Co-requisites: CAS 2902, CAS 2991.

**CAS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. May be repeated for credit with different content.

**CAS 2900. The Washington Center. 3 Credits.**

The Washington Center (TWC) Academic Internship Program is a semester-long UVM-partner internship program in Washington, D.C. Credit awarded for successful completion of one of TWC's academic seminars. Seminars offered vary semester to semester. Co-requisites: CAS 1900, CAS 2991.

**CAS 2902. Semester in the City. 3 Credits.**

Semester in the City is a semester-long internship program in Boston run by the College for Social Innovation, a UVM partner. Credit awarded for the seminar titled Social Innovator's Toolbox and run via Semester in the City. Co-requisites: CAS 1902, CAS 2991.

**CAS 2920. Topics in Cmties of Practice. 3 Credits.**

Cohort style internships directed by professionals currently working within their respective fields. Representative topics include sustainable transportation, legislature, nonprofits, the creative economy, and environmental stewardship. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Sophomore standing or Instructor Permission.

**CAS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. May be repeated for credit with different content.

**CAS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded.

**CAS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CAS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CAS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CAS 3922. Community News Service. 1-12 Credits.**

A partnership with local community papers and media outlets with two primary goals: engage students in journalism and build citizenship skills and provide content to community newspapers. Run like a mini-newsroom, students file stories to be published in multiple formats while learning how to work in news media. Prerequisite: Completion of the WIL1 or FWIL General Education requirement.

**CAS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. May be repeated for credit with different content.

**CAS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. May be repeated for credit with different content.

**CAS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**ASTRONOMY (ASTR)****Courses****ASTR 1400. Exploring the Cosmos w/lab. 0 or 4 Credits.**

Introduction to the basic concepts of astronomy as well as the history of their development. Includes a laboratory component. May not be taken for credit concurrently with, or following receipt of, credit for ASTR 1405. Catamount Core: N2, QD.

**ASTR 1405. Exploring the Cosmos. 3 Credits.**

Introduction to the basic concepts of astronomy as well as the history of their development. No laboratory. May not be taken for credit concurrently with, or following receipt of, credit for ASTR 1400. Catamount Core: N1, QD.

**ASTR 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ASTR 2100. The Big Bang. 3 Credits.**

Ancient cosmologies, beginning of time, origin of matter, cosmic background radiation, antimatter and dark matter, the expanding universe and origin of structure. Prerequisites: ASTR 1405; MATH 1034 or equivalent.

**ASTR 2120. Spacecraft Astronomy. 3 Credits.**

Survey of recent astronomical satellites such as Hubble, Chandra and Fermi LAT; their design, orbital characteristics, and findings. Prerequisites: ASTR 1405; MATH 1034 or equivalent.

**ASTR 2140. Stars & Galaxies. 3 Credits.**

Instruments and observations. Stars and their evolution. Black holes and compact objects. The interstellar medium. Relativity and galactic structure and galaxy formation. Prerequisites: ASTR 1405; MATH 1034 or equivalent.

**ASTR 2160. Moons & Planets. 3 Credits.**

Celestial mechanics, formation of the stars, and planetary materials. Planets, satellites, asteroids, meteors, and comets. Planetary surfaces, interiors, and atmospheres. Origins of life. Prerequisites: ASTR 1405; MATH 1034 or equivalent.

**ASTR 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ASTR 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASTR 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASTR 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ASTR 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ASTR 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASTR 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ASTR 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ASTR 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ASTR 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ATHLETIC TRAINING (AT)****Courses****AT 2680. Directed Obsv. in Athl Trng. 1 Credit.**

Students will be expected to complete 60 hours of directed observation experience in the athletic training setting, or as assigned by the Instructor.

**AT 2990. Special Topics. 1-6 Credits.****AT 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**AT 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**AT 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**AT 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**AT 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**AT 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**AT 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**AT 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BIOCHEMISTRY (BIOC)****Courses****BIOC 1010. Biochem: Modern Perspect I. 1 Credit.**

This is Part I of a sequence to help students develop an understanding of what the field of biochemistry is, its core principles, and what biochemists do. Prerequisites: Biochemistry major, First-year standing.

**BIOC 1011. Biochem: Modern Perspect II. 1 Credit.**

This is Part 2 of a sequence to help students develop an understanding of what the field of biochemistry is, its core principles, and what biochemists do. Prerequisites: Biochemistry major, First-year standing.

**BIOC 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BIOC 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BIOC 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BIOC 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BIOC 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BIOC 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BIOC 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**BIOC 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Written report due at end of each semester. Prerequisite: Instructor permission.

**BIOC 3001. Fundamentals of Biochemistry. 3 Credits.**

Provides a broad introduction to the field of biochemistry. Students will explore the molecular basis and chemical principles of biochemistry pertinent to living systems. This course is taught by LCOM faculty and emphasizes the relevance of biochemistry to health, disease, physiology and medicine. Prerequisites: CHEM 1150, CHEM 1580, CHEM 1550, CHEM 2585, or equivalent; BIOL 1450, BCOR 1450, BCOR 2500, or equivalent.

**BIOC 3005. Biochemistry I. 3 Credits.**

Introduction to chemistry and structure of biological macromolecules; examination of mechanisms of chemical processes in biological systems including enzyme catalysis, biosynthesis, regulation, and information transfer. Prerequisite: CHEM 1550 or CHEM 2585. Cross-listed with: MMG 3050.

**BIOC 3006. Biochemistry II. 3 Credits.**

Continuation of Biochemistry I. Biochemistry of nucleic acids; nucleic acid based processes, such as replication and transcription; cellular information transfer, genomics, and proteomics. Prerequisite: BIOC 3005 or MMG 3050. Cross-listed with: MMG 3060.

**BIOC 3007. Biochemistry Lab. 3 Credits.**

Introduction to biochemical tools, including spectrometry, chromatography, and electrophoresis; natural and recombinant enzyme isolation; assays of DNA-modifying enzymes; computer-based structure/function exercises. Prerequisite: BIOC 3005 or MMG 3050. Cross-listed with: MMG 3070.

**BIOC 3063. Nutritional Biochemistry. 3 Credits.**

Comprehensive study of the metabolism of the macro-nutrients by humans with emphasis on hormonal control of biochemical pathways, nutritional and metabolic interrelationships and dietary disorders. The biochemistry of the micronutrients and vitamins will also be studied. Prerequisite: BIOC 3001, BIOC 3005, or NFS 2183.

**BIOC 3075. Adv Biochem of Human Disease. 3 Credits.**

The course takes a deep dive into five distinct areas of biochemistry related to a disease or group of diseases primarily through group learning. Key biochemical principles are reviewed and extended. Additionally students will read and discuss a primary literature article with each area. Prerequisites: NFS 2183, BIOC 3001, or BIOC 3005.

**BIOC 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BIOC 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BIOC 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BIOC 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**BIOC 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BIOC 4084. Biochemistry Senior Seminar. 1 Credit.**

Oral and written presentation of a subject of current biochemical interest. Prerequisite: Senior standing.

**BIOC 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**BIOCORE (BCOR)****Courses****BCOR 1400. Exploring Biology 1. 0 or 4 Credits.**

Exploring biology from cells to organisms. Topics include origins of life, ancestral organisms, uni- and multi- cellular energetics, evolution of respiration and metabolism, and the genetic code. May not be taken for credit concurrently with, or following receipt of, credit for BIOL 1400 or BCOR 1425. Catamount Core: N2.

**BCOR 1425. Accelerated Biology. 0-4 Credits.**

Selected topics from the full year of introductory biology, compressed into one semester. For students with demonstrated mastery of basic biology (e.g., AP credit). Permission required. May not be taken for credit concurrently with, or following receipt of, credit for BCOR 1400 or BIOL 1400. Pre/co-requisite: Concurrent enrollment or credit in CHEM 1400, CHEM 1405, or CHEM 1410. Catamount Core: N2.

**BCOR 1450. Exploring Biology 2. 0 or 4 Credits.**

An evolutionary perspective to exploring biology. Topics include: patterns of inheritance, Darwinian evolution, evolution of biodiversity, ecology of organisms, human effects on biological systems. May not be taken for credit concurrently with, or following receipt of, credit for BIOL 1450. Catamount Core: N2.

**BCOR 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BCOR 2100. Ecology and Evolution. 0 or 4 Credits.**

Ecosystem and community structure, population growth, species interactions and niche dynamics, population and chromosomal genetics, speciation in fossil records, ecology of animal behavior, applied ecology. Prerequisites: BIOL 1400 and BIOL 1450, or BCOR 1400 and BCOR 1450, or BCOR 1425; MATH 1212 or MATH 1234. Catamount Core: N2, SU.

**BCOR 2300. Genetics. 0 or 3 Credits.**

The basis of inheritance, covering topics from classical genetics to modern molecular studies. Analysis of genetic data emphasized, from prokaryotic, animal, and plant systems. Prerequisites: BCOR 1400 or BIOL 1400, and BCOR 1450 or BIOL 1450; or BCOR 1425; and also CHEM 1400, CHEM 1405, or CHEM 1410. Catamount Core: N1.

**BCOR 2500. Molecular & Cell Biology w/lab. 0 or 4 Credits.**

Explores the fundamental processes of life. Topics include cellular metabolism; structure and function of organelles; cell cycle; signal transduction; biology of cancer. May not be taken concurrently with, or following receipt of, BCOR 2505. CHEM 2580, BCOR 2300 recommended. Prerequisites: BIOL 1400 or BCOR 1400, and BIOL 1450 or BCOR 1450; or BCOR 1425; and also CHEM 1400, CHEM 1405, or CHEM 1410; CHEM 1450, CHEM 1455, or CHEM 1460. Catamount Core: N2.

**BCOR 2505. Molecular & Cell Biology. 3 Credits.**

Explores the fundamental processes of life. Topics include cellular metabolism; structure and function of organelles; cell cycle; signal transduction; biology of cancer. CHEM 2580, BCOR 2300 recommended. May not be taken concurrently with, or following receipt of credit for BCOR 2500. Prerequisites: BIOL 1400 or BCOR 1400, and BIOL 1450 or BCOR 1450; or BCOR 1425; and also CHEM 1400, CHEM 1405, or CHEM 1410; CHEM 1450, CHEM 1455, or CHEM 1460. Catamount Core: N1.

**BCOR 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BCOR 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BCOR 3000. Biology in Practice. 1 Credit.**

Introduction to a broad array of biological disciplines through attending seminars in the life sciences. The course will introduce students to hypothesis testing and data analysis and interpretation of results, as well as scientific presentation through attending weekly seminars, reading related scientific literature, and participating in class discussions. Prerequisites: (BCOR 2300, BCOR 2100) or (BCOR 2300, BCOR 2500) or (BCOR 2100, BCOR 2500) or (BCOR 2300, NSCI 2105).

**BCOR 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BCOR 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BCOR 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BCOR 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BCOR 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BCOR 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**BIOLOGY (BIOL)****Courses****BIOL 1000. AP Biology 1. 4 Credits.**

Credit awarded for achieving a certain score on the Biology Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Catamount Core: N2.

**BIOL 1005. AP Biology 2. 4 Credits.**

Credit awarded for achieving a certain score on the Biology Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Catamount Core: N2.

**BIOL 1008. Transfer Bio: Non-Lab Science. 3-6 Credits.**

Credit for courses in biology and related life science fields taken at another institution that have been accepted for transfer credit at UVM and approved as fulfilling the N1: Natural Science General Education requirement. Catamount Core: N1.

**BIOL 1009. Transfer Bio: Lab Science. 3-8 Credits.**

Credit for courses in biology and related life science fields taken at another institution that have been accepted for transfer credit at UVM and approved as fulfilling the N2: Natural Science with lab General Education requirement. Catamount Core: N2.

**BIOL 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**BIOL 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**BIOL 1029. LASP Program CURE Lab. 1 Credit.**

Explores how modern science evolves and how researchers build upon one another's contributions. This Course-based Undergraduate Research Experience (CURE) provides early opportunities to Life Science Scholars to participate in the scientific inquiry process by focusing on the first steps of scientific research: reading, analyzing, and synthesizing scientific literature; and asking scientific questions. Prerequisites: Enrollment in Liberal Arts Scholars Program for Life Science Scholars.

**BIOL 1050. First-year Life Sci Seminar. 1 Credit.**

Supports first-year Life Science students in their transitions to a college-level science curriculum through exposure to resources, promotion of beneficial study habits, and the establishment of a classroom community.

**BIOL 1070. First-year Biology Seminar. 1 Credit.**

Introduces Biology majors to the science and practice of biology, with a particular focus on career development and information literacy skills in the life sciences.

**BIOL 1075. First-year Zoology Seminar. 1 Credit.**

Introduces Zoology majors (B.A./B.S.) to the science and practice of zoology, with a particular focus on career development and information literacy skills in the life sciences.

**BIOL 1100. Human Biology w/lab. 0 or 4 Credits.**

For nonscience majors. Selected biological concepts and topics relevant to humans, such as cancer, human genetics, environmental toxicants. With virtual laboratory. May not be taken for credit concurrently with, or following receipt of, credit for BIOL 1105. Catamount Core: N2.

**BIOL 1105. Human Biology. 3 Credits.**

For nonscience majors. Selected biological topics relevant to humans, such as cancer, human genetics, environmental toxicants; biological concepts necessary for understanding these problems. No laboratory. May not be taken for credit concurrently with, or following receipt of, credit for BIOL 1100. Catamount Core: N1.

**BIOL 1150. The Human Body w/lab. 0 or 4 Credits.**

For nonscience majors. Introduction to basic human anatomy and organ system physiology emphasizing normal and diseased homeostatic mechanisms. With virtual laboratory. May not be taken for credit concurrently with, or following receipt of, credit for BIOL 1155. Catamount Core: N2.

**BIOL 1155. The Human Body. 3 Credits.**

For nonscience majors. Introduction to basic human anatomy and organ system physiology emphasizing normal homeostatic mechanisms and the changes that accompany common disorders and diseases. No laboratory. May not be taken for credit concurrently with, or following receipt of, credit for BIOL 1150. Catamount Core: N1.

**BIOL 1200. Intro to Forensic Biology. 3 Credits.**

Covers crime scene investigation, methods of evidence collection and analysis, cause of death, and DNA identification in the context of biases that can influence the processing, interpretation, and use of evidence in the US court system. Catamount Core: D1, N1.

**BIOL 1205. Climate Change Genetics. 3 Credits.**

Aimed at non-life science majors. Covers foundational information in genetics and cellular biology to determine which species will survive the challenges of novel environmental conditions due to climate change. Collaborative work on endangered species case studies and critical thinking about the mechanisms that allow for adaptation. Catamount Core: N1.

**BIOL 1300. Evolutionary Biology w/lab. 0 or 4 Credits.**

For nonscience majors. The process of biological evolution, evidence for evolution, mechanisms of evolutionary change, origin of adaptations, evolution of behavior, social and reproductive behavior. With laboratory. May not be taken for credit concurrently with, or following receipt of, credit for BIOL 1305.

**BIOL 1305. Evolutionary Biology. 3 Credits.**

For nonscience majors. The process of biological evolution, evidence for evolution, mechanisms of evolutionary change, origin of adaptations, evolution of behavior, social and reproductive behavior. No laboratory. May not be taken for credit concurrently with, or following receipt of, credit for BIOL 1300. Catamount Core: N1.

**BIOL 1400. Principles of Biology 1. 0 or 4 Credits.**

Principles of cellular biochemistry; cell biology; genetics and evolution. Topics: biochemistry; metabolism, cell structure/function; respiration; photosynthesis; molecular, Mendelian and population genetics; genetics of evolution. May not be taken for credit concurrently with, or following receipt of, credit for BCOR 1400 or BCOR 1425. Catamount Core: N2.

**BIOL 1450. Principles of Biology 2. 0 or 4 Credits.**

Principles of organismal biology; nature of scientific inquiry, plant form and function, pollination ecology, animal phylogeny illustrated by comparative anatomy and physiology; animal behavior. May not be taken for credit concurrently with, or following receipt of, credit for BCOR 1450. Catamount Core: N2.

**BIOL 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BIOL 2100. Soundscapes and Behavior Rsch. 4 Credits.**

Students will participate in all aspects of a research project while learning to navigate the messiness of real-world data. Students will develop research questions on topics related to marine soundscape ecology, marine animal bioacoustics, and cetacean ecology, behavior, and conservation. Prerequisites: BIOL 1450 or BCOR 1450 or BCOR 1425. Catamount Core: N1.

**BIOL 2105. Introduction to Marine Science. 3 Credits.**

An overview of concepts and process in oceanography, geology, ecology, evolution, organismal biology, and conservation. Some of the topics we will discuss in class include tsunamis, ocean chemistry and physics, and bioluminescence. Prerequisites: (BIOL 1400 or BCOR 1400) and (BIOL 1450 or BCOR 1450); or BCOR 1425. Catamount Core: N1.

**BIOL 2300. Vertebrate Zoology. 3 Credits.**

Explores vertebrate diversity using the tools of evolutionary tree diagrams, structure and function relationships, ecology, and paleontology. Prerequisites: [(BCOR 1400 or BIOL 1400) and (BCOR 1450 or BIOL 1450)] or BCOR 1425.

**BIOL 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BIOL 2991. Internship: Nat Hst Collection. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BIOL 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Pre/co-requisites: Junior/Senior standing; Department permission.

**BIOL 3100. Plant-Animal Interactions. 3 Credits.**

Ecological and evolutionary interactions among plants and animals. Topics include herbivory, pollination, seed predation, ant-plant interactions, biological control, and anthropogenic effects on plant-animal interactions including the effects of GMOs and global climate change. Prerequisites: BCOR 2100. Catamount Core: N1.

**BIOL 3105. Community Ecology. 3 Credits.**

Theoretical and empirical analyses of community structure. Topics include population growth, metapopulation dynamics, competition, predation, species diversity, niches, disturbance succession, island biogeography, and conservation biology. Prerequisite: BCOR 2100; minimum Junior standing. Catamount Core: N1.

**BIOL 3130. Behavioral Ecology. 3 Credits.**

Adaptive significance of behavior in natural environments. Evolutionary theory applied to behavior and tested with field data. Prerequisite: BCOR 2100 or Instructor permission. Catamount Core: N1.

**BIOL 3140. Physiological Ecology. 3 Credits.**

Processes by which animals cope with moderate, changing, and extreme environments. Prerequisite: BCOR 2100.

**BIOL 3160. Sociobiology. 3 Credits.**

The evolutionary biology of social behavior in animals. Topics include the evolution of sociality, social interactions, and the functional organization of social groups. Prerequisite: BCOR 2100. Catamount Core: N1.

**BIOL 3165. Evolution. 3 Credits.**

Basic concepts in evolution will be covered, including the causes of evolutionary change, speciation, phylogenetics, and the history of life. Prerequisite: BCOR 2100.

**BIOL 3200. Topics in Ecology & Evolution. 3 Credits.**

Exploration of advanced topics in Ecology and Evolution. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: BCOR 2100.

**BIOL 3400. Topics in General Biology. 3 Credits.**

Exploration of advanced topics in General Biology. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: BCOR 2100, BCOR 2300, or BCOR 2500.

**BIOL 3500. Neurodevelopment. 3 Credits.**

Current topics in developmental neurobiology through lectures and discussions of primary literature. The course is designed for advanced undergraduate life science majors and graduate students in the biological sciences. Prerequisites: BCOR 2300, BCOR 2500. Catamount Core: N1.

**BIOL 3505. Neurobiology. 3 Credits.**

Focus on molecular and cellular aspects of the nervous system. Electrical signaling, synaptic transmission, signal transduction, neural development, plasticity, and disease. Credit not awarded for both BIOL 3505 and NSCI 3505. Prerequisite: BCOR 2500. Catamount Core: N1.

**BIOL 3510. Model Systems in Neuroscience. 3 Credits.**

Provides students a deeper level of scientific fluency with guidance on how to critically read and understand primary scientific literature and how to communicate those findings, using model systems as our guide. Prerequisites: BCOR 2300 and (BCOR 2500 or NSCI 2105).

**BIOL 3530. Cell Biology and Disease. 3 Credits.**

Exploration of the fundamental molecular mechanisms that happens in a cell in different disease states. Diseases covered can include Multiple Sclerosis, Alzheimer's, Diabetes, and Osteoporosis. Emphasizes the cellular and molecular basis of these diseases. Prerequisites: BCOR 2500 or NSCI 2105. Catamount Core: N1.

**BIOL 3535. Genetics Cell Cycle Regulation. 3 Credits.**

Molecular events during the cell cycle; mutants defective in cell cycling; comparison of normal and transformed (cancer) cell cycling. Prerequisite: BCOR 2100.

**BIOL 3560. Developmental Biology. 3 Credits.**

An analysis of the cellular, subcellular, molecular, and genetic mechanisms that operate during oogenesis and embryogenesis in invertebrate and vertebrate organisms. Prerequisites: BCOR 2300, BCOR 2500. Catamount Core: N1.

**BIOL 3565. Developmental Molecular Genetics. 3 Credits.**

Current topics in developmental genetics explored through lectures and discussions of current literature; emphasis on molecular approaches. Prerequisite: BCOR 2300.

**BIOL 3600. Topics in Cell & Developmental. 3 Credits.**

Exploration of advanced topics in Cell and Developmental Biology. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: BCOR 2300.

**BIOL 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BIOL 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BIOL 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BIOL 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Pre/co-requisites: Minimum Junior standing; Department permission.

**BIOL 4070. Sr Seminar in General Biology. 1 Credit.**

The application of previous coursework knowledge and skills to current problems in conservation, agriculture, public health, and medicine where a broad approach can provide new and useful insights. Designed around student-led case studies in areas of active research, primary literature, experimental design, and data analysis. Prerequisites: General Biology concentration; Senior standing.

**BIOL 4075. Sr Seminar in Eco and Evo. 1 Credit.**

The application of previous coursework knowledge and skills to current problems in conservation, agriculture, public health, and medicine where an eco-evolutionary approach can provide new and useful insights. Designed around student-led case studies in areas of active research, primary literature, experimental design, and data analysis. Prerequisites: Ecology and Evolutionary Biology concentration; Senior standing.

**BIOL 4080. Sr Seminar in Cell and Dev. 1 Credit.**

The application of previous coursework knowledge and skills to current problems in disease biology, public health, and medicine where an cellular and/or developmental approach can provide new and useful insights. Designed around student-led case studies in areas of active research, primary literature, experimental design, and data analysis. Prerequisites: Cell and Developmental Biology concentration; Senior standing.

**BIOL 4135. Molecular Ecology. 0 or 4 Credits.**

Molecular genetic tools and analytical methods used to investigate ecological processes in natural populations of plants and animals. Prerequisite: BCOR 2100.

**BIOL 4230. Marine Mammal Biology. 4 Credits.**

Travel course that introduces students to the biology of aquatic mammals and gets them involved in field research. Prerequisites: BCOR 2100.

**BIOL 4240. Field Zoology of Arthropods. 0 or 4 Credits.**

Collection, identification, and ecology of arthropods. Substantial field collecting. Prerequisite: BCOR 2100.

**BIOL 4245. Mammalogy. 0 or 4 Credits.**

Classification, identification, morphology, evolution, and distribution of mammals. Prerequisite: BCOR 2100.

**BIOL 4260. Population Genetics. 0 or 4 Credits.**

Methods of detecting and investigating genetic variation, as well as its causes and consequences. Applications from medicine, forensics, and environmental biology are emphasized. Prerequisite: BCOR 2300 or BCOR 2100.

**BIOL 4265. Speciation and Phylogeny. 0 or 4 Credits.**

Contribution of modern research in such fields as genetics, systematics, distribution, and serology to problems of evolutionary change. Prerequisite: BCOR 2100.

**BIOL 4400. Compar/Func Vertebrate Anatomy. 0 or 4 Credits.**

Structure, function, and phylogeny, with evolutionary and functional trends of all chordate groups. Prerequisite: Two courses from BCOR 2300, BCOR 2100, BCOR 2500.

**BIOL 4405. Comparative Physiology. 0 or 4 Credits.**

Physiology at the organ, systems, and organismal levels. Capstone course to consolidate biological concepts. Prerequisites: BCOR 2300; BCOR 2100 or BCOR 2500. Catamount Core: N2.

**BIOL 4410. Physiology of Global Change. 4 Credits.**

A course-based research experience that explores physiological and evolutionary responses to environmental change. Students engage in multiple stages of the scientific process, including laboratory experimentation, data analysis, reading of the scientific literature, and scientific writing. Prerequisites: BCOR 2300; BCOR 2100 or BCOR 2500. Catamount Core: N2.

**BIOL 4630. Adv Genetics Laboratory. 4 Credits.**

Laboratory experiments to provide experience with modern genetic techniques. Bench work and data analysis emphasized. Prerequisite: BCOR 2300. Catamount Core: N2.

**BIOL 4635. Adv Genetics & Proteomics Lab. 4 Credits.**

Laboratory experiments to provide experience with modern genetic and proteomics techniques. Bench work and data analysis are emphasized. Prerequisites: BCOR 2300, BCOR 2500.

**BIOL 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BIOL 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**BIOL 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

## BIOMEDICAL AND HEALTH SCIENCES (BHSC)

### Courses

**BHSC 1340. Human Cell Biology. 0 or 4 Credits.**

Lecture and laboratory experiences about molecular and cellular structure, function and physiology using human cells as the model. Catamount Core: N2.

**BHSC 1980. Intro to Scientific Writing. 3 Credits.**

Introduction to the principles and practices of research and writing in the biomedical and health sciences. Using scientific data and literature as a foundation, students will write in multiple genres through regular assignments applicable to future course work and health science professions. Pre/co-requisites: ENGL 1001 or equivalent; Radiation Medical Science, Medical Laboratory Sciences, Health Sciences major; or Instructor permission. Catamount Core: WIL2.

**BHSC 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BHSC 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BHSC 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BHSC 2400. Radiation Science. 4 Credits.**

Provides a broad based understanding of the fundamentals of radiation science including the ways in which radiation is produced and utilized, the principles of radioactive decay, radiation exposure, absorbed dose, shielding and detection of radiation. Prerequisite: MATH 1212 or MATH 1234. Co-requisites: RADT 2520 or Instructor permission for non-majors.



**BHSC 2410. Advanced Radiation Science. 3 Credits.**

Lecture and laboratory experiences to enhance the understanding and application of the principles of radioactive decay, radiation exposure, absorbed dose, shielding and detection of radiation. Prerequisite: MATH 1012, MATH 1034, MATH 1212 or MATH 1234.

**BHSC 2750. Cross Sectional Imaging. 3 Credits.**

Introduction to the radiographic anatomy and the various imaging modalities presently used to include diagnostic imaging, computed tomography (CT), magnetic resonance imaging (MRI), and nuclear medicine. Prerequisites: ANPS 1200.

**BHSC 2970. Leadership & Mgt in Hlth Care. 3 Credits.**

Familiarizes students with operational aspects of health care management, leadership and policy. Explores current techniques in process improvement, management methodologies, and healthcare policy with a special focus on disparities in health and healthcare. Prerequisites: College of Nursing and Health Sciences majors; minimum Junior standing.

**BHSC 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BHSC 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BHSC 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BHSC 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**BHSC 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Department Permission.

**BHSC 3420. Immunology. 3 Credits.**

Deals with cells, organs, development, interactions and the functioning (infectious process, immunodeficiency, hypersensitivity reactions, transplantation and tumor immunology) of the innate and the adaptive immune system. Prerequisites: One semester of biochemistry, one semester of organic chemistry.

**BHSC 3440. Immunology Lab. 1 Credit.**

Laboratory experience dealing with cellular and humoral immunity, B cells and T cells, autoimmunity, immunodeficiency. Laboratory covers immunological techniques and applications. Prerequisites: One semester of biochemistry, one semester of organic chemistry. Co-requisites: BHSC 3420 or MMG 3230.

**BHSC 3810. Applied Molecular Biology. 3 Credits.**

Introduces students to the nucleic acid and protein-based molecular diagnostics technology through class presentation, reading, and discussions. Focuses on diagnostic applications for understanding molecular mechanisms of disease. Prerequisite: CHEM 1580 or CHEM 2580.

**BHSC 3820. Applied Molecular Biology Lab. 1 Credit.**

Laboratory experiences include practical concepts of molecular applications. Introduces basic methods used in DNA and Protein technology including plasmid isolation, polymerase chain reaction, restriction enzyme use, and related assays. Prerequisite: CHEM 1580 or CHEM 2580. Co-requisite: BHSC 3810.

**BHSC 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Department permission.

**BHSC 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BHSC 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BHSC 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**BHSC 3995. Undergraduate Research. 1-18 Credits.**

Individual research performed under the supervision of a faculty mentor. A written report and seminar is required. Prerequisite: Department Permission.

**BHSC 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BHSC 4991. Reserved for Internship. 1 Credit.**

Internship.

**BHSC 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BIOMEDICAL ENGINEERING (BME)****Courses****BME 1600. BME Design 0. 0 or 2 Credits.**

Introduction to the biodesign methodology. Hands-on design experiences that emphasize inter-disciplinary teamwork, technical communication, and engineering ethics.

**BME 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BME 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BME 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BME 2000. Core 1: Biomechanics & Sensing. 0 or 6 Credits.**

Studio-style course that fuses lecture with project-based learning and laboratory exercises. Covers force and torque vectors, systems in equilibrium, physical properties of human body segments and biological systems, kinematics and kinetics of particles and rigid bodies, stress and strain of solid materials, circuits and instrumentation. Prerequisites: C- or better in MATH 1248, and PHYS 1500.

**BME 2050. Core 2: Materials & Transport. 0 or 6 Credits.**

Studio-style course that fuses lecture with project-based learning and laboratory exercises. Covers materials related to medical devices, the biological reaction to implanted medical devices, and associated failure mechanisms. Diffusive and convective mass transport in biochemical interactions, oxygen transport, cell adhesion/signaling, drug and macromolecule transport. Prerequisites: BME 2000, BHSC 1340.

**BME 2600. BME Design 1. 0 or 1 Credits.**

Introduction to ISO standards, FDA, quality control, and regulatory processes. Case studies of BME Capstone Design I teams. Prerequisite: BME 1600 or equivalent.

**BME 2650. BME Design 2. 0 or 1 Credits.**

Introduction to verification/validation testing. Case studies of BME Capstone Design II teams. Prerequisite: BME 2600.

**BME 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BME 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BME 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BME 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**BME 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BME 2996. College Honors. 3-6 Credits.**

Honors studies leading to a thesis.

**BME 3000. Core 3: Systems & Signals. 0 or 6 Credits.**

Studio-style course that fuses lecture with project-based learning and laboratory exercises. Covers linear modeling of biological systems with mechanical, electrical, fluidic, and thermal elements, continuous/discrete-time descriptions of signals and linear systems, fourier and Laplace analysis and feedback systems, collection and processing of signals and images. Prerequisite: BME 2050. Pre/Co-requisite: MATH 3201.

**BME 3410. Biomaterials Engineering. 3 Credits.**

A materials science and engineering approach is used to explore the structure-function relationships of natural and bio-inspired materials for various engineering applications. The emphasis is on mechanical design and function. The medical applications of biomaterials will be discussed. Prerequisites: ME 2110 or BME 3600. Cross-listed with: ME 3410.

**BME 3460. Biomechanics of Human Motion. 3 Credits.**

Biomechanics of Human Motion will describe the typical processes-from small scale protein interactions to large scale joint torques-that result in human locomotion. Clinical problems and athletic performance will be discussed. Students will learn about musculoskeletal tissues related to force generation/transmission and will perform kinematic/kinetic analyses. Prerequisite: BME 2000 or ME 1120. Pre/Co-requisites: ME 2110, ME 2120, or BME 3000. Cross-listed with: ME 3460.

**BME 3480. Biomechanics: Tissue Engr. 3 Credits.**

Solid biomechanics including structure, function and mechanical properties of biological tissues. Tissue engineering involving cell mechanics, scaffold materials, and signaling. Current literature topics are covered. Prerequisites: ME 2110 or BME 3600. Cross-listed with: ME 3480.

**BME 3600. BME Design 3. 0 or 2 Credits.**

Industry-standard biodesign and project management processes. Application of principles to small-scale team-based design projects in collaboration with existing BME Capstone Design teams and to identify future Capstone projects. Shop training. Prerequisite: BME 2650.

**BME 3710. Biomedical Instrumentation. 3 Credits.**

Measurement techniques for biomedical engineering research and industry, and health care institutions. Integrated biomedical monitoring, diagnostic, and therapeutic instrumentation. Prerequisite: EE 2145, EE 2175, or EE 2135. Co-requisite: EE 3110, ANPS 1200, or Instructor permission. Cross-listed with: EE 3710.

**BME 3720. Biosignal Decoding. 3 Credits.**

Overview of biomedical measurement techniques; development of Python software to visualize, denoise, and decode biomedical signals. Prerequisites: CS 1210; (BME 3000 or EE 3150) or (ME 2120 and EE 2845) or Instructor permission. Pre/Co-requisites: Beginner knowledge of Python programming is strongly suggested. Cross-listed with: EE 3720.

**BME 3740. Wearable Sensing. 3 Credits.**

Covers current state-of-the-art in wearable sensors and the biomechanical and physiological phenomena they are being used to measure. Emphasis will be given to applications related to human health and medicine. Prerequisite: ME 2120 or EE 3150 or equivalent with Instructor permission.

**BME 3750. Biomedical Signal Processing. 3 Credits.**

Covers several important physiological signals often monitored in biomedical contexts (e.g. EMG, ECG, PPG). Content will include the physiology that generates the signals as well as the signal processing techniques (e.g., LTI filters, empirical mode and wavelet decomposition) and algorithms used for analysis. Prerequisite: ME 2120 or EE 3150 or equivalent with Instructor permission.

**BME 3810. Clinical Devices & Instruments. 3 Credits.**

Focuses on the development, design and adaptation of biomedical devices and instruments. Team-taught by faculty in the Larner College of Medicine and UVM Medical Center and focuses on exciting active areas of biomedical device development and applications at UVM and the UVM Medical Center. Prerequisites: ANPS 1190, ANPS 1200; or Instructor permission.

**BME 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BME 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**BME 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BME 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**BME 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BME 4600. Capstone Design I. 0 or 3 Credits.**

Teams apply industry-standard biodesign and project management processes to design, build, and test a functional prototype that meets their client's requirements. Prerequisite: BME 3600. Catamount Core: OC.

**BME 4650. BME Capstone Design II. 0 or 3 Credits.**

Teams refine their functional prototype from BME Capstone Design I and explore approaches for manufacturing at scale, regulatory strategy, clinical strategy, IP strategy, health-economics and reimbursement. Prerequisite: BME 4600.

**BME 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BUSINESS ADMINISTRATION (BUS)****Courses****BUS 1101. Business Savvy. 3 Credits.**

Introduces non-business majors to the fundamentals of accounting, finance, marketing, operations, management, strategy. May be used by Business Administration minors to fulfill three credits of upper-level Business Administration electives. Prerequisites: Non-Business Administration major.

**BUS 1102. Prof. Development Series I. 1 Credit.**

Seminar series focusing on engagement, career preparedness, and information literacy. Prerequisite: First-Year Business Administration major.

**BUS 1110. The Business Enterprise I. 0 or 3 Credits.**

This fundamental course provides instruction in how businesses work and what is required to excel and lead in today's work environment. Prerequisite: First-Year Business Administration major. Catamount Core: SU.

**BUS 1120. The Business Enterprise II. 3 Credits.**

Provides an understanding of what managers do on a daily basis and the issues they face in running a business; including a basic introduction to the functional areas of business and the types of decisions involved. Prerequisite: BUS 1110 with a minimum grade of C-.

**BUS 1130. Business Communications. 3 Credits.**

Provides a basic understanding of professional business communications. Prerequisite: Business Administration major; First-year/Sophomore standing. Catamount Core: OC.

**BUS 1140. Information Technology. 0 or 3 Credits.**

An overview of the functional areas of business and the importance of information technology to the success of the organization with coverage of essential communication, problem solving and productivity tools employed in the modern enterprise. Prerequisites: Business Administration major. Catamount Core: QD.

**BUS 1190. Personal Finance & Investing. 3 Credits.**

Analyze the process for making personal financial decisions; develop personal financial goals in view of an individual's background and emotions related to money, debt, spending habits, risk taking etc.; assess economic factors that influence financial planning.

**BUS 1610. Financial Accounting. 3 Credits.**

Introduction to the accounting system and generally accepted accounting principles that govern income determination and financial position presentation. Credit not awarded for both BUS 1610 and BUS 1600. Prerequisites: ECON 1400 or ECON 1450 with a minimum grade of C-; Business Administration, Computer Science & Information Systems, Dietetics, Nutrition & Food Science, Engineering Management major, Business Administration, Accounting minor.

**BUS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Minimum Sophomore standing.

**BUS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisites: Concurrent Internship; Instructor Permission.

**BUS 1993. Independent Study. 1-3 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BUS 2102. Prof. Development Series II. 1 Credit.**

Seminar series focusing on engagement, career preparedness and professional development. Prerequisites: BUS 1102; Business Administration major; minimum Sophomore standing.

**BUS 2130. Decision Analysis. 3 Credits.**

Introduces the tools and techniques necessary for effective decision-making in business organizations operating in a complex and dynamic environment. Prerequisites: MATH 1212 or MATH 1234 with a minimum grade of C-; STAT 1410 or STAT 2430 with a minimum grade of C-; or PSYS 2002 with a minimum grade of C- and PSYS 2010 with a minimum grade of C-; Business Administration, Computer Science and Information Systems, and Engineering Management majors; Business Administration Minor; minimum Sophomore standing. Catamount Core: QD.

**BUS 2150. Sustainable Bus Strategies. 3 Credits.**

Focus on the basics of strategic management to understand business choices and the sustainability of business organizations and their stakeholders. Prerequisites: ECON 1400, ECON 1450, both with a minimum grade of C-; MATH 1212 or MATH 1234 with a minimum grade of C-; Business Administration major or minor; minimum Sophomore standing. Co-requisite: BUS 1610.

**BUS 2300. Leadership & Org Behavior. 3 Credits.**

How people in organizations think and behave. Focuses on how leadership and motivation affect individuals and teams in the workplace and a global business context. Prerequisites: BUS 1110 or BUS 1120 or ECON 1400 or ECON 1450 with a minimum grade of C-, or Instructor permission; Business Administration, Computer Science & Information Systems, Engineering Management, Dietetics, Nutrition & Food Sciences major; Business Administration minor, Sports Management minor or Instructor permission; minimum Junior standing.

**BUS 2330. Entrepreneurial Leadership. 3 Credits.**

Experiential course suitable for students aiming for leadership roles in an existing organization or for those who want to launch a new venture. Prerequisites: BUS 2300; Business Administration, Engineering Management major, Business Administration minor, Sports Management minor by permission; minimum Junior standing.

**BUS 2370. Business Law I. 3 Credits.**

Concepts of law as related to business, including law of contracts, sales, bailments, and negotiable instruments, business and laws of agency, partnerships, and corporations. This course is not a prerequisite for BUS 2380. Prerequisites: ECON 1400, ECON 1450, both with a minimum grade of C-; Business Administration major or minor; minimum Sophomore standing.

**BUS 2380. Business Law II. 3 Credits.**

Concepts of law as related to business, including law of contracts, sales, bailment, and negotiable instruments, business and law agency, partnerships, and corporations. BUS 2370 is not a prerequisite for BUS 2380. Prerequisites: ECON 1400, ECON 1450, both with a minimum grade of C-; Business Administration major or minor; minimum Sophomore standing.

**BUS 2385. Real Estate Law. 3 Credits.**

Provides an understanding of basic concepts of the laws that apply to the purchase, development, lease, management, and transfer of real property. Prerequisites: ECON 1400, ECON 1450, both with a minimum grade of C-; Business Administration major or minor; minimum Sophomore standing.

**BUS 2432. Political Envir of Business. 3 Credits.**

Explore the rationale for government interaction with business. Analyze (1) business, and the broader society's demand for public policy, as well as (2) the political institutions that supply public policy in both domestic and international contexts. Prerequisites: ECON 1450 with a minimum grade of C-; Business Administration, Engineering Management, Computer Science & Information Systems major; Business Administration minor.

**BUS 2500. Marketing Management. 3 Credits.**

The place of marketing in our economy. Analysis of the market structure by function, institutions, and commodities. Consumer and organizational activities reviewed. Prerequisites: ECON 1450 with a minimum grade of C-; MATH 1212 or MATH 1234 with a minimum grade of C-; STAT 1410 or STAT 2430 with a minimum grade of C-, or PSYS 2002 with a minimum grade of C- and PSYS 2010 with a minimum grade of C-; Business Administration, Computer Science & Information Systems, Engineering Management majors; Business Administration minor; Sports Management minor with Instructor permission; minimum Junior standing.

**BUS 2620. Managerial Accounting. 3 Credits.**

Introduction to use of accounting for planning, cost behavior, budgeting, analysis, and decision making. Prerequisites: BUS 1610 with a minimum grade of C-; Business Administration, Engineering Management, Dietetics, Nutrition and Food Sciences, Computer Science & Information Systems major, Business Administration, Accounting minor; minimum Sophomore standing.

**BUS 2640. Individual Taxation. 3 Credits.**

Highlights federal income tax concepts and rules applicable to individuals. Examines how the federal tax system accounts for items of income and expense in computing taxable income, considering both personal and business transactions. Prerequisites: BUS 1610 and BUS 2620; Business Administration majors; Accounting and Business Administration minors; minimum Junior standing.

**BUS 2700. Operations Management. 3 Credits.**

Introduces decisions related to the design, management, and improvement of activities that create and deliver a firm's products and services. Prerequisites: BUS 2130 with a minimum grade of C-, BUS 1610 with a minimum grade of C-; MATH 1212 or MATH 1234 with a minimum grade of C-; STAT 1410 or STAT 2430 with a minimum grade of C-, or PSYS 2002 with a minimum grade of C- and PSYS 2010 with a minimum grade of C-; minimum Junior standing; Business Administration, Engineering Management, Computer Science & Information Systems major; Business Administration minor.

**BUS 2744. Database Management. 3 Credits.**

Covers the foundational knowledge of how databases are designed, built, and optimized for performance. Students will work with an enterprise database platform to understand how commercially available database products are used in the modern enterprise. Prerequisites: BUS 1140 with a minimum grade of C-, or BUS 2740; Business Administration, Engineering Management, Computer Science & Information Systems major, Business Administration minor by permission; minimum Junior standing.

**BUS 2747. Green IT & Virtualization. 3 Credits.**

Analyzes the environmental, managerial, and economic benefits of emerging IT platforms for data center, systems continuity, remote workforce, and e-waste management. Prerequisites: BUS 1140 with a minimum grade of C-, or BUS 2740; Business Administration, Engineering Management, Computer Science & Information Systems major; Business Administration minor by permission; minimum Junior standing.

**BUS 2748. Bus. Driven Decision Making. 3 Credits.**

Using Microsoft Excel and Tableau software, students will solve realistic business scenarios in areas related to finance, accounting, production and operations, sales and marketing, producing interactive data visualizations focused on business intelligence. Prerequisite: BUS 1140 with a minimum grade of C-, or BUS 2740 or CS 1210; Business Administration or Computer Science and Information Systems Majors, Business Administration minors; minimum Junior standing.

**BUS 2792. Business Process Improvement. 3 Credits.**

Familiarizes students with the basic conceptual issues of continuously improving business processes to compete more effectively on quality, time, and cost. Prerequisites: BUS 1140 or BUS 2740; Business Administration, Engineering Management, Computer Science & Information Systems major; Business Administration minor by permission; minimum Junior standing.

**BUS 2800. Managerial Finance. 3 Credits.**

The financial function in the corporation. Techniques for evaluating current use of resources and proposed resource acquisitions or dispositions. Prerequisites: BUS 1610 with a minimum grade of C-, STAT 1410 or STAT 2430 with a minimum grade of C-, or PSYS 2002 with a minimum grade of C- and PSYS 2010 with a minimum grade of C-; Business Administration, Computer Science & Information Systems, Engineering Management majors; or Business Administration minor; minimum Sophomore standing.

**BUS 2810. Intermediate Financial Mgmt. 3 Credits.**

Examines key areas of financial decision making. With cases and problems, issues such as capital budgeting, leasing, mergers, and acquisitions examined. Prerequisites: BUS 2800; Business Administration major or minor; minimum Junior standing.

**BUS 2990. Special Topics. 1-18 Credits.**

Specialized or experimental courses offered as resources permit. Prerequisite: Business Administration major or minor; Minimum Junior standing.

**BUS 2991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisites: Concurrent internship; Instructor permission.

**BUS 2993. Independent Study. 1-18 Credits.**

Tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: Business Administration major; Instructor permission; Minimum Junior standing.

**BUS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**BUS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BUS 2996. Honors Rsch Methods Seminar. 3 Credits.**

Prepares students for thesis requirement. Upon completion, students will be fully versed in the research process and understand different research methodologies. Prerequisites: Honors College Business Administration student; Junior standing.

**BUS 3102. Prof. Development Series III. 1 Credit.**

Seminar series focusing on engagement and professional development with a focus on transitioning from University life to the work world. Prerequisites: BUS 2102; Business Administration major; minimum Junior standing.

**BUS 3310. Human Resource Management. 3 Credits.**

Critical examination of contemporary problems in human resource management; including job analysis, recruitment, training and employee development, health and safety, compensation, performance appraisal, and related topics. Prerequisites: BUS 2300; Business Administration major or minor; Master of Accountancy Graduate students; minimum Junior standing.

**BUS 3330. Tech, Entr & Commercialization. 3 Credits.**

Provides future business and technology professionals with insights into the processes of transferring research from the university to the marketplace, and transforming new technologies into sustainable products or services that create new economic, social and environmental value. Prerequisites: BUS 2500 or EMGT 3051; Business Administration major or minor; Computer Science and Information Systems major; Engineering Management major; others by permission; minimum Junior standing.

**BUS 3350. Entrepreneurial Family Firms. 3 Credits.**

Students will learn to work effectively in and with family enterprises - the predominant organizational form in the world. By understanding their unique advantages and challenges, students will learn to develop strategic solutions to improve the family and business performance. Prerequisites: BUS 2300; Business Administration, Engineering Management major; Business Administration minor; minimum Junior standing.

**BUS 3360. Integrated Product Dev. 3 Credits.**

Project-based course focusing on the entire product life cycle. Team dynamics, process and product design, quality, materials, management, and environmentally-conscious manufacturing. Prerequisite: Senior standing. Cross-listed with: ME 3060.

**BUS 3422. Collaborate for Sustainability. 3 Credits.**

Provides a strategic perspective of identifying collaboration skills, challenges, and advantages that assist with the sustainability of businesses. Students will receive an introduction to collaboration theory and inter-firm collaboration for the purpose of sustainability. Prerequisites: BUS 2300, Business Administration majors and minors, minimum Sophomore standing.

**BUS 3442. International Management. 3 Credits.**

Exploration of international business environments and management issues corporations encounter in these environments. Topics include cross-cultural differences, international corporate strategy and structure, cross-cultural communication, negotiation, and human resource management. Prerequisites: BUS 2300; minimum Junior standing; Business Administration major or minor. Catamount Core: D2.

**BUS 3490. Ethics & Social Resp in Mgt. 3 Credits.**

Engages students in reflections on the role and purpose of business organizations in society and questions the sense of human action in these business organizations in order to face future global challenges in a socially responsible and sustainable way. Prerequisites: BUS 1110 or BUS 2300; Business Administration majors; Business Administration minors with Instructor permission; minimum Sophomore standing.

**BUS 3510. Marketing Research. 3 Credits.**

The role of research in a marketing information framework. Emphasis on survey research, data collection, and analysis. Experimental designs also examined. Prerequisites: BUS 2500; Business Administration major or minor; Senior or Graduate standing.

**BUS 3530. Consumer Behavior. 3 Credits.**

Exploration and analysis of research evidence from marketing and behavioral science relevant to a theory of consumer behavior. Emphasis also given to research methodologies. Prerequisites: BUS 2500; Business Administration major or minor; minimum Junior standing.

**BUS 3550. Digital Marketing. 3 Credits.**

Teaches the ways in which digital tools and multiple platforms have created a wide range of marketing options for organizations. Theoretical strategy, professional engagements, and hands-on practice will illustrate the strategic reasons for utilizing digital marketing and how to use the tools most effectively. Prerequisites: BUS 2500; Business Administration majors or minors; minimum Junior standing.

**BUS 3552. Marketing Research Practicum. 3 Credits.**

Market research field project. Students design survey instruments, collect and analyze data, and present results to clients in a business environment. Prerequisites: BUS 3510; Business Administration major or minor; Instructor permission; Minimum Junior standing.

**BUS 3554. Services Marketing. 3 Credits.**

Provides an understanding of what is required to develop and market a successful service to a selected target market. Subject matter includes marketing in service organizations, differences between product marketing and service marketing, the service components of product marketing, and drivers of competitive advantage in service organizations. Prerequisites: BUS 2500; minimum Junior standing.

**BUS 3555. Marketing Communications. 3 Credits.**

Emphasizes the coordination of advertising and sales promotion into cohesive promotional programs. Stresses the need to integrate promotional activity into the overall marketing strategy. Prerequisites: BUS 2500; Business Administration major or minor; minimum Junior standing.

**BUS 3556. Product Management. 3 Credits.**

Course provides an overview of product management. Key perspectives that shape the field including the new product development process will be emphasized. Prerequisites: BUS 2500; Business Administration major or minor; Minimum Junior standing.

**BUS 3560. Retail Management. 3 Credits.**

Provides an overview of retail management. Key perspectives that shape the field including strategic planning, merchandising, and competitive advantage are emphasized. Prerequisites: BUS 2500; Business Administration major or minor; Master of Accountancy Graduate Students; minimum Junior standing.

**BUS 3580. Intn'l Market Analysis. 3 Credits.**

Examines the cultural, economic, historic, and political factors that affect the analysis of foreign markets. Specific attention is given to the processes by which market entry decisions are developed and implemented. Prerequisites: BUS 2500, Business Administration major or minor; Minimum Junior standing. Catamount Core: D2.

**BUS 3590. Sustainable Marketing. 3 Credits.**

Engenders an appreciation for the twin global challenges of global poverty and environmental sustainability and delves deeper into what businesses can do to respond to these challenges. Prerequisites: BUS 2500; Business Administration major or minor; Senior standing.

**BUS 3610. Corporate Financial Reporting1. 3 Credits.**

Study of how corporations account for and present the results of their financial activities. Emphasizes accounting for assets, current liabilities, and the related revenue and expenses. Provides overview of the four primary financial statements and accompanying notes. Prerequisites: BUS 1610, BUS 2620, both with a minimum grade of C-; Business Administration major; Business Administration or Accounting minor; minimum Junior standing.

**BUS 3611. Corporate Financial Reporting2. 3 Credits.**

Continuation of Corporate Financial Reporting1, with emphasis on accounting and reporting of liabilities, owners' equity and related effect on income determination of an enterprise. Prerequisites: BUS 3610; Business Administration major, Business Administration or Accounting minor; minimum Junior standing.

**BUS 3615. Financial Statement Analysis. 3 Credits.**

Study of the concepts and techniques underlying corporate financial statement analysis, with an emphasis on equity valuation models. Prerequisites: BUS 2800; Business Administration major or minor; Senior standing.

**BUS 3620. Adv Topics in Management Acctg. 3 Credits.**

Emphasizes use of internal and external information in management decision making; includes cost of inventory, business activities, strategic use of information, long-range planning. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: BUS 3610 or BUS 2800; Business Administration major, Business Administration, Accounting minor; Senior standing.

**BUS 3643. Taxation of Social Enterprises. 3 Credits.**

Explores the balance that organizations try to achieve between the for-profit (business) and nonprofit (charitable) separation of the tax world. Prerequisites: BUS 3610 or BUS 2800; Business Administration majors, Business Administration or Accounting minors, Master of Accountancy Graduate Students; Senior standing.

**BUS 3660. Accounting Information Systems. 3 Credits.**

Examination of how accounting information is collected, stored and made available to decision makers with an emphasis on internal control implementation. Prerequisites: BUS 3610; Senior standing; Business Administration major, Master of Accountancy student, Business Administration minor, Accounting minor.

**BUS 3670. Environmntl & Social Rprtng. 3 Credits.**

An examination of voluntary and mandatory reporting of issues related to corporate social responsibility including environmental, social and governance. Knowledge is gained through readings, written assignments and discussion. Coverage includes GRI, SASB and integrated reporting guidelines and standards. Prerequisites: BUS 3610 or BUS 2800; Senior or Graduate student standing or Instructor permission. Catamount Core: SU.

**BUS 3700. Quant Anyl for Managerial Dec. 3 Credits.**

Application of management science methods to managerial decision making, emphasizing modeling and use of solution results. Topics include mathematical programming, waiting-line analysis, and computer simulation. Prerequisites: C- or better in BUS 2130, BUS 2700; Business Administration major or minor; Engineering Management major, Master of Accountancy Graduate student; other majors by Instructor permission; minimum Junior standing.

**BUS 3730. Supply Chain Management. 3 Credits.**

Explores how firms can organize supply chains to more effectively align supply with the demand for products. Prerequisites: BUS 2700; Business Administration major or minor; Engineering Management major, or Graduate Master of Accountancy student; minimum Junior standing or graduate standing; other majors or minors by Instructor permission.

**BUS 3800. Green Mountain Investment Fund. 1 Credit.**

Involves practical and real time operation of an investment fund. Covers the steps necessary to fill a role as an analyst or portfolio manager of a traditional long-only money management operation. May repeated with Instructor permission; only counts once toward Business Administration major or minor. Prerequisites: BUS 2800; Business Administration major or minor; minimum Junior standing.

**BUS 3810. Fixed Income Security Analysis. 3 Credits.**

Focuses on the valuation and analysis of fixed income securities and the management of fixed income investment portfolios. Prerequisites: BUS 2800; Business Administration major or minor, Master of Accountancy Graduate student; minimum Junior standing.

**BUS 3820. Security Val & Portfolio Mgmt. 3 Credits.**

Examination of theories and evidence on the investment decision process including operations of equity securities markets, market efficiency, financial asset prices, and portfolio management. Prerequisites: BUS 2800; Business Administration major or minor; Minimum Junior standing. Co-requisite: BUS 3800.

**BUS 3830. International Finance Mgmt. 3 Credits.**

Theories and practices of international financial management examined. Topics investigated include: systems of international exchange, spot and forward markets, and expropriation and exchange risk. Prerequisites: BUS 2800; Minimum Junior standing; Business Administration major or minor.

**BUS 3840. Free Markets & Free Enterprise. 3 Credits.**

Study of level and structure of interest rates and characteristics of financial institutions and markets. Topics include market vs. natural rate of interest, interest rate structure, behavior of interest rates. Prerequisites: BUS 2800; Business Administration major or minor; minimum Junior standing.

**BUS 3850. Options and Futures. 3 Credits.**

Financial derivatives - options, futures, and swaps. Topics include: structures of the markets for exchange traded and over-the-counter derivatives, identification and exploitation of arbitrage opportunities, use and misuse of derivatives to hedge risk in both financial and product markets. Prerequisites: BUS 2800; Minimum Junior standing; Business Administration major or minor.

**BUS 3860. Financial Tech and Analytics. 3 Credits.**

Provides a broad understanding of the financial technology landscape, including topics like: payment systems, lending platforms, robo-advising, cryptocurrency and blockchain, insurance and real estate technology, crowdfunding and artificial intelligence, and customer relationship management. Prerequisites: BUS 2130, BUS 2800; Business Administration major or minor; minimum Junior standing.

**BUS 3871. Current Topics Fin Reporting. 3 Credits.**

Focuses on the development and use of two sets of financial reporting standards: International Financial Reporting Standards (IFRS) and US generally accepted accounting principles (GAAP). Prerequisites: BUS 3610, BUS 3611; Business Administration majors and minors, Accounting minors, Master of Accountancy Graduate students; Senior standing.

**BUS 3890. Real Estate Finance. 3 Credits.**

This course is an introduction of real estate finance and investments. Topics include urban economics, appraisal, investment value analysis, financing, and development. Prerequisites: BUS 2800; Business Administration major or minor; minimum Junior standing.

**BUS 3990. Special Topics. 1-18 Credits.**

Advanced courses on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles and prerequisites. Prerequisite: Senior Business Administration major or minor.

**BUS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: BUS 2991; concurrent internship, Instructor permission.

**BUS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BUS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**BUS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**BUS 4880. Wall Street Seminar. 3 Credits.**

Application of financial theory to stock/bond valuation, credit analysis, security underwriting, or risk management. Students will complete projects assigned by major financial service firms. May be repeated; only counts once toward Business Administration major or minor. Prerequisites: BUS 2810; Business Administration major or minor and Instructor permission; minimum Junior standing.

**BUS 4900. Strategic Theme Capstone. 3 Credits.**

Integrative, capstone course concerned with issues and decisions facing senior management. Three thematic areas are available: Entrepreneurship, Global Business, Sustainable Business. Title will change based on Theme and students can only earn repeated credit when taking sections with different titles. Prerequisites: BUS 2150, BUS 2300, BUS 2500, BUS 2700, BUS 2800.

**BUS 4910. Entrepreneurship Capstone. 3 Credits.**

Integrative, capstone course concerned with issues and decisions facing senior management in the thematic area of Entrepreneurship. Prerequisites: BUS 2150, BUS 2300, BUS 2500, BUS 2700, BUS 2800; Business Administration major or minor; Senior standing.

**BUS 4920. Global Business Strategic Cap. 3 Credits.**

Integrative, capstone course concerned with issues and decisions facing senior management in the thematic area of Global Business. Prerequisites: BUS 2150, BUS 2300, BUS 2500, BUS 2700, BUS 2800; Business Administration major or minor; Senior standing.

**BUS 4930. Sustainable Bus Strategic Cap. 3 Credits.**

Integrative, capstone course concerned with issues and decisions facing senior management in the thematic area of Sustainable Business. Prerequisites: BUS 2150, BUS 2300, BUS 2500, BUS 2700, BUS 2800; Business Administration major or minor; Senior standing.

**BUS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**BUS 4996. Business Admin Honors Thesis. 3-6 Credits.**

Honors thesis dealing with business administration topics. Honors College students only. Prerequisites: BUS 2996; Senior standing; Business Administration Honors College student.

**CHEMISTRY (CHEM)****Courses****CHEM 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**CHEM 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**CHEM 1050. Topics in Current Chemistry. 3 Credits.**

Subjects vary by semester. Background in science is helpful, but generally not required. Representative topics: Environmental Risk; Chemistry of Honeybees. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**CHEM 1100. Outline: General Chem w/lab. 0 or 4 Credits.**

One-semester survey of principles and concepts of general chemistry, topics covered include bonding, mole ratios, equilibrium, and nuclear chemistry. May not be taken for credit concurrently with, or following receipt of, credit for CHEM 1102, CHEM 1400, or CHEM 1405. Catamount Core: N2, QD.



**CHEM 1102. Outline: General Chem. 3 Credits.**

One-semester survey of principles and concepts of general chemistry, topics covered include bonding, mole ratios, equilibrium, and nuclear chemistry. No laboratory. May not be taken for credit concurrently with, or following receipt of, credit for CHEM 1100, CHEM 1400 or CHEM 1405. Catamount Core: N1, QD.

**CHEM 1150. Outline: Organic & BIOC w/lab. 0 or 4 Credits.**

Broad overview of most important facts and principles of organic and biochemistry and interrelationships between these branches of chemistry. May not be taken for credit concurrently with, or following receipt of, credit for CHEM 1152, CHEM 1580 or CHEM 1582. Prerequisite: CHEM 1100 or CHEM 1400. Catamount Core: N2, QD.

**CHEM 1152. Outline: Organic & BIOC. 3 Credits.**

Broad overview of most important facts and principles of organic and biochemistry and of interrelationships between these branches of chemistry. No laboratory. May not be taken for credit concurrently with, or following receipt of, credit for CHEM 1150, CHEM 1580 or CHEM 1582. Prerequisite: CHEM 1100, CHEM 1102, or CHEM 1400. Catamount Core: N1, QD.

**CHEM 1400. General Chemistry 1. 0 or 4 Credits.**

First semester of a two-semester sequence. Topics include matter, stoichiometry, gas laws, thermochemistry, quantum theory, atomic structure, electronic configurations, bonding, and intermolecular forces. May not be taken for credit concurrently with, or following receipt of, credit for, CHEM 1100, CHEM 1102 or CHEM 1405. Catamount Core: N2, QD.

**CHEM 1410. Exploring Chemistry 1. 1 Credit.**

Discovery-based laboratory addressing foundational chemical principles and experimental methods. For first-year Chemistry and Biochemistry majors also enrolled in CHEM 1500. Co-requisite: CHEM 1500.

**CHEM 1450. General Chemistry 2. 0 or 4 Credits.**

Second semester of a two-semester sequence. Topics include solutions, kinetics, equilibrium, acid-base chemistry, aqueous ionic equilibria, thermodynamics, electrochemistry, and nuclear chemistry. May not be taken for credit concurrently with, or following receipt of, credit for CHEM 1455. Prerequisite: CHEM 1400 or CHEM 1405. Catamount Core: N2, QD.

**CHEM 1460. Exploring Chemistry 2. 1 Credit.**

Second semester of a discovery-based laboratory laboratory addressing foundational chemical principles and experimental methods. For first-year Chemistry and Biochemistry majors also enrolled in CHEM 1550. Prerequisites: CHEM 1500 and CHEM 1410. Co-requisite: CHEM 1550.

**CHEM 1500. Organic Chemistry for Majors 1. 0 or 4 Credits.**

An exploration of the basic principles of Organic Chemistry including structure, bonding, conformational analysis, stereochemistry and reactivity. Designed for Chemistry and Biochemistry majors who have a strong high school chemistry background. Catamount Core: N2, QD.

**CHEM 1550. Organic Chemistry for Majors 2. 0 or 4 Credits.**

A survey of the reactivity of organic functional groups from a mechanistic standpoint. Organic synthesis will be emphasized. Prerequisite: CHEM 1500 or Instructor permission. Catamount Core: N2, QD.

**CHEM 1580. Intro Organic Chemistry w/lab. 0 or 4 Credits.**

Properties and reactivity of basic organic compounds of technological and biological significance. Not recommended for pre-medical students. No concurrent credit with, or credit following, credit for CHEM 1150, CHEM 1152, CHEM 1582, CHEM 1500, CHEM 2580, or CHEM 143. Prerequisite: CHEM 1100 or CHEM 1450. Catamount Core: N2, QD.

**CHEM 1582. Intro Organic Chemistry. 3 Credits.**

Properties and reactivity of organic molecules of technological and biological significance. No laboratory. Not recommended for pre-medical students. No concurrent credit with, or credit following, credit for CHEM 1150, CHEM 1152, CHEM 1580, CHEM 1500, CHEM 2580, or CHEM 143. Prerequisite: CHEM 1100 or CHEM 1102 or CHEM 1450. Catamount Core: N1, QD.

**CHEM 1980. Chemistry Scholars Workshop. 1 Credit.**

For qualified first-year Chemistry majors. Students discuss how to design a hypothesis, learn how research is performed in various chemistry subfields, and listen to faculty research talks. By the end of the semester, students select research advisors and plan future research projects. Prerequisite: Instructor permission.

**CHEM 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CHEM 2010. 2nd Year Seminar: Writing. 1 Credit.**

Development of chemical information literacy skills through critical analysis and written reporting on areas of current chemical interest. Emphasizes scientific writing. Prerequisite: CHEM 1450 or CHEM 1460.

**CHEM 2012. 2nd Year Seminar: Presentation. 1 Credit.**

Presentation on a subject of current chemical interest, building on chemical information literacy skills. Emphasizes oral presentation techniques. Prerequisite: CHEM 2010.

**CHEM 2014. Professional Development. 1 Credit.**

Skills necessary for senior Chemistry majors to transition to postgraduate careers, including resume and proposal writing, presentations, and other techniques. Prerequisite: CHEM 2012.

**CHEM 2050. Advanced Synthesis Techniques. 3 Credits.**

Laboratory for Chemistry majors that covers advanced inorganic and organic techniques in synthesis, purification, and spectroscopic characterization. Prerequisite: CHEM 1550 or CHEM 2585.

**CHEM 2310. Quantitative Analysis. 0 or 4 Credits.**

Theory and practice of volumetric and gravimetric analysis. Theoretical discussion of indicators, buffers, pH, etc. Introduction to data analysis, spectrophotometry, and chromatography. Prerequisite: CHEM 1450 or CHEM 1455 or CHEM 1460.

**CHEM 2400. Inorganic Chemistry. 3 Credits.**

Symmetry, group theory, molecular structure; electronic structure of atoms; bonding models including MO, crystal field, and ligand field; solid state, acid-base, and simple organometallic systems.

Prerequisite: CHEM 1500 or CHEM 2580.

**CHEM 2580. Organic Chemistry 1. 0 or 4 Credits.**

Properties and reactivity of organic compounds with consideration of bonding, stereochemistry, and reaction mechanisms. For premedical and biological sciences students. No credit if taken concurrently with, or following receipt of, credit for CHEM 1580, CHEM 1582, CHEM 1500, CHEM 143. Prerequisite: CHEM 1450 or CHEM 1455.

**CHEM 2585. Organic Chemistry 2. 0 or 4 Credits.**

Reactivity of organic compounds and applications to synthesis. Spectroscopy is discussed in relation to compound characterization. For premedical and biological sciences students. May not be taken concurrently with, or following receipt of, credit for CHEM 1550 or CHEM 144. Prerequisite: CHEM 1500 or CHEM 2580.

**CHEM 2600. Intro Physical Chemistry. 3 Credits.**

An introduction to physical chemistry concepts in quantum chemistry, thermodynamics, and kinetics, suitable for students from most science disciplines. Background in calculus and physics is required. Prerequisites: CHEM 1450 or CHEM 1455 or CHEM 1460; MATH 1224 or MATH 1248 or MATH 1242; PHYS 1400 or PHYS 1500 or PHYS 1600.

**CHEM 2605. Physical Chemistry Lab. 1 Credit.**

Laboratory course following CHEM 2600. Topics include quantum chemistry and thermodynamics. Prerequisites: CHEM 1550 or CHEM 2585; CHEM 2600.

**CHEM 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CHEM 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate students work on research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CHEM 3320. Instrumental Analysis. 3 Credits.**

Systematic survey of modern methods of chemical analysis. Fundamental principles and applications of spectroscopy, electrochemistry, and separation techniques. Prerequisite: CHEM 2310. Credit for or concurrent enrollment in CHEM 2600 strongly recommended.

**CHEM 3325. Instrumental Analysis Lab. 1 Credit.**

Laboratory for undergraduates following CHEM 3320. Application of chemical and physical principles to qualitative and quantitative chemical problems. Study of the interplay of data, hypotheses, and hypothesis-driven experimentation through application of the scientific method. Prerequisites: CHEM 3320.

**CHEM 3400. Advanced Inorganic Chemistry. 3 Credits.**

Molecular symmetry and group theory with an emphasis on applications (vibrational and electronic spectra, bonding and reactivity); introduction to transition metal processes; bioinorganic chemistry. Prerequisite: CHEM 2600; CHEM 1500 or CHEM 2580.

**CHEM 3600. Advanced Physical Chemistry. 3 Credits.**

Builds on the concepts from Introductory Physical Chemistry (CHEM 2600). The three major areas of quantum chemistry, thermodynamics, and kinetics are extended in greater depth, and at a higher level of mathematical rigor. Prerequisite: CHEM 2600. Co-requisites: CHEM 3602 or MATH 2248.

**CHEM 3602. Physical Chemistry Preparation. 1 Credit.**

Review of relevant mathematical and physical concepts as applied to physical chemistry. Prerequisites: CHEM 1450 or CHEM 1455 or CHEM 1460; MATH 1248.

**CHEM 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CHEM 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is Offered at department discretion.

**CHEM 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CHEM 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate students work on research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Departmental permission.

**CHEM 4300. Topics in Analytical Chemistry. 1-3 Credits.**

Selected topics of current interest in analytical chemistry. New techniques and methodologies, especially in chemical instrumentation. See Schedule of Courses for specific titles. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: CHEM 3320.

**CHEM 4580. Advanced Organic Chemistry 1. 3 Credits.**

Stereochemistry, conformational analysis, stereoelectronic effects, transition state theory, molecular orbital theory, and reactivity criteria are discussed in regards to reaction mechanisms and functional group manipulations. Prerequisite: CHEM 2585.

**CHEM 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CHEM 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CHEM 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

## CHINESE (CHIN)

### Courses

#### **CHIN 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

#### **CHIN 1012. Topics In: FYS: Div Human Exp. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: D2, WIL1.

#### **CHIN 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

#### **CHIN 1070. Elements of Chinese Culture. 3 Credits.**

Foundation for further understanding and exploration of Chinese culture, covering the following areas: Chinese language and dialects; calligraphy and painting; traditional schools of thought; classical Chinese poetry and novels; and traditional Chinese medicine healthy living, and martial arts. Catamount Core: D2.

#### **CHIN 1100. 1st Year College Chinese I. 4 Credits.**

A study of Mandarin Chinese designed to give students the fundamentals of the sound and writing systems for developing modern Chinese communicative skills. No prior knowledge expected. Catamount Core: GC2, OC.

#### **CHIN 1120. Chinese Characters. 1 Credit.**

Understand the Chinese writing system and learn to recognize and write basic Chinese characters.

#### **CHIN 1200. 1st Year College Chinese II. 4 Credits.**

A continuation of CHIN 1100 designed to give students basic Chinese grammar and vocabulary for daily communication purposes. Prerequisite: CHIN 1100 or equivalent. Catamount Core: GC2, OC.

#### **CHIN 1990. Special Topics. 1-18 Credits.**

Introductory courses on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

#### **CHIN 2100. 2nd Year College Chinese I. 4 Credits.**

A continuation of CHIN 1200 designed to give students more basic Chinese grammar and vocabulary for daily communication purposes. Prerequisite: CHIN 1200 or equivalent. Catamount Core: GC2, OC.

#### **CHIN 2200. 2nd Year College Chinese II. 4 Credits.**

A continuation of CHIN 2100 designed to help students finish learning basic Chinese grammar and gain more vocabulary for daily communication purposes. Prerequisite: CHIN 2100 or equivalent. Catamount Core: GC2, OC.

#### **CHIN 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **CHIN 3100. 3rd Year College Chinese I. 3 Credits.**

A continuation of CHIN 2200 designed with structured readings with emphasis on complex sentence structures, vocabulary expansion, and increased fluency in self-expression. Prerequisite: CHIN 2200 or equivalent.

#### **CHIN 3110. 3rd Year Conversation I. 1-3 Credits.**

To develop students' communicative skills in Chinese by discussing Chinese texts and similar real-life situations in the United States. Prerequisite: CHIN 2200.

#### **CHIN 3200. 3rd Year College Chinese II. 3 Credits.**

A continuation of CHIN 3100 designed with more structured readings with emphasis on complex sentence structures, vocabulary expansion, and increased fluency in self-expression. Prerequisite: CHIN 3100 or equivalent.

#### **CHIN 3210. 3rd Year Conversation II. 1-3 Credits.**

Continuation of CHIN 3110. Continues to develop students' communicative skills in Chinese by discussing Chinese texts and similar real-life situations in the United States. Prerequisite: CHIN 3110.

#### **CHIN 3990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

#### **CHIN 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **CHIN 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **CHIN 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

#### **CHIN 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**CHIN 4020. Translation: Global Awareness. 3 Credits.**

Through the reading and translation of stories and reports about countries around the world, enhances target language proficiency while developing a stronger sense of world citizenship, acquiring a more balanced global perspective, and gaining a deeper understanding of global issues. Prerequisite: CHIN 3100 for native speakers of English; no prerequisite for native speakers of Chinese.

**CHIN 4030. Fiction Reading & Translation. 3 Credits.**

Through the reading and translation of well-known fiction pieces by Chinese and Western authors, enhances target language proficiency while developing cultural understanding. Prerequisite: CHIN 3100 for native speakers of English; no prerequisite for native speakers of Chinese.

**CHIN 4100. 4th Year College Chinese I. 3 Credits.**

A continuation of CHIN 3200 designed to improve oral and written proficiency through reading, discussing, and writing about modern Chinese prose writings. Prerequisites: CHIN 3200 or equivalent.

**CHIN 4200. 4th Year College Chinese II. 3 Credits.**

A continuation of CHIN 4100 designed to improve oral and written proficiency through reading, discussing, and writing about more modern Chinese prose writings. Prerequisites: CHIN 4100 or equivalent.

**CHIN 4990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**CHIN 4991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CHIN 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CHIN 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CHIN 4995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CHIN 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**CIVIL AND ENVIRONMENTAL ENGINEERING (CEE)****Courses****CEE 1000. Intro to Civil & Envir Engr. 0 or 2 Credits.**

Introduction to Civil and Environmental Engineering, sustainability, ethics, systems thinking, teamwork in engineering, laboratories, computational exercises, and project-based. Catamount Core: SU.

**CEE 1100. Statics. 0 or 3 Credits.**

Fundamentals of statics; composition and resolution of forces; the analysis of force systems in two and three dimensions; and centroids and moments of inertia. Credit not awarded for both CEE 1100 and CEE 1150. Prerequisites: MATH 1248 or MATH 1242; PHYS 1500.

**CEE 1150. Applied Mechanics. 3 Credits.**

Introduction to statics, mechanics of materials, and heat transfer. Credit not awarded for both CEE 1150 and CEE 1100. Prerequisites: MATH 1248 or MATH 1242; PHYS 1500.

**CEE 1900. Career Preparation. 1 Credit.**

Teaches students how to combine their curricula and development of key transferable skills to become civil or environmental engineering professionals; includes the path to professional engineering licensure and eventual leadership as a professional; preparation for internship/job search, interviews, and Fundamentals of Engineering examination. Prerequisites: Civil Engineering or Environmental Engineering major; minimum Sophomore standing; or Instructor permission.

**CEE 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CEE 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CEE 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CEE 2000. Geomatics. 0 or 4 Credits.**

An introduction to surveying including distance and angle measurements, leveling, traverse surveys, error propagation, topographical mapping, global positioning systems (GPS), and geographic information systems (GIS). Project-based. Prerequisites: MATH 1034, MATH 1212, or MATH 1234; Sophomore standing.

**CEE 2100. Mechanics of Materials. 0 or 3 Credits.**

Stress, strain, temperature relationships, torsion, bending stresses, and deflections. Columns, joints, thin-walled cylinders. Combined stresses and Mohr's circle. Prerequisite: CEE 1100 with a grade of C- or better. Co-requisite: MATH 2248. Cross-listed with: ME 1140.

**CEE 2120. Environmental Systems. 3 Credits.**

Systems thinking and the systems approach as applied to environmental systems; sustainability, mass and energy balances, kinetics, ecosystem health and the public welfare, environmental risk, green engineering, water and wastewater treatment, air resources engineering, solid-waste management. Prerequisites: CHEM 1400; MATH 1212 or MATH 1234. Catamount Core: SU.

**CEE 2130. System Focused Design Engr. 3 Credits.**

Systems-thinking applied to analysis and design of engineered systems and elements, including economic, social, and environmental aspects of sustainable designs within global contexts. Includes life-cycle cost analysis, uncertainty, risk, and engineering economics. Prerequisites: STAT 1410 or STAT 2430 or STAT 2510. Catamount Core: SU.

**CEE 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: Senior standing in Civil Engineering or Environmental Engineering.

**CEE 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CEE 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: Senior standing; Department permission.

**CEE 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CEE 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CEE 2996. College Honors. 1-6 Credits.**

Honors research leading to thesis.

**CEE 3010. Materials and Structures Lab. 0 or 3 Credits.**

Experimental stress analysis methods; experimental verification of static force-displacement relationship for beams, frames, and trusses; fundamental mechanical properties of metals, plastics, and wood; effects of size, shape, method, speed of loading and strain history on these properties. Co-requisites: CEE 2100 or ME 1140, and CEE 3700.

**CEE 3400. Transportation Systems. 3 Credits.**

Transportation systems planning, analysis, and design with foci on safety, modeling, decision support, and environmental impacts. Credit not awarded for both CEE 3400 and CEE 3415. Prerequisites: Engineering major; minimum Junior standing; or Instructor permission. Co-requisite: CEE 2000.

**CEE 3415. Transportation Climate Environ. 3 Credits.**

Transportation systems planning, analysis, and design with foci on climate and environmental impacts. Credit not awarded for both CEE 3415 and CEE 3400. Prerequisites: Engineering major; minimum Junior standing; or Instructor permission. Co-requisite: CEE 2000.

**CEE 3510. Water Quality Engineering. 3 Credits.**

Fundamentals and design of sustainable systems for stormwater, drinking water, and wastewater treatment in urban and rural settings. Project-based. Credit not awarded for both CEE 3510 and CEE 3515. Prerequisite: CEE 2120 with a grade of C- or better. Catamount Core: SU.

**CEE 3515. Water & WasteW Treatment Proc. 3 Credits.**

Fundamentals and design of sustainable systems for stormwater, drinking water, and wastewater treatment in urban and rural settings. Project-based. Credit not awarded for both CEE 3515 and CEE 3510. Prerequisite: CEE 2120 with a grade of C- or better.

**CEE 3520. Env Eng Chemistry & Microbio. 3 Credits.**

Fundamentals of (bio)chemical transformations in water, soil, and air and applications for pollution prevention and remediation. Topics include chemical thermodynamics, acid-base, reduction-oxidation, dissolution-precipitation, kinetics, molecular biology, metabolism, and bioenergetics. Prerequisites: CEE 3510.

**CEE 3530. Environmental Quanti. Analysis. 0 or 4 Credits.**

Focuses on chemical, biochemical and physical processes; diffusion, equilibria, reaction kinetics, acids/bases, colloids, air/water exchange; laboratories demonstrate standard environmental engineering techniques; project-based. Prerequisites: CHEM 1450; CEE 2120 with C- or better; STAT 1410 or STAT 2430. Co-requisite: CEE 3510 or CEE 3515.

**CEE 3600. Hydraulics. 3 Credits.**

Provides an understanding of the mechanics of incompressible fluids (fluid statics and fluid flow) with a focus on applications common in Civil Engineering such as flow meters, flow in closed conduits, and elements of hydraulic machinery (systems with pumps, cavitation, NPSH). Credit not for both CEE 3600 and CEE 3615. Prerequisites: MATH 2248; CEE 1100 with a grade of C- or better or CEE 1150 with C- or better. Co-requisite: CS 1210.

**CEE 3610. Hydraulics Lab. 0-2 Credits.**

Performing various laboratory studies of flow and hydraulic machinery determine index; computer modeling of hydraulic systems; associated laboratory and project report writing and presentations. Co-requisites: CEE 3600.

**CEE 3615. Hydraulics for Environ Engrg. 3 Credits.**

The mechanics of incompressible fluids (fluid statics and fluid flow) with applications common in Environmental Engineering such as flow in open and closed conduits, open channel flow, stream power, flow meters, capillarity, and elements of hydraulic machinery (systems with turbines, pumps). Credit not awarded for both CEE 3615 and CEE 3600. Prerequisites: MATH 2248; CEE 1100 with grade C- or better or CEE 1150 with grade C- or better. Co-requisite: CS 1210.

**CEE 3700. Structural Analysis. 0 or 3 Credits.**

Analysis of statically determinate beams, frames, and trusses; expected loads, reactions; influence lines; moving loads; geometric methods for displacement calculations; introduction to matrix analysis for trusses. Prerequisites: CS 1210. Co-requisites: MATH 2522 or MATH 2544 and MATH 3201; CEE 2100 or ME 1140.

**CEE 3800. Geotechnical Engineering. 3 Credits.**

Covers basic characteristics of geological materials; soil classifications; physical, mechanical, and hydraulic properties; the effective stress principle; seepage; consolidation; stress distribution; settlement analysis; and shear strength of soils. Credit not awarded for both CEE 3800 and CEE 3815. Prerequisites: CEE 1150 with grade C- or better, CEE 2100, or ME 1140.

**CEE 3810. Geotechnical Principles Lab. 0-2 Credits.**

Performing various laboratory tests to determine index, hydraulic, and mechanical properties of soils; computer modeling of geotechnical systems; associated laboratory and project report writing and presentations; project-based. Prerequisite: CEE 2100 or ME 1140. Co-requisite: CEE 3800.

**CEE 3815. Geoenvironmental Engineering. 3 Credits.**

Covers basic characteristics of soils (physical, mechanical, hydraulic, geochemistry); soil classifications; seepage and groundwater flow; contaminant transport in soil and groundwater; leakage in waste disposal and containment systems; the effective stress principle; consolidation and settlement analysis in landfills. Credit not awarded for both CEE 3800 and CEE 3815. Prerequisite: CEE 1150 with grade C- or better, CEE 2100, or ME 1140.

**CEE 3990. Special Topics. 1-18 Credits.**

Content is dictated by expanding professional interest in newly developing, or recently developed, technical areas in which there is particular need or opportunity. Prerequisite: Senior standing.

**CEE 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CEE 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CEE 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CEE 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CEE 4410. Traffic Operations & Design. 3 Credits.**

Advanced concepts of traffic engineering and safety; human, vehicle and environment factors; simulation and statistical analysis software; transportation design manuals; project-based. Prerequisite: CEE 3400 or CEE 3415.

**CEE 4440. Transportation Demand Models. 3 Credits.**

Study of specific methods used to analyze travel demand, travel behavior and network flows; process of travel demand modeling; collection, analysis and expansion of survey data and travel data; mathematical methods common to travel modeling. Prerequisite: CEE 3400 or CEE 3415.

**CEE 4570. Sustain Resource Recovery Dsgn. 3 Credits.**

Environmental engineering strategies to create circular economies emphasizing the role of wastes as resources. Course topics include life cycle assessment, carbon and nutrient management, materials recycling, and waste-to-energy processes. Project-based. Prerequisite: CEE 3510 or CEE 3515.

**CEE 4600. Hydrology. 3 Credits.**

Theory of precipitation, run-off, infiltration, and ground water; precipitation and run-off data; and application of data for use in development of water resources. Pre/Co-requisite: CEE 3600 or CEE 3615.

**CEE 4650. Ground Water Hydrology. 3 Credits.**

Principles of ground water hydraulics, well characteristics, aquifers, and use of numerical methods to solve ground water flow problems. Project-based. Prerequisite: CEE 3600 or CEE 3615.

**CEE 4710. Sustainable Eng Materials. 3 Credits.**

Introduces the fundamentals of materials with a focus on sustainable engineering, including structure and bond, interatomic potential, metals, fracture, strength testing, cement chemistry, aggregates, composites, reinforced concrete, asphalt, bamboo and wood. Prerequisite: CEE 2100, CEE 1150, ME 1140; or Instructor permission.

**CEE 4720. Structural Steel Design. 3 Credits.**

Theory and design of steel structures including flexural members, axially loaded members and combined stress members; design of composite members; plastic analysis and design; project-based. Prerequisite: CEE 3700.

**CEE 4730. Reinforced Concrete. 3 Credits.**

Analysis of stresses in plain and reinforced concrete members; design of reinforced concrete structures; theory of prestressed concrete; project-based. Prerequisite: CEE 3700.

**CEE 4810. Geotechnical Design. 3 Credits.**

Bearing capacity, lateral earth pressures, slope stability; analysis and design of shallow and deep foundations, retaining structures, and slopes; project-based. Prerequisite: CEE 3800 or CEE 3815.

**CEE 4860. Foundation Design. 3 Credits.**

Subsurface explorations; geotechnical analysis, design, construction, preservation, remediation, and monitoring aspects of shallow and deep foundations. Prerequisite: CEE 3800 or CEE 3815.

**CEE 4950. Capstone Design. 3 Credits.**

Student teams will integrate the multiple areas of specialization in Civil/Environmental Engineering in comprehensive design experience; professional practice; ethics; written and oral presentations to professional review panels. Prerequisites: Civil Engineering, Environmental Engineering, or Engineering Management major; minimum Senior standing. Co-requisite: CEE 2130. Catamount Core: GC2, SU, WIL2.

**CEE 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CLASSICS (CLAS)****Courses****CLAS 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**CLAS 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**CLAS 1300. Topics in Ancient History. 3 Credits.**

Topics examining themes in Ancient history. Representative topics: The Peloponnesian War; Alexander the Great. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH3.

**CLAS 1320. Greek History/Civilization I. 3 Credits.**

Political, social, cultural, and literary development of ancient Greece with assignments appropriate to the introductory level. Students may take CLAS 1320 and CLAS 2320 or equivalent HST courses in different semesters as long as the topics covered are substantially different. Catamount Core: AH3.

**CLAS 1360. Roman History/Civilization I. 3 Credits.**

Political, social, cultural, and literary development of ancient Rome with assignments appropriate to the introductory level. Students may take CLAS 1360 and CLAS 2360 or equivalent HST courses in different semesters as long as the topics covered are substantially different. Catamount Core: AH3.

**CLAS 1510. From Cuneiform to Kindle. 3 Credits.**

Topics in script, literacy, books, libraries, cultural expression, preservation, and access from ancient Mesopotamia to the age of printing and the era of electronic information.

**CLAS 1520. Etymology. 3 Credits.**

The study of English vocabulary derived from Greek and Latin. Topics include analysis of word formation, historical and comparative linguistics, and international scientific terminology. Catamount Core: AH3.

**CLAS 1620. Mythology. 3 Credits.**

Greek myth in literature, art, and music from antiquity to modern times. Catamount Core: AH2.

**CLAS 1640. Myths/Legends Trojan War. 3 Credits.**

Homeric epics, Virgil's Aeneid, selections from tragedy dealing with the Trojan War and Greco-Roman cultural identity. Examples from art and archaeology supplement the literary theme. Catamount Core: AH2.

**CLAS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CLAS 2320. Greek History/Civilization II. 3 Credits.**

Political, social, cultural, and literary development of ancient Greece with assignments appropriate to the intermediate level. Students may take CLAS 1320 and CLAS 2320 or equivalent HST courses in different semesters as long as the topics covered are substantially different. Prerequisite: Three hours in Classics or History. Catamount Core: AH3.

**CLAS 2360. Roman History/Civilization II. 3 Credits.**

Political, social, cultural, and literary development of ancient Rome with assignments appropriate to the intermediate level. Students may take CLAS 1360 and CLAS 2360 or equivalent HST courses in different semesters as long as the topics covered are substantially different. Prerequisite: Three hours in Classics or History. Catamount Core: AH3.

**CLAS 2581. Sustainability Cultural Hst. 3 Credits.**

Through selected readings spanning over two thousand years traces the trajectory of modern notions of ecological and socio-economic sustainability back through time. Includes experiential component at the Instructor's sheep farm. Prerequisites: Three hours in Classics, Environmental Studies, or a related discipline. Catamount Core: AH3, SU.

**CLAS 2610. Comparative Epic. 3 Credits.**

Interdisciplinary introduction to epic poetry and performance, from Gilgamesh and the Homeric poems to the Kalevala traditions of Finland to the griot poetry and music of West Africa. Prerequisite: Minimum Sophomore standing. Catamount Core: AH2, D2.

**CLAS 2640. The Classics Now and Then. 3 Credits.**

Multidisciplinary survey of seminal Greek and Latin texts in various genres and their reception in later periods in many media, including literature, criticism, philosophy, music, theater, television, and film. Prerequisite: Minimum Sophomore standing. Catamount Core: AH2.

**CLAS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CLAS 3300. Topics in Ancient History. 3 Credits.**

Topics examining Ancient history. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours in Classics or History. Catamount Core: AH3.

**CLAS 3505. Classics and Racism in US. 3 Credits.**

Examination of the history of classics in the United States, in particular the relationship between Classics and racism. Examines ancient and modern racial ideologies and histories of slavery, as well as the symbolic power of classics in the antebellum south and today. Prerequisite: Minimum Sophomore standing. Catamount Core: AH3, D1.

**CLAS 3540. Topics in Gender & Sexuality. 3 Credits.**

Topics examining gender and/or sexuality in the ancient world. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours in Classics, GSWS 1500, or GSWS 1010. Catamount Core: AH3.

**CLAS 3550. Topics in Ancient Philosophy. 3 Credits.**

Explorations in English translation of major philosophical schools of ancient Greece and Rome and their influence on later thought. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy, or one course in Classics (Greek Culture or Greek). Catamount Core: AH3.

**CLAS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CLAS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CLAS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CLAS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CLAS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CLAS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CLAS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**CLINICAL&TRANSLATIONAL SCIENCE (CTS)****Courses****CTS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**COLLEGE OF MEDICINE UNDERGRADUATE (COMU)****Courses****COMU 1010. Healthy Brains, Healthy Bodies. 3 Credits.**

Examines the effects the college experience has on the minds and bodies of individuals. Students will learn the basic physiological and psychological factors that are associated with optimal physical and cognitive functioning at every stage of life. Catamount Core: S1.

**COMU 1020. Intro to Medical Imaging. 3 Credits.**

Medical imaging plays a central role in healthcare delivery. Students will learn about X-Ray, CT, MRI, PET, and ultrasound imaging. Their clinical applications and role in healthcare both in the US and around the world will be discussed.

**COMU 1210. Your Brain on Drugs. 3 Credits.**

Demonstrates the effects of drugs and alcohol on behavior and the brain. Pre/Co-requisite: COMU 1010.

**COMU 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**COMU 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**COMU 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**COMU 2182. Mental Health in Pop Culture. 3 Credits.**

Review of literature, film, art, television, music, podcasts, etc. to understand presentations of mental illness and their treatments. Themes such as stigma, stereotyping, vulnerability, psychiatric nosology, the doctor-patient relationship and celebrity culture will be examined. Presentations of neurodiversity will be compared and contrasted with the Western medical worldview and through the lens of entertainment.

**COMU 2220. Family Wellness Coaching. 3 Credits.**

Introduces students to the science behind health promotion in a family setting. Students will learn about motivational interviewing and family based, evidenced based strategies to raise healthy children and keep families healthy in all areas of life. Pre/Co-requisites: COMU 1010.



**COMU 2230. The Effects of Adversity. 3 Credits.**

Provide students with an understanding of how adversity affects the brain and genome through the use of imaging techniques such as MRIs and EEGs, epigenetics, and questionnaire data. Pre/Co-requisite: COMU 1010.

**COMU 2250. The Science of Happiness. 3 Credits.**

Surveys the science of well-being with a goal toward up-ending the standard medical approach of curing illness or reducing dysfunction in favor of pursuits such as making meaning, pursuing goals, enhancing well-being, and fulfilling potential. Prerequisite: COMU 1010.

**COMU 2310. Sex, Love, Neurosci of Relationships. 3 Credits.**

Surveys the state-of-science of close relationships, sexual behavior, and the human experience of love and intimacy. Examines the neurobiology of love and relationships while exploring aspects of attraction, attachment, affection, identity, pathology, and neurodiversity. Prerequisite: COMU 1010.

**COMU 2500. Sleep and the Brain. 3 Credits.**

Discusses topics including neurobiology of sleep, sleep across the lifespan, and neuropsychological/psychiatric correlates of sleep. Students will also have the opportunity to engage in sleep assessments and debate topics pertinent to sleep science. Prerequisite: COMU 1010.

**COMU 2530. Anxiety, Inattention & the Brain. 3 Credits.**

Provides an in-depth examination of the functional neuroanatomy and clinical phenomenology associated with common emotional and behavioral problems that arise during childhood, adolescence, and early adulthood. Topics will include inattention/hyperactivity, anxiety, depression, autism spectrum, and externalizing problems. Emphasis on human neuroimaging studies. Prerequisite: COMU 1010.

**COMU 2950. How You Became You: Personality Development. 3 Credits.**

Explores the development of temperament and personality from early childhood to adulthood. Students first assess their own personality, then course proceeds in three parts: fundamental concepts, influences on personality, and special topics. Prerequisite: COMU 1010 or PSYS 1400.

**COMU 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**COMU 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**COMU 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**COMU 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**COMU 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**COMU 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**COMU 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**COMU 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded.

**COMU 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**COMU 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**COMM SCIENCES & DISORDERS (CSD)****Courses****CSD 1200. Intro to Disordered Comm. 3 Credits.**

Survey of language, speech, and hearing disorders, emphasizing the importance of understanding such disorders as a part of the fuller understanding of human behavior.

**CSD 1210. Intro Topics in Clin Aud & SLP. 3 Credits.**

Introduces students to the professions of audiology and speech language pathology. Covers health care related topics relevant to professional practice when working with individuals with communication disorders. Guided observations will introduce specific clinical skills along with their application in practice. Prerequisite: Communication Sciences and Disorders major.

**CSD 1220. Introduction to Phonetics. 3 Credits.**

Linguistic, acoustic, and articulatory phonetics applied to the description of speech. Stresses use of the International Phonetic Alphabet with English, foreign languages, and disordered speech.

**CSD 1230. Linguistics for Clinicians. 3 Credits.**

Linguistic concepts, applications to clinical contexts. Topics include language components, language processing in the brain, individual differences and disorders, dialects, normal and disordered language acquisition.

**CSD 1250. Comm Diff & Dis in Media. 3 Credits.**

Analysis of the portrayal of individuals with communication differences and disorders in the media and how this influences our perceptions and opinions. Guest speakers, shared experiences, classroom discussions, and the viewing of popular films. Catamount Core: D2.

**CSD 1940. Dev of Spoken Language. 3 Credits.**

Speech and language acquisition interpreted in light of current learning and cognitive theory, linguistic theory, and methods of linguistic analysis.

**CSD 1990. Special Topics. 1-18 Credits.**

Introductory courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**CSD 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CSD 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CSD 2010. Speech & Hearing Science. 0 or 4 Credits.**

Structure and function of the respiratory, phonatory, articulatory, and hearing systems, coupled with models of speech and hearing as part of human communication. Prerequisites: Communication Sciences & Disorders, Education major or minor, Neuroscience major; minimum Sophomore standing; or Instructor permission. Catamount Core: N2.

**CSD 2210. Adv Topics in Clin Aud & SLP. 3 Credits.**

Provides advanced exploration of the professions and clinical work of audiologists and speech language pathologists. Skills and knowledge related to ethical issues, person/family centered care, and cultural competence are practiced. Guided observations review specific clinical skills along with their application in practice. Prerequisite: CSD 1210; Sophomore standing. Pre/Co-requisite: CSD 1200.

**CSD 2220. Clinical Phonetics. 0 or 4 Credits.**

Transcription of speech using the International Phonetic Alphabet. Speech sound disorders, development, universals, dialects, coarticulation, connected speech, prosody and second-language learning. Prerequisite: Three credits in Communication Sciences and Disorders or Linguistics.

**CSD 2990. Special Topics. 1-18 Credits.**

Intermediate courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**CSD 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded.

**CSD 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded.

**CSD 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CSD 2995. Undergraduate Research. 1-6 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded.

**CSD 3200. Culture of Disability. 3 Credits.**

Examines the social and cultural experience of disability in different times and cultures. As an introduction to Disability Studies, topics covered will include foundational concepts/vocabulary, the influence of cultural beliefs, personal narratives, education, healthcare, social services, self-advocacy and the disability rights movement. Pre/Co-requisites: EDSP 1050, ASL 1990; or Instructor permission. Cross-listed with: EDSP 3250. Catamount Core: D2.

**CSD 3250. Working with Speech Disorders. 3 Credits.**

Speech language pathology assistants' roles in schools working with speech disorders; health/safety, special education and HIPAA issues; observation, data collection, and collaboration skills. Complete 50 hour practicum. Prerequisites: CSD 1200, CSD 1220, LING 1400, CSD 1940.

**CSD 3260. Working with Lang Disorders. 3 Credits.**

Evidence-based practice and response to intervention strategies, screening and intervention for language differences; diverse populations. Complete 50 hours practicum. Prerequisite: CSD 3250.

**CSD 3480. Cognition & Language. 3 Credits.**

Study of cognition and language in terms of mental representation models; contemporary models of memory, as well as capacity theories of language comprehension and production. Prerequisite: CSD 2010. Catamount Core: S1.

**CSD 3620. Measurement of Comm Processes. 4 Credits.**

The principles, methods, and problems of psychometrics as applied to the screening and diagnosis of communication processes. Students will describe, critique, and create assessments for reliable and valid measurements of communicative skills. Pre/Co-requisites: CSD 2210 or Instructor permission. Catamount Core: QD, WIL2.

**CSD 3710. Introduction to Audiology. 3 Credits.**

Survey of hearing and the nature and causes of hearing impairment. Includes an orientation to assessment procedures and rationales, hearing screening and counseling considerations. Prerequisites: CSD 2010, CSD 2210.

**CSD 3720. Hearing Rehabilitation. 3 Credits.**

Examination of the impact of hearing loss on development and its overall effects on communication. Survey of management considerations, sensory devices, speech reading, and auditory training. Prerequisite: CSD 3710.

**CSD 3810. Intro Cognitive Neuroscience. 3 Credits.**

This course introduces students to the organization, structures and functions of the human central nervous system. Higher cognitive and linguistic behaviors are emphasized. Prerequisite: Human Biology course such as one of the following: BIOL 1105, BIOL 1155, BCOR 1400, BCOR 1450, or ANPS 1190.

**CSD 3899. Autism Spect Dis:Assess&Interv. 3 Credits.**

Discusses knowledge/research regarding assessment of and interventions for individuals with ASD related to and use of evaluation tools, and implementation of communication, social interaction and play skills. Prerequisite: Minimum Junior standing.

**CSD 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Undergraduate only.

**CSD 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded.

**CSD 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded.

**CSD 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded.

**CSD 3995. Undergraduate Research. 1-6 Credits.**

Undergraduate student work on individual or small research projects under the supervision of a faculty member, for which credit is awarded.

**CSD 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CSD 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## COMMUNITY DEVELOPMENT & APPLIED ECONOMICS (CDAE)

### Courses

**CDAE 1010. Drafting & Design in SketchUp. 3 Credits.**

Creating pictorial presentation and 3D model drawings using SketchUp software. Basic methods and procedures of architectural, three-view, oblique, isometric, and perspective computer-aided drawings.

**CDAE 1020. World Food,Pop & Develop. 3 Credits.**

Agricultural development emphasizing natural and economic phenomena and the effect of food supplies on population trends and policies. Catamount Core: D2, SU.

**CDAE 1030. Intr to Dev Carib & Cent Am. 3 Credits.**

This interdisciplinary course introduces students to the culture, history, diversity, geography, and the impact of ethnicity, poverty, and oppression on development in the Caribbean and Central America. Catamount Core: D2.

**CDAE 1040. US Food, Social Equity &Dev. 3 Credits.**

Provides an introduction to gender, race, class, and ethnicity with particular emphasis on food, population, economic, and ecological issues in sustainable agriculture, food systems, and community development. The geographical focus emphasizes the United States. Catamount Core: D1.

**CDAE 1060. Energy Alternatives. 3 Credits.**

Concepts of energy, work, and power. Energy conversion, utilization, and conservation. Alternatives to fossil fuels including solar, wind, biomass, etc. Energy systems for rural areas.

**CDAE 1140. Visual Design Studio. 1 Credit.**

A computer based portfolio development class focused on learning the fundamentals of composition and standard graphic software to create a range of visual communication solutions. Prerequisite: Public Communication majors only.

**CDAE 1150. Visual Communication. 3 Credits.**

Introduction and analysis of aesthetics and function of design in the context of communications and marketing, the built environment, and community development.

**CDAE 1160. Communication Design I. 3 Credits.**

Directed projects which explore the elements and principles of communication design. Design research, process, experimentation, and production in hand-based and computer-generated design application for multi-modal presentations. Prerequisite: Community Development & Applied Economics major or minor; or Instructor permission.

**CDAE 1170. Digital Illustration. 3 Credits.**

Digital illustration introduces methods of conceptualizing and executing illustrations to solve communication problems, using a range of techniques within vector and raster-based software applications. Prerequisite: CDAE 1150, ARTS 1400; Community Development & Applied Economics major or minor; or Instructor permission.

**CDAE 1240. Fund of Public Communication. 3 Credits.**

Provides the foundation for understanding communication components, processes, contexts, and applications and introduces research and theory through critique and case study. Catamount Core: GC2.

**CDAE 1320. Protect Your Privacy. 2 Credits.**

Every detail about individuals' lives is shared, bought, sold, monetized, and sometimes stolen. This practical course explores privacy threats, legal protections, and tools that exist to protect privacy.

**CDAE 1400. Small Group Communication. 3 Credits.**

An introduction to small group communication theories, research, and skills. Discussion and group activities focus on communication that fosters effective, creative, inclusive, and transdisciplinary teaming in a variety of practical situations and community-based contexts.

**CDAE 1410. CareerBuilder: Plan Your Future. 2 Credits.**

Students use design thinking principles to imagine their future at UVM and beyond. Explore majors, minors, and careers before developing a personalized plan for acquiring the knowledge, skills, and experiences needed to fulfill this vision. All students welcome.

**CDAE 1440. Career Builder: Resumes & More. 2 Credits.**

Uses persuasion theory to develop a resume, cover letter, and professional philosophy statement that reflects an individual's unique professional brand.

**CDAE 1450. Career Builder: LinkedIn. 2 Credits.**

Learn how to use LinkedIn to build or strengthen your professional profile, find your next job or internship, and grow your professional network. Develop communication competence and confidence relevant to your unique experiences and career goals.

**CDAE 1600. Design Innovation I. 3 Credits.**

Design is essential to creating innovative, useful, and effective solutions to meet complex real-world needs. Design Innovation I offers an introduction to design theories and processes, understanding historic and contemporary contributions, and exploring applications across various fields of practice.

**CDAE 1610. Principles of Comm Dev Econ. 3 Credits.**

Introduction to principles of microeconomics and their application to food and agricultural markets, resource management, and community development. Catamount Core: SU.

**CDAE 1660. Think Like an Entrepreneur. 2 Credits.**

For students curious about entrepreneurship. Examines the entrepreneurial mindset - characteristics and competencies of entrepreneurs; explores entrepreneurship in all types of organizations and how the entrepreneurial mindset can support the success of any venture.

**CDAE 1850. Narrative Data Design. 3 Credits.**

Information graphics are a powerful tool to present complex data. Introduces the history of infographics, data visualization and best practice of narrative data design. Provides students both the technical and creative skills to transform data into effective reports and dashboards for various industries and organizations. Basic Adobe Illustrator proficiency required. Prerequisite: CDAE 1160 or CDAE 1170.

**CDAE 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CDAE 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CDAE 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CDAE 2010. Drafting & Design: SketchUp II. 3 Credits.**

Using a computer to create, manipulate, and record drafting and design concepts, symbols, and conventions to prepare technical and/or presentation drawings at the intermediate level. Students will learn in applied context relating to real world needs. Prerequisite: CDAE 1010 or Instructor permission.

**CDAE 2020. Sustainable Community Dev. 3 Credits.**

Introduction to perspectives and methods used to develop healthy communities that are economically, socially, and environmentally sustainable with rural and urban, U.S. and international examples. Prerequisites: CDAE 1020, ENVS 1510, or Instructor permission.

**CDAE 2050. Food Waste to Value. 3 Credits.**

Hands-on learning in generating alternative and sustainable sources of energy and valued byproducts from waste streams for enhancing food safety and community development applications along with fossil fuel reduction. Prerequisites: CDAE 1020, CDAE 1060, CDAE 1610, PSS 1100, PSS 1210, or ENVS 1510. Catamount Core: SU.

**CDAE 2080. Comparative Food Systems. 3 Credits.**

Explores food production systems looking at social, economical, environmental dimensions; draws from multiple disciplines such as economics, sociology, agronomy, biology, geography, and history; critically explore scales of agriculture from very small-scale to very large. Prerequisite: CDAE 1020, CDAE 1040, or NFS 1073. Cross-listed with: FS 2020.

**CDAE 2110. Design: Narrative Media & Video. 3 Credits.**

Focus on storytelling techniques through video production. Covers technical skills like basic camera usage, video/sound editing, compositing/effects, and Adobe Creative Suite. Focus is given to major elements such as image, sequence and time to explore theory and develop visual content for storytelling through video. Prerequisite: CDAE 1150 or Instructor permission.

**CDAE 2120. Social Media: Theory 2 Practice. 3 Credits.**

Explores social media from theoretical and professional practical perspectives, immersing students in the complex and multifaceted world of social media communication. Prerequisites: CDAE 1240, CDAE 1150, CALS 1020, or CALS 1850.

**CDAE 2130. Activist Journalism. 3 Credits.**

Students research and produce multimedia news stories that promote a social justice cause of their choice. Using traditional journalistic approaches and new digital media tools, students will investigate, publish, and distribute stories with a local, national, and global impact. Prerequisites: CDAE 1240 or ENVS 1500 or ENGL 1001 or FWIL Course or TAP Course; minimum Sophomore standing.

**CDAE 2140. Doc. Film for Social Change. 3 Credits.**

Documentaries can leverage social change through education, fundraising, or urging political action; the results are hardly guaranteed. Introduces the study of documentaries as they relate to social change, environmental, and community development movements; focusing on film and context. Prerequisites: CDAE 1020, CDAE 1240, FTS 1420, FTS 1400, or FTS 1430.

**CDAE 2160. Communication Design II. 3 Credits.**

Explores visual communication through advanced projects in design research, planning, iteration, technical and software experimentation, and production for multi-modal design applications. Prerequisite: CDAE 1160.

**CDAE 2190. Event Planning for Athletics. 3 Credits.**

Focuses on providing students basic knowledge and skills of event planning with real-life experiences. Topics covered include sponsorship, fundraising, marketing, promotions, branding, ticket operations, social media, event operations, and risk management in support of event production. Prerequisites: ENGL 1001, CDAE 1240, or Instructor permission.

**CDAE 2200. Strategic Writing for PCOM. 3 Credits.**

Students learn to write standard messages and documents including e-mail, memos, letters to the editor, fundraising letters, news releases, brochures, and feature stories. Prerequisites: CDAE 1240, ENGL 1001, or ENGL 1740; Public Communication majors/minors only.

**CDAE 2210. News Writing Across Media. 3 Credits.**

Students learn to report and write news for print, online, and broadcast formats through practical application of media literacy skills and study of current events. Prerequisite: ENGL 1001 or ENGL 1740.

**CDAE 2230. Media-Policy-Action. 3 Credits.**

Examines the connections between media, public policy, and policy outcomes. Provides hands-on learning (action) experiences in news reporting and policy-making through the lens of the Vermont Legislature and Vermont's policy and media culture. Prerequisites: Any of the following: ENGL 1001, ENGL 1740, POLS 1300, CDAE 1020, CDAE 1150, CDAE 1240.

**CDAE 2240. Public Communication Media. 3 Credits.**

Students gain insight into mass media and contemporary issues, social marketing with local Service Learning agency partners, social polling, and the interaction of media, governance, law, and ethics. Prerequisite: CDAE 1240.

**CDAE 2270. Consumer, Markets & Public Policy. 3 Credits.**

Analysis of consumer choices through the examination of consumer behavior theories, current marketplace issues and public policy. Prerequisite: One of the following: CDAE 1240, CDAE 1150, ENGL 1001, ENGL 1740, or permission.

**CDAE 2280. Strategic Communication. 3 Credits.**

Examination of strategic communication and how it impacts consumers and the economy. Extensive application of critical analysis to actual strategic communication campaigns from development through evaluation including advertising and other consumer-related ends. Prerequisites: CDAE 1150 or CDAE 1240.

**CDAE 2290. Communication Law. 3 Credits.**

Legal issues in mass media, including: freedom of speech, libel, invasion of privacy, obscenity and indecency, copyright and trademark. Prerequisite: CDAE 1240.

**CDAE 2320. Hackers+Data Science: Priv Law. 3 Credits.**

Covers the landscape of privacy issues from government surveillance to Big Data, security breaches, online and real world location tracking, social media, privacy as a growing field, and other issues. Prerequisites: CDAE 1020, CDAE 1320 or MMG 1020.

**CDAE 2370. Landscape Design Fundamentals. 4 Credits.**

Studio course to learn techniques of landscape design and analysis, develop graphic communication skills for representing the landscape, and apply sustainable design principles to a site. Pre/co-requisites: Junior standing; at least one course in drawing, design, or mapping, or permission of the Instructor. Cross-listed with: NR 2370, PSS 2370.

**CDAE 2400. Leadership in Practice. 3 Credits.**

Study of leadership theory and how it informs the practice of leadership. Focus on applying leadership theory to personal practice learning how leadership affects the changes that organizations face. Prerequisite: CDAE 1240.

**CDAE 2410. Crisis Communication. 3 Credits.**

Explores how organizations, corporations, and individuals communicate successfully during a crisis. Through in-class simulations, presentations by local civic leaders, PR professionals, reporters, press conferences, and creating crisis communications plans for a local business or nonprofit, students learn how crisis communications managers prepare to manage crises. Prerequisites: CDAE 1240, CDAE 1320, CDAE 2280 or PSS 2330.

**CDAE 2430. Sports Media. 3 Credits.**

A hands-on video production class broken into three sections: sporting event coverage working with CATAMOUNT TV, sports journalism collaborating with The Vermont Cynic, and contributions scaffolding into a sports documentary with ESPN's 30 - FOR - 30 as a model. Prerequisites: ENGL 1001, CDAE 1240, or EDPE 3200.

**CDAE 2440. Community Media Production. 3 Credits.**

A hands-on media-based class in which students work collaboratively, producing one long-form documentary or many short-form videos about a local community member, issue, or campaign. Students produce media for entertainment, social media, and informational purposes and learn what community media is and how it can develop community. Prerequisite: CDAE 1240.

**CDAE 2450. Propaganda, Media, & Cit Respn. 3 Credits.**

Develops critical thinking skills about news media. Studies propaganda, media ownership, and the use of print media, radio, television, and the internet, to influence the public through various propaganda techniques from 1900 to present. Prerequisite: CDAE 1150 or CDAE 1240 or Instructor permission.

**CDAE 2460. Publication Design. 3 Credits.**

Focuses on strategic development of multipage composition for print and digital formats, creation and selection of imagery and the effective organization of content and visual style to make information accessible, visually engaging, and readable for the intended audience. Prerequisites: CDAE 1150, CDAE 1170 or CDAE 1160, Public Communication major or Applied Design Minor.

**CDAE 2520. The Good Life: Place Matters. 2 Credits.**

An opportunity to think critically about the unique relationships among communities, organizations, and professionals. Uses community development and applied economics theory to analyze the fit between personal and professional values, organizational culture, and community development initiatives. Job search and recruitment skills are emphasized. Prerequisites: CDAE 1240 or CDAE 1410 or CDAE 1440 or CDAE 1450.

**CDAE 2570. Consumer Law and Policy. 3 Credits.**

Law as an expression of public policy to protect consumers in the marketplace. Emphasis on laws prohibiting deceptive advertising and marketing practices. Prerequisites: ENGL 1001, ENGL 1210, CDAE 1240, or CDAE 1610; Sophomore standing.

**CDAE 2580. Personal Financial Literacy. 3 Credits.**

Personal financial literacy is the possession and ability to use skills and knowledge that allows people to make informed and effective decisions with all of their financial resources. This applied course examines personal financial concepts and topics within various income levels/life. Prerequisites: CALS 1020 or CALS 1850 or MATH 1012 or higher, or equivalent.

**CDAE 2590. Consumer Law in Action I. 3 Credits.**

Under supervision of an attorney, students respond to real-world phone, online, and mail requests for consumer information and handle consumer complaints to connect consumers with appropriate and effective resources, professionals, and protections. Sponsored with the Vermont Attorney General's Office. Prerequisite: CDAE 2570 or Instructor permission.

**CDAE 2600. Design Innovation II. 3 Credits.**

Emphasizes the human-processes for successful design innovation across myriad real-world contexts rather than design innovation within any one context area. Broad range of design applications/interests will include but not be limited to: Universal Design, Communication Design, Landscape/Architectural Design, Ecological/Environmental Design, and Community Planning, Urban +Rural Design. Prerequisite: CDAE 1600.

**CDAE 2640. Design+Cultural Entrepreneurshp. 3 Credits.**

Examines models of cultural entrepreneurship focusing on local creative communities, makerspaces, incubators etc that serve as models for design analysis within cultural ecosystems. Lectures with practitioners, incubator visits, and community/studio-based projects, students will synthesize research to envision creative economic opportunities. Prerequisite: CDAE 1020 or CDAE 1610 or CDAE 1240 or CDAE 1150 or Instructor permission.

**CDAE 2660. Intro to Comm Entrepreneurship. 3 Credits.**

Introduction to the theory and practice of developing and operating an entrepreneurial activity based on specific business. Emphasis on business development, operation, financing, marketing, and social responsibility. Prerequisites: One of the following: CDAE 1020, CDAE 1610, or permission.

**CDAE 2670. Fin Mgmt: Comm Entrepreneurs. 0 or 4 Credits.**

Understanding and creating business and personal financial records for entrepreneurs including applications common to entrepreneurial business practices using contemporary financial software. Prerequisite: CDAE 2660 or Instructor permission; must take lab.

**CDAE 2680. Marketing:Com Entrepreneurs. 3 Credits.**

Marketing concepts and methods and their applications for community entrepreneurs. Focus on development of marketing plan and its use in guiding business operations. Prerequisite: CDAE 1610 or permission. Catamount Core: SU.

**CDAE 2700. Green Building Energy Systems. 3 Credits.**

Covers all things related to energy flows in the built environment. Housing and building energy systems will be a focus, as will things like landscaping, community design, and the social behaviors around energy usage and systems. Prerequisites: CDAE 1010 or CDAE 1020 or CDAE 1060.

**CDAE 2710. Community&Int'l Econ Transform. 4 Credits.**

Models of economic development, including constraints to economic transformation and policy approaches and strategies for promoting social welfare and sustainable development. Prerequisites: CDAE 1020; Instructor permission required.

**CDAE 2720. Sust. Development Travel Study. 3 Credits.**

Through the lens of sustainable development, this experiential travel course will increase and refine students' pre-professional experience in areas such as cultural competency, community development, food systems, public health, conservation, education, gender roles, power relations, politics, and reciprocity. Prerequisite: CDAE 1020.

**CDAE 2730. Evolving Trends in Int'l Devel. 3 Credits.**

Examines how donor countries have approached international development since World War II. Includes focus on a range of issues including health, agriculture, conflict resolution, democracy and governance, shifting terms of trade and globalization's effects on international development. Prerequisite: CDAE 1020 or POLS 1300 or POLS 1200 or POLS 1500 or POLS 1700 or ENVS 1510.

**CDAE 2740. Global Media & Intl Developmen. 3 Credits.**

Focuses on an understanding of global communication issues related to international development. Examines different aspects of global communication, such as world press systems, codes of ethics, new world information and communication order, cultural imperialism and public diplomacy. Prerequisite: CDAE 1020, CDAE 1240, CDAE 1610, or ENVS 1510.

**CDAE 2750. Farm Credit Fellowship Prac/Sem. 1 Credit.**

Acquaints students who have a strong interest in farm management and farm finance with financial intermediaries serving agriculture. Prerequisite: CDAE 2670.

**CDAE 2760. Inclusive ScienceCommunication. 3 Credits.**

Science communication theories, contexts, and practices with a focus on inclusion, equity, and intersectionality. Students examine the relationship between science and society before developing written, visual, spoken, and mediated messages promoting respect and shared understandings of science among researchers, journalists, public relations specialists, policy officials, and the public. Prerequisite: CDAE 1240.

**CDAE 2780. Socially Responsible Marketing. 3 Credits.**

Addresses communication with the public to build stronger, healthier, safer communities. Students use public communication skills to craft messages for a defined audience and consider how public/private entrepreneurs/organizations can help solve societal problems, particularly related to college-aged audiences.

**CDAE 2860. Community Developmt:St Lucia I. 3 Credits.**

A general introduction to problems of sustainable development on small island developing states utilizing a case study of St. Lucia, West Indies. Prerequisites: CDAE 1020 or CDAE 1610; Instructor permission.

**CDAE 2870. Community Developmt:St Lucia II. 1 Credit.**

The travel component to CDAE 2860. Prerequisite: CDAE 2860.

**CDAE 2990. Special Topics. 1-18 Credits.**

Lectures or readings on contemporary issues in Community Development and Applied Economics. Enrollment may be more than once, up to twelve hours.

**CDAE 2991. Internship. 1-15 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty the instructor of record, for which academic credit is awarded. Total credit toward graduation in CDAE 2991 and CDAE 3991 cannot exceed fifteen hours. Offered at department discretion. Prerequisite: Instructor permission.

**CDAE 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**CDAE 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CDAE 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CDAE 3050. Rural Comm in Modern Society. 3 Credits.**

The changing structure and dynamics of rural social organization in context of modernization and urbanization. Emphasis on rural communities in the U.S. Prerequisite: Six hours of Sociology.

**CDAE 3070. The Real Cost of Food. 3 Credits.**

Learn how producers, processors, wholesalers, cooperatives, retailers, consumers, and governments affect the movement of food and fiber products through the production-marketing chain. Prerequisite: CDAE 1610 or equivalent.

**CDAE 3080. Agricultural Policy and Ethics. 3 Credits.**

An examination of American agriculture and policies from various perspectives - historical, political, ecological, technological, social, economic, and ethical. Emphasis on contemporary issues, policy options, and future development. Prerequisites: CDAE 2020 or PSS 3120 or equivalent. Cross-listed with: PSS 3180.

**CDAE 3180. Community Org & Development. 3 Credits.**

The roles of forms of community capital, civic engagement, leadership, social and political institutions, and communities of place and interest in a community development context. Pre/co-requisites: Junior standing; CDAE 2020 or Instructor permission.

**CDAE 3310. Applied Computer Graphics. 3 Credits.**

Directed research, planning, design, technical experimentation, production, and evaluation for computer-generated design application. Prerequisite: CDAE 1150 or Instructor permission.

**CDAE 3370. Economics of Sustainability. 3 Credits.**

Economic analysis that integrates natural resource and community planning for sustainable development at local, national, and international levels. Examples include land use, sustainable agriculture, and green business. Prerequisites: CDAE 2020 or Instructor permission.

**CDAE 3500. Applied Research Methods. 0 or 4 Credits.**

Methods used in the collection and analysis of qualitative and quantitative data. Critical review of literature, and data collection, analysis, and interpretation for descriptive, inferential, and evaluation research. Prerequisites: One of the following: STAT 1410, STAT 1110, or equivalent course. Must register for CDAE 3500 lab.

**CDAE 3510. Contemp Policy Iss:Comm Dev. 3 Credits.**

In-depth study of sustainable development policy issues, with emphasis on understanding systematic interactions among economic development, biodiversity conservation, climate change, energy, food and watershed planning. Prerequisites: One of the following: CDAE 2020, CDAE 2710, CDAE 2860, or equivalent course.

**CDAE 3530. Macroeconomics for Appl Econ. 3 Credits.**

Explore macroeconomic principles and concepts as they affect individuals and businesses in local, regional, national, and global economics. Prerequisites: CDAE 2020 or equivalent.

**CDAE 3540. Microeconomics for Appl Econ. 3 Credits.**

The study of economic choices of individuals and firms, and the analysis of competitive and noncompetitive markets. Emphasis on application of intermediate microeconomic theory. Prerequisites: CDAE 2020 or equivalent.

**CDAE 3550. Applied Consumption Economics. 3 Credits.**

Analysis and application of micro-economic principles as they relate to consumers, including consumption and saving, investments in human capital, market work, household production, and leisure choices. Pre/Co-requisite: CDAE 3540 or ECON 2450.

**CDAE 3590. Consumer Law in Action II. 3 Credits.**

Practicum providing experience working as an advanced consumer advocate in the Consumer Assistance Program office. Builds on CDAE 2590 experience with students addressing more complex consumer complaints and inquiries as well as leading student teams. Jointly sponsored with the Vermont Attorney General's Office. Prerequisites: CDAE 2590 and Instructor permission.

**CDAE 3600. Smart Resilient Communities. 3 Credits.**

Focus on social ecological systems integration framework to determine community resilience, enable smart design processes at the nexus of food, energy and water systems and learn practical skills, such as early warning systems, ubiquitous computing and interactive scenario planning techniques. Prerequisite: CDAE 2020 or Graduate standing. Cross-listed with: PA 3600.

**CDAE 3660. Dec Making:Comm Entrepreneurs. 3 Credits.**

Quantitative decision-making methods and applications for community entrepreneurs. Major topics include linear programming, risk and uncertainty, inventory decisions, and e-commerce. Prerequisites: CDAE 2660, MATH 1212, and CALS 1850 or CALS 1020.

**CDAE 3670. Strat Plan:Comm Entrepreneurs. 4 Credits.**

Applications of marketing, finance, and management strategies. Drafting a real working business plan for community entrepreneurs and economic development. Prerequisites: One of the following: CDAE 2660, CDAE 2670, CDAE 2680, or equivalent course; Senior standing only.

**CDAE 3710. Local Community Initiatives. 3 Credits.**

Provides a robust understanding of the history of Vermont community development; ongoing Vermont projects; ideas and plans for maintaining and invigorating the local community and future economy. Students work with community partners to identify and prioritize community needs and develop a project to address those. Prerequisite: CDAE 2020.

**CDAE 3720. Int'l Economic Development. 3 Credits.**

International trade, finance, investment, and development theories and policies for community development. Prerequisite: CDAE 2020 or ECON 2110 through ECON 2450.

**CDAE 3730. Project Development & Planning. 3 Credits.**

National, community, and private sector project development. Focus on planning methods and policy instruments, sectoral linkages, and contributions to the economy as a whole. Pre/co-requisites: CDAE 2020 or Instructor permission.

**CDAE 3760. Community Design Studio. 3 Credits.**

Problem-based community design studio course with research on existing conditions, needs assessment, sense of place, and development of sustainable and integrative design solutions and processes. Prerequisites: CDAE 1150, CDAE 1010, or equivalent.

**CDAE 3780. Applied Community Planning. 3 Credits.**

Project-based community planning studio; students work collaboratively with community partners. Topics vary in response to the project and will typically include visioning, strategic action planning, community engagement and facilitation techniques, values-based decision making, mapping, and creative placemaking. Prerequisite: CDAE 2020, NR 2040, or PSS 2370.

**CDAE 3860. Adv Sust Dev Sm Island States. 4 Credits.**

This course is an advanced course in problems of sustainable development on small island developing states utilizing a case study of St. Lucia, West Indies. Prerequisites: CDAE 2860 and Instructor permission required.

**CDAE 3990. Special Topics. 1-18 Credits.**

Lectures or readings on contemporary issues in Community Development and Applied Economics. Enrollment may be more than once, up to twelve hours.

**CDAE 3991. Internship. 1-15 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Total credit toward graduation in CDAE 2991 and CDAE 3991 cannot exceed 15 credits. Offered at department discretion.

**CDAE 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Department permission.

**CDAE 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CDAE 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Senior standing.

**CDAE 4240. Public Communication Capstone. 3 Credits.**

Students work with non-profit and municipal community partners to develop professional level communications strategies and materials. Students complete their professional public communication portfolios and resumes. Prerequisites: Senior standing; CDAE 1240, CDAE 1150, and CDAE 2210 or CDAE 2200.

**CDAE 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**COMPLEX SYSTEMS (CSYS)****Courses****CSYS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CSYS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CSYS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CSYS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CSYS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.



## COMPUTER INFORMATION SYSTEMS (CIS)

### Courses

#### **CIS 1010. Cybersecurity Law & Policy. 3 Credits.**

U.S. statutes, regulations, and judicial decisions dealing with cybersecurity; politics and policies that are relevant to cyberspace governance; ways to create digitally resilient organizations; the relationship between cybersecurity and sustainability. Catamount Core: SU.

#### **CIS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **CIS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **CIS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **CIS 2460. Digital Fabrication. 3 Credits.**

Through hands-on experience students will practice with digital fabrication technologies (both hardware and software) that are popular with contemporary artists. Students will practice design iteration and rapid prototyping and experiment with art-making practices such as tessellation, 3D imaging, generative design, artificial life and interaction design. Prerequisites: ARTS 1010, ARTS 1100, or ARTS 1400; or Computer Science major or College of Engineering & Mathematical Science student; minimum Junior standing. Cross-listed with: ARTS 2620.

#### **CIS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **CIS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **CIS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **CIS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

#### **CIS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **CIS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **CIS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **CIS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **CIS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

#### **CIS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## COMPUTER SCIENCE (CS)

### Courses

#### **CS 1060. Exploring Cybersecurity. 3 Credits.**

Fundamental concepts and tools utilized by cybersecurity professionals to assess and detect software and network vulnerabilities; best practices in physical and data security through the use of appropriate risk management methodologies. No credit if taken after CS 2660 or CS 3660.

#### **CS 1080. Intro to Web Site Dev. 0 or 3 Credits.**

Provides a strong foundation in HTML, CSS, images, beginning web programming, and web design so that the student can create a complete functional web site in a team based final project. Catamount Core: QR.

#### **CS 1210. Computer Programming I. 3 Credits.**

Introduction to algorithmic problem solving and computer programming. Designed to provide a foundation for further studies in computer science. Catamount Core: QD, QR.

#### **CS 1320. Puzzles, Games & Algorithms. 0 or 3 Credits.**

Introductory computer science through exploration and analysis of mathematical puzzles and games, and the algorithms that handle them. Prerequisite: No credit if taken after CS 2100. Catamount Core: QD.

#### **CS 1500. Seminar for New CS Majors. 1 Credit.**

A fun and accessible breadth-first introduction to the CS community and curricula at UVM. CS faculty serve as guest lecturers to introduce new CS majors to selected topics covered in upper division UVM CS electives. Prerequisites: Computer Science or Computer Science & Information Systems majors who have not yet completed CS 2100. Co-requisite: CS 1210 or CS 2100.

**CS 1640. Discrete Structures. 3 Credits.**

Introduction to analytic and formal methods of computer science with practical examples, including analysis of data structures, recursion relations, proof methods, and logic programming. Credit not awarded for both CS 1640 and MATH 2055. Prerequisites: CS 1210 or CS 2100; MATH 1234 or MATH 1242. Catamount Core: QR.

**CS 1870. Intro to Data Science. 3 Credits.**

Basic techniques of data harvesting and cleaning; association rules, classification and clustering; analyze, manipulate, and visualize data using programming languages. Basic principles of probability and statistical modeling/inference to make meaning out of large datasets. Cross-listed with: STAT 1870. Catamount Core: QR.

**CS 1910. Instructing in Computer Sci. 0.5-6 Credits.**

Assist in instruction of undergraduate computer science courses under the direct supervision of a faculty member. Duties may include grading, office hours, laboratory and/or recitation instruction, or other related activities. Instructor permission required. Prerequisite: Instructor Permission.

**CS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Instructor permission.

**CS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CS 1994. Teaching Assistantship. 0.5-6 Credits.**

Assist in instruction of undergraduate computer science courses under the direct supervision of a faculty member. Instructor permission required.

**CS 2100. Intermediate Programming. 4 Credits.**

Intermediate programming concepts including common data structures, algorithms, style, design, documentation, testing and debugging techniques, and an introduction to object-oriented programming. Prerequisite: CS 1210 with a grade of C- or better. Catamount Core: QR.

**CS 2210. Computer Organization. 3 Credits.**

Introduction to computer system organization including performance, assembly language, machine-level data representation, arithmetic for computers, processor datapath control, memory, and input/output. Includes significant semester project. Prerequisite: CS 2100. Catamount Core: QR.

**CS 2240. Data Struct & Algorithms. 3 Credits.**

Design and implementation of linear structures, trees and graphs. Examples of common algorithmic paradigms. Theoretical and empirical complexity analysis. Sorting, searching, and basic graph algorithms. Prerequisites: CS 2100 with a grade of C- or better; minimum Sophomore standing. Catamount Core: QR.

**CS 2250. Computability & Complexity. 3 Credits.**

Formal languages and expressiveness. Turing completeness and Church's Thesis. Decidability and tractability. Complexity classes and theory of NP completeness. Prerequisites: CS 1640 or MATH 2055. Co-requisite: CS 2240. Catamount Core: QR.

**CS 2300. Advanced Programming. 3 Credits.**

Builds programming maturity and proficiency through significant projects with spiral development, including program specification, design, implementation, debugging, testing, validation, internal and external documentation. Focus on advanced topics including efficiency, profiling, modularity, extensibility, programming paradigms, design patterns, memory management, and generics. Prerequisite: CS 2240. Catamount Core: QR, WIL2.

**CS 2450. Web Client Programming. 3 Credits.**

Covers client side programming in the web browser. Explores the JavaScript programming language to include user actions in your web site, and work with the DOM (Document Object Model). Semester project. Prerequisites: CS 1080; CS 1210. Catamount Core: QR.

**CS 2480. Database Design for Web. 3 Credits.**

Design and implementation of a relational database model using SQL and PHP. Open ended final team based project, examples: ecommerce site, blogging site, members only site, learning site. Prerequisites: CS 1080, CS 1210. Catamount Core: QR.

**CS 2660. Cybersecurity Principles. 3 Credits.**

Introduction to cybersecurity, fundamental security design principles, programming flaws, malicious code, web and database security, cryptography algorithms and hashing functions; overview of computer networks and common network threat vectors. No credit if taken after CS 3660. Prerequisites: CS 1080, CS 2100 with a grade of C- or better. Catamount Core: QR.

**CS 2670. Cybersecurity Defense. 3 Credits.**

Cyber defense policy, privacy, ethics; network threat defense, intrusion detection systems, intro to penetration testing, OS security principles, system/network admin, cloud, mobile and IoT security; overview of security planning, management and incident response. Prerequisite: CS 2660 or CS 3660.

**CS 2830. Embedded Programming in C. 2-3 Credits.**

Fundamental exercises in C programming for embedded systems (e.g., Arduino platform) including variable types, pointers, memory allocation, input/output, etc. and demonstration of advanced knowledge of these embedded systems concepts (second credit); with embedded systems project (third credit). Prerequisites: CS 1210. Cross-listed with: EE 2830. Catamount Core: QR.

**CS 2870. Basics of Data Science. 3 Credits.**

Basic data science techniques, from import to cleaning to visualizing and modeling, using the R language. Machine learning methods include regression, classification and clustering algorithms. Programming methods include user-defined functions. Prerequisite: STAT 1110, STAT 1410, or STAT 2430. Cross-listed with: STAT 2870. Catamount Core: QR.

**CS 2880. Inclusive Computing. 3 Credits.**

Introduces the concept of identity and how it manifests in the broad field of computing. Provides theoretical foundation to understand biases in computing, covers a wide range of diversity, equity, and inclusive (DEI) challenges in computing, and discusses various DEI problems in real-world computing systems (e.g., algorithms, AI, data, design). Prerequisite: Minimum Sophomore standing. Pre/Co-requisite: CS 1080 or equivalent experience. Catamount Core: D2.

**CS 2920. Service Learning in CS. 1-3 Credits.**

Service learning experience that benefits the University or the Community under the direction of a CS faculty member. Prerequisite: Instructor permission.

**CS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Instructor permission.

**CS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CS 3010. Operating Systems. 3 Credits.**

Supervisory and control software for multiprogrammed computer systems. Processes, threads, synchronization, interprocess communication, scheduling, memory management, resource allocation, performance evaluation, secondary storage, case studies. Prerequisites: CS 2300 and CS 2210. Catamount Core: QR.

**CS 3020. Compiler Construction. 3 Credits.**

Covers the design and construction of compilers and translation of high-level programming languages to assembly language. Topics include code representation, register allocation, optimization, static analysis, mutable data, garbage collection, and compilation of higher-order language features. Prerequisites: CS 2240, CS 2250.

**CS 3040. Database Systems. 3 Credits.**

Techniques for processing very large collections of data. Secondary storage. Database design and management. Query languages and optimization. Database recovery. Prerequisite: CS 2240. Catamount Core: QR.

**CS 3050. Software Engineering. 3 Credits.**

Treatment of software engineering problems and principles, with a focus on iterative software development. A significant part of the course is devoted to two multi-week team projects. Prerequisite: CS 2300. Catamount Core: QR.

**CS 3060. Evolutionary Robotics. 3 Credits.**

Exploration of the automated design of autonomous machines using evolutionary algorithms. Coursework involves reading of research papers, programming assignments and a final project. Prerequisites: Junior standing and programming experience, or Instructor permission. Catamount Core: QR.

**CS 3110. Data Privacy. 3 Credits.**

Explores the research field of data privacy, including privacy attacks on anonymized data, and formal approaches like k-Anonymity and differential privacy. Applies the theory of data privacy to real problems in programming projects. Prerequisites: CS 2240, CS 2250.

**CS 3220. Computer Architecture. 3 Credits.**

Architecture of computing systems. Control unit logic, input/output processors and devices, asynchronous processing, concurrency, parallelism, and memory hierarchies. Prerequisite: CS 2210. Catamount Core: QR.

**CS 3240. Algorithm Design & Analysis. 3 Credits.**

Comprehensive study of algorithms including greedy algorithms, divide and conquer, dynamic programming, graph algorithms and network flow. Computational intractability. Approximation, local search and randomization. Prerequisite: CS 2240. Pre/co-requisites: Recommended: CS 2250; STAT 2430, or STAT 2510. Catamount Core: QR.

**CS 3250. Programming Languages. 3 Credits.**

Principles of programming language design and fundamental implementation concepts. Syntax, semantics, and static analysis of programs. Provable properties of programming languages such as type safety. Prerequisites: CS 2240, CS 2250. Catamount Core: QR.

**CS 3260. Software Verification. 3 Credits.**

Principles and practice of software specification and verification. Design of algorithms which are verified correct using interactive or automated, software-based tools. Emphasis on the design space for software specification, and the spectrum of verification goals ranging from shallow to deep verification. Includes a course project. Prerequisites: CS 2240, CS 2250. Catamount Core: QR.

**CS 3280. Human-Computer Interaction. 3 Credits.**

Covers the foundational theories and methods in the interdisciplinary field of human-computer interaction, focuses on the human-centered design and evaluation of user interfaces for various computing systems, as well as introduces a wide range of topics in current human-computer interaction research. Prerequisites: Minimum Junior standing. Pre/Co-requisites: CS 1080 or equivalent experience; completion of WIL1. Catamount Core: WIL2.

**CS 3430. Theory of Computation. 3 Credits.**

Reducibility and decidability, recursion theory, time and space complexity, P, NP, NP-completeness, PSPACE, PSPACE-completeness, L and NL, advanced topics in computability and complexity. Prerequisites: CS 2240 and CS 2250. Catamount Core: QR.

**CS 3530. Reinforcement Learning. 3 Credits.**

Students will program agents that learn to optimize a reward function using Reinforcement Learning; Markov Decision Processes with discrete states, Value Iteration, Policy Iteration, Q-learning and SARSA, methods for value function approximation in complex domains using linear and non-linear methods. Prerequisites: CS 1640 or MATH 2055; STAT 2510 or STAT 5510; CS 2100. Pre/Co-requisites: MATH 2522 or MATH 2544; CS 2250. Catamount Core: QR.

**CS 3540. Machine Learning. 3 Credits.**

Introduction to machine learning algorithms, theory, and implementation, including supervised and unsupervised learning; topics typically include linear and logistic regression, learning theory, support vector machines, decision trees, backpropagation artificial neural networks, and an introduction to deep learning. Includes a team-based project. Prerequisites: STAT 2510 or STAT 5510; MATH 2522 or MATH 2544. Catamount Core: QR.

**CS 3559. Cryptography. 3 Credits.**

A survey of classical and modern cryptography. Topics include the strengths and weaknesses of various cryptosystems, specific public-key and private-key cryptosystems such as RSA, ElGamal, and elliptic curve cryptosystems, as well as digital signatures and key exchange. Prerequisites: MATH 2055 or CS 1640; MATH 2248, MATH 2522, or MATH 2544. Cross-listed with: MATH 3559.

**CS 3650. Computer Networks. 3 Credits.**

Introduction to the theoretical and pragmatic principles and practices of computer networking. Topics include: the Internet; wired and wireless communications protocols; network security protocols. Prerequisites: CS 2240. Catamount Core: QR.

**CS 3660. Network Security & Cryptography. 3 Credits.**

Security and secrecy in a networked environment. Cryptography: public and private key. Authentication: trusted agents, tickets. Electronic mail and digital signatures. Privacy and national security. Prerequisite: CS 2240. Catamount Core: QR.

**CS 3737. Intro to Numerical Analysis. 3 Credits.**

Error analysis, root-finding, interpolation, least squares, quadrature, linear equations, numerical solution of ordinary differential equations. Prerequisites: MATH 2248; MATH 2522, MATH 2544, or MATH 3201; CS 1210. Cross-listed with: MATH 3737.

**CS 3750. Mobile App Development. 3 Credits.**

A projects-based course focusing on software development for mobile devices, including the concepts of event-driven programming, GUI design and implementation, utilization of hardware sensors, and client/server applications. A significant part of the course is devoted to a multi-month team development project. Prerequisite: CS 2300, Senior standing. Pre/co-requisites: Recommended: CS 2480 or CS 3040. Catamount Core: QR.

**CS 3870. Data Science I - Pinnacle. 3 Credits.**

Data harvesting, cleaning, and summarizing; working with non-traditional, non-numeric data (social network, natural language textual data, etc.); scientific visualization; advanced data pipelines; Project-based. Prerequisites: CS 1210; STAT 1410 or STAT 2430; CS 2100 and MATH 2522 or MATH 2544 recommended. Cross-listed with: STAT 3870. Catamount Core: QR.

**CS 3880. Statistical Learning. 3 Credits.**

Statistical learning methods and applications to modern problems in science, industry, and society. Topics include: linear model selection, cross-validation, lasso and ridge regression, tree-based methods, bagging and boosting, support vector machines, and unsupervised learning. Prerequisites: STAT 3210 or equivalent. Cross-listed with: STAT 3880. Catamount Core: QR.

**CS 3920. Senior Seminar. 1 Credit.**

Oral presentations that pertain to the ethical practice of computer science in government, industry, and academia. Topics may include computer security, copyright, and patent law. Prerequisite: Senior standing in Computer Science.

**CS 3930. Computing Career Preparation. 1 Credit.**

Seminar to help students develop necessary skills for becoming computing professionals and exposes them to different computing careers. Topics include job search strategies, preparation for technical interviews, networking, and developing soft skills. Several guest lectures by computing professionals and alumni. Prerequisite: CS 2240.

**CS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Subject will vary from year to year. May be repeated for credit.

**CS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CS 4996. Undergraduate Honors Thesis. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion. See description of Honors Thesis Program in the College of EM section of this catalog.

**COUNSELING (CNSL)****Courses****CNSL 2010. The Helping Relationship. 3 Credits.**

Prepares students for the Human Services Profession through the study and practice of professional standards and select helping skills central to effective helping relationships. Prerequisites: HDF 1050 or HDF 1600; Minimum Sophomore standing or Instructor Permission. Cross-listed with: HDF 2010.

**CNSL 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific title.

**CNSL 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CRITICAL RACE AND ETHNIC STUDIES (CRES)****Courses****CRES 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**CRES 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**CRES 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CRES 2990. Special Topics. 1-18 Credits.**

Intermediate courses or seminars beyond the scope of existing CRES offerings. See Schedule of Courses for specific titles.

**CRES 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisites: A contract must be obtained from and returned to the Critical Race & Ethnic Studies Program office during registration; permission of Director of Critical Race & Ethnic Studies.

**CRES 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CRES 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**CRES 3990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing CRES offerings. See Schedule of Courses for specific titles.

**CRES 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CRES 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: Permission of Director of Critical Race & Ethnic Studies.

**CRES 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CRES 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CRES 4990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing CRES offerings. See Schedule of Courses for specific titles.

**CRES 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CURRICULUM & INSTRUCTION (EDCI)****Courses****EDCI 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDCI 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDCI 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDCI 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDCI 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDCI 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDCI 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**DANCE (DNCE)****Courses****DNCE 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**DNCE 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**DNCE 1050. Dance in the Contemporary World. 3 Credits.**

An examination of dance as it exists in contemporary life, art, culture, entertainment and/or performance. Emphasis on reading, writing, viewing videos/films, and attending live performances, mixed with practical/creative experiential learning.

**DNCE 1100. Contemporary: Foundations. 3 Credits.**

Introduction to applied practice in contemporary dance. Open to students with no previous dance training. Emphasis on fundamentals of contemporary dance technique and movement mechanics. Includes overview of modern/contemporary dance history and experiential anatomy. Reading, writing, and attending live performances required. May be repeated for credit.

**DNCE 1110. Yoga for Performance. 1 Credit.**

Designed for dancers, actors, athletes, and more. Introduces the language, philosophy, history, and concepts of Yoga. Emphasis on asanas (poses) for increased flexibility, improved health, relaxation, and reduced stress in daily living. Appropriate for all levels of fitness. Catamount Core: AH1.

**DNCE 1120. Pilates. 1 Credit.**

Kinesthetic and intellectual introduction to the physical conditioning techniques of Joseph Pilates. Matwork exercises to develop strength, flexibility, stamina, coordination and mind/body awareness. Appropriate for all levels of fitness. Catamount Core: AH1.

**DNCE 1200. Movement & Improvisation. 3 Credits.**

Guided exploration in dance elements for the creative development of personal movement vocabulary, spontaneous group interaction, as well as overall individual and environmental awareness. Catamount Core: AH1.

**DNCE 1400. Ballet: Foundations. 2 Credits.**

Introduction to applied practice in ballet. Open to students with no previous dance experience. Training in classical exercises and vocabulary, with focus on placement, alignment, coordination, basic anatomy, and movement quality. Reading, writing, and attending live performances required. Catamount Core: AH1.

**DNCE 1410. Hip Hop: Foundations. 2 Credits.**

Introduction to applied practice in Hip Hop dance. Open to students with no previous dance training. Emphasis on technique and movement; includes overview of the origins and history of Hip Hop. Reading, writing, and attending live performances required. Catamount Core: AH1.

**DNCE 1420. African Forms. 3 Credits.**

A detailed study of the practice, history, and cultural significance of African and/or African-derived dance forms. Major emphasis on physical training. Catamount Core: D2.

**DNCE 1430. Brazilian Dance. 3 Credits.**

Exposure to Brazilian culture through embodied dance practice, informed by studies of music, race, ethnicity, and socioeconomic diversity in Brazil. Focus on Brazil's most popular and traditional dances. Reading, writing, and attending live performances required. Catamount Core: D2.

**DNCE 1500. Dance History & Legends. 3 Credits.**

A survey of dance history in Western civilization from the Renaissance to the present. Emphasis on the dance idioms of ballet and modern dance. Catamount Core: AH1.

**DNCE 1510. Global Perspectives in Dance. 3 Credits.**

Survey of global dance traditions, including a variety of dance forms from Africa, South America, the Caribbean, South and East Asia, and the Middle East. Catamount Core: D2.

**DNCE 1520. Asian Performance Traditions. 3 Credits.**

Survey of traditional dance/theatre forms in Asia, including performance traditions from China, Korea, Japan, India, Indonesia and other locations, focusing on the religious, historical, and cultural backgrounds and their influences on contemporary performance. Cross-listed with: THE 1520. Catamount Core: D2.

**DNCE 1550. Environment & Performance. 3 Credits.**

Explores the relationship between the human body and environment through movement practice, reading, writing, viewing, and discourse. Focuses on intersections between geography, history, identity, and performance. Students examine and build relationships between the moving body and space, time, nature, and context.

**DNCE 1990. Special Topics. 1-18 Credits.**

Introductory courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**DNCE 2100. Contemporary: Intermediate. 3 Credits.**

Intermediate level applied practice in contemporary dance. Emphasis on technical training, working toward expanded body awareness and strength, as well as compositional exploration. Reading, writing, and attending live performances required. May be repeated for credit. Prerequisites: DNCE 1100 or Instructor permission.

**DNCE 2200. Contact Improvisation. 2 Credits.**

Practical study of contact improvisation, a socially inclusive, radical movement practice in which two or more bodies make contact with each other, sharing skin, weight, and intention in improvised dances. Prerequisite: DNCE 1200. Catamount Core: AH1.

**DNCE 2400. Ballet: Intermediate. 3 Credits.**

Intermediate level practice in ballet. Increased competence and stamina in the practice of classical vocabulary/exercises. Emphasis on expanded anatomical principles in dance, as well as developing expressive performance. Reading, writing, and attending live performances required. May be repeated for credit. Prerequisite: DNCE 1400 or Instructor permission.

**DNCE 2450. Musical Theatre Dance. 3 Credits.**

The art of dance in musical theatre with training in performance skills, vocabulary, choreography, and specific styles of musical theatre dance. Special emphasis on choreographers whose works influenced musical theatre dance. Reading, writing, and attending live performances required. Prerequisite: DNCE 1400.

**DNCE 2500. Jazz in American Dance. 3 Credits.**

An in-depth study of the influence of African-derived dance forms on American social/vernacular dance, as well as American Theatre Jazz, Modern Dance, and Ballet. Pre/co-requisites: DNCE 1500 or Instructor permission. Catamount Core: D1.

**DNCE 2510. Sex, Gender & Performance. 3 Credits.**

A study of performance forms from around the world with emphasis on how they reflect, shape, support and challenge cultural concepts of sex and gender. Reading, writing, basic dancing, and live events required. Prerequisite: DNCE 1510, DNCE 1500, or DNCE 2500. Catamount Core: D2.

**DNCE 2520. Activism & Performance. 3 Credits.**

Investigation of the role art and performance have as a catalyst for social change. Through examining global artistic contexts that have influenced radical shifts in history, explores embodied and collaborative practice as a way to excavate and create performances that are grounded in social and political conscience. Prerequisite: DNCE 1500 or Instructor permission.

**DNCE 2600. Dance Composition. 3 Credits.**

A study of time, space, force, and design as they relate to dance composition. Focus on developing original movement in the creation of choreographic studies/projects. Pre/co-requisite: DNCE 1200 or Instructor permission.

**DNCE 2700. Dance Production Practicum. 1-3 Credits.**

Participation in faculty-supervised dance production activities, focused on one area (production crew, design, front of house, marketing, etc.). Prerequisite: Instructor permission. Catamount Core: AH1.

**DNCE 2710. Dance Performance Practicum. 1-3 Credits.**

Participation in faculty-supervised dance performances; focus on rehearsal leading to fully realized public performances. Prerequisites: Audition or Instructor permission. Catamount Core: AH1.

**DNCE 2720. Site Performance Practicum. 1-3 Credits.**

Participation in faculty-supervised site-based performances. Emphasis on creative research that leads to performance. Includes focus on performance development/rehearsal, music accompaniment/composition, and/or technical/design preparation leading to a fully realized public performance. Prerequisite: Audition or Instructor permission. Catamount Core: AH1.

**DNCE 2730. Dance Repertory. 1 Credit.**

Participation in the learning and rehearsal of dance choreography. May or may not be performed for the public. Prerequisite: Audition or Instructor permission. Catamount Core: AH1.

**DNCE 2990. Special Topics. 1-18 Credits.**

Intermediate courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**DNCE 3100. Contemporary: Advanced. 3 Credits.**

Advanced level contemporary dance technique. Focus on advanced skills for performance, conditioning, and exploration of digital performance. Reading, writing, and attending live performances required. May be repeated for credit. Prerequisite: DNCE 2100 or Instructor permission.

**DNCE 3200. Advanced Improvisation. 3 Credits.**

For experienced movers and improvisers. Continued investigation of movement's relationship to text, space, music, sound, contact, and solo/group dynamics. Special emphasis on compositional tools embedded in the creation of improvisational structures/scores. Reading, writing, and attending live performance or movement labs. Prerequisites: DNCE 1200; DNCE 2600 or DNCE 2200 recommended.

**DNCE 3500. Theories of Performance. 3 Credits.**

Coverage of a range of analytical tools and performance frames, using one to explore, enliven, and challenge the other. The concept of performance is intended to be applied widely, covering modern and contemporary dance & dance-theatre, theatrical performance, Live Art, historical re-enactments, secular and sacred rituals, mediated performance, and performances of everyday life. Prerequisites: DNCE 1500, DNCE 2600; or THE 2500. Cross-listed with: THE 3500.

**DNCE 3600. Choreography Workshop. 3 Credits.**

Employing a variety of choreographic methodologies, students work toward developing their unique artistry in dance creation and performance through faculty-supervised projects. Special emphasis on creative collaboration with other artists and performance organization/marketing. Reading, writing, and attending live performances required. Prerequisites: DNCE 1200, DNCE 2600.

**DNCE 3710. Supplemental Studio Practice. 1 Credit.**

Focus on studio practice training above and beyond requirements for Dance majors. Functions as faculty-supervised independent studio work, continued training in UVM dance classes, or pursuit of dance studies beyond the scope of UVM offerings. Prerequisites: Dance majors only; Instructor permission. Catamount Core: AH1.

**DNCE 3990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**DNCE 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**DNCE 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**DNCE 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**DNCE 4500. Dance Senior Capstone. 3 Credits.**

A senior-level capstone course for dance majors, involving independent creative work/research in close consultation with a faculty sponsor on a specific and advanced project. Prerequisites: Nine hours of 2000-level DNCE courses; Senior standing; departmental permission.

**DNCE 4990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**DNCE 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**DNCE 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**EARLY CHILDHOOD PRE K-3 (EDEC)****Courses****EDEC 1010. Intr Early Care & Education. 0 or 4 Credits.**

A Civic Learning course that introduces and explores current issues, policies and practices in early care and education, which impact families and young children of diverse backgrounds. Emphasis on self-study, anti-bias frameworks, inclusion, and advocacy as well as civic engagement and cross-cultural communication. Catamount Core: D2, GC2.

**EDEC 1070. Movie Night: Criticl Childhd. 3 Credits.**

Through documentary film, research and diverse stories, contemplates the lives of children around the world, the life-spaces they inhabit, and commonly held ideas about children and parenting from multi-cultural, critical and feminist perspectives; provides a greater appreciation for childhood, both as a cultural construction, and as a distinctly constructed culture. Catamount Core: D2, S1.

**EDEC 1630. Child Development. 3 Credits.**

The biological, psychological, and social growth and development of children and their relationships with family, peers, and institutions.

**EDEC 1990. Special Topics. 2-6 Credits.**

See Schedule of Courses for specific titles.

**EDEC 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDEC 2050. Inf/Todd Curriculum Develop. 3 Credits.**

Emphasizes the development of relevant, integrated, authentic, individualized, developmentally appropriate curriculum based on formative assessments and interpretations of children's work in inclusive Infant/toddler classrooms, serving children from birth-age 3. Reflective thinking is supported by readings and discourse. Prerequisites: EDEC 1010, EDEC 1630 or equivalent, Praxis Core Fulfilled, Early Childhood Education or Early Childhood Special Education major, or Instructor permission. Co-requisite: EDEC 2090.

**EDEC 2090. Infant Toddler Practicum. 4 Credits.**

Practicum experience with infants and toddlers. Students spend 9 hours per week as a member of a diverse, infant/toddler classroom developing skills in observation/assessment, curriculum development and facilitation. Prerequisites: EDEC 1010, EDEC 1630 or equivalent, Praxis Core requirement fulfilled, or Instructor permission. Co-requisite: EDEC 2050.



**EDEC 2130. Creative Arts and Movement. 3 Credits.**

Introduces students to the fundamentals of art, music, and movement and emphasizes the importance of process-oriented experiences in teaching children birth through age 8. Students' learning will be grounded in educational theories, knowledge of children's development, reflective practice, and experiential learning. Prerequisites: EDEC 1010; minimum Sophomore standing; or Instructor permission. Catamount Core: AH1.

**EDEC 2220. Culturally Responsive Educ. 3 Credits.**

Study of ECE systems, foundational theories and research, corresponding with an evidence-based understanding of how young children learn and develop. We will apply an anti-racist and social justice approach to examine ECE experiences, settings, policies, and the field itself to uncover and think critically about how teachers can work to disrupt and redress inequities. Prerequisite: Early Childhood and Early Childhood Special Education majors or with Instructor permission. Pre/Co-requisite: EDEC 1010 or equivalent. Catamount Core: D2.

**EDEC 2450. Preschool Curriculum Devel. 3 Credits.**

Course emphasis is on developing relevant, integrated, authentic, individualized, developmentally appropriate curriculum based on observation and interpretations of children's work in PreK classrooms, serving children ages 3-5. Reflective thinking is supported by readings and discourse. Prerequisites: EDEC 1010, EDEC 1630 or equivalent, Praxis Core requirement fulfilled, or Instructor permission. Co-requisite: EDEC 2490.

**EDEC 2490. Preschool Practicum. 4 Credits.**

Practicum experience with children ages 3-5. Students spend 9 hours per week as a member of a diverse, PreK classroom developing skills in observation/assessment, curriculum development and facilitation. Prerequisites: EDEC 1010, EDEC 1630 or equivalent, Praxis Core equivalent fulfilled, or Instructor permission. Co-requisite: EDEC 2450.

**EDEC 2510. Science of Everyday Life. 3 Credits.**

Prepares students to apply STEM content, most relevant for working with children, birth-grade 3. Examines concepts related to Life Science, Physical Science, Technology, Engineering, Mathematics, and Sustainability. Examines how play contributes to children's construction of STEM knowledge and why Environmental Education should begin in Early Childhood. Prerequisite: EDEC 1010 or Instructor permission, and minimum Sophomore standing. Catamount Core: SU.

**EDEC 2990. Special Topics. 1-18 Credits.**

Lectures, laboratories, readings, or projects relating to contemporary areas of study. Enrollment may be more than once, accumulation up to 12 hours. Prerequisite: Varies with course.

**EDEC 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDEC 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDEC 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDEC 3560. K-3 Stem: Math for Meaning. 3 Credits.**

Focuses on children's development of mathematical thinking as it relates to STEM and classroom practices (Kindergarten-Grade 3) that individualize mathematizing within a socio-constructivist context of learning. Integrated approach to curriculum development with an emphasis on inquiry and 'real world' investigations. Prerequisites: EDEC 1630 or equivalent; Praxis Core fulfilled; Early Childhood PreK-3 majors; or Instructor permission. Co-requisites: EDEC 3790, EDEC 3810, EDEC 3820.

**EDEC 3790. K-3 Interdisciplinary Practicum. 4-6 Credits.**

Inter-disciplinary practicum in a K-3 public school classroom, designed to provide students with opportunities to practice teaching methods in Literacy, Math, Science and Social Studies while ensuring a differentiated approach to curriculum development, instruction and assessment. Prerequisites: EDEC 1630 or equivalent; Praxis Core Requirement fulfilled; Early Childhood PreK-3 major; or Instructor permission. Co-requisites: EDEC 3560, EDEC 3810, EDEC 3820.

**EDEC 3810. K-3 Inquiry. 3 Credits.**

Provides the foundation needed to implement an integrated approach to designing, implementing, and evaluating a science and social studies curriculum. Content and methods examined are relevant to multiple environments and age groups. Experience with Next Generation Science and C3 Framework for Social Studies. Prerequisites: EDEC 1630 or equivalent; Early Childhood PreK-3 major; Praxis Core Requirement fulfilled; or Instructor permission. Co-requisites: EDEC 3250, EDEC 3790, EDEC 3820.

**EDEC 3820. K-3 Literacy. 3 Credits.**

Provides the foundation needed to implement an integrated approach to designing, presenting, and evaluating an English Language Arts (ELA) curriculum across content areas while providing an important understanding of the qualities of children's literature. Prerequisites: EDEC 1630; Praxis Core Requirement fulfilled; Early Childhood PreK-3 major; or Instructor permission. Co-requisites: EDEC 3560, EDEC 3790, EDEC 3810.

**EDEC 3990. Special Topics. 1-18 Credits.**

Lectures, laboratories, readings, or projects relating to contemporary areas of study. Enrollment may be more than once. Prerequisite: Department permission.

**EDEC 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Department permission.

**EDEC 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDEC 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDEC 4880. Student Teaching Seminar. 3 Credits.**

Supports the EDEC 4991 Early Childhood Student Teaching. Addresses pertinent issues in early education teaching and learning, while preparing students to construct their licensure portfolios. Prerequisites: EDEC 3790; Early Childhood PreK-3 major; Praxis Core Requirement fulfilled; GPA of 3. Co-requisites: EDEC 2870, EDEC 2991, EDEC 4991.

**EDEC 4991. Internship: Student Teaching. 1-18 Credits.**

On-site supervised experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team, for which academic credit is awarded. May be student teaching. May be working in an Early Childcare setting. Prerequisite: EDEC 3790. Co-requisite: EDEC 4880.

## EARLY CHILDHOOD SPECIAL EDUC (ECSP)

### Courses

**ECSP 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**ECSP 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECSP 2100. Indiv Prac for Inclusion. 3 Credits.**

Focuses on the learning and development needs of children with or AT - risk for disabilities and other diverse young learners within inclusive early childhood settings. Catamount Core: D2.

**ECSP 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**ECSP 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECSP 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ECSP 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECSP 3100. Curriculum in ECSP. 3-4 Credits.**

Designing and implementing services and supports for young preschool-age children with diverse abilities. Topics include IEPs, embedding instruction, specialized instruction, and inclusion. Three credits, four credits with 30-hour field experience. Prerequisites: Early Childhood Special Education undergraduate students or with Instructor permission.

**ECSP 3110. EI for Infants and Toddlers. 3 Credits.**

An introduction to the field of Early Intervention (EI) designed for undergraduate students interested in serving infants and toddler with and at risk for developmental delays or disabilities and their families. Focuses on supporting young children in the natural environment with a routines-based and family-centered approach. Catamount Core: D2.

**ECSP 3120. Assessment in EI/ECSE. 3-4 Credits.**

Overview of the strengths and limitations of traditional and nontraditional assessments; legal responsibilities, eligibility, family, and cultural aspects. Three credits, four credits for Early Childhood Special Education majors with 30-hour field experience. Prerequisites: Early Childhood Special Education undergraduate students or with Instructor permission. Pre/Co-requisites: Early Childhood Special Education major; instructor permission required for Special Education minors.

**ECSP 3190. Seminar in EI/ECSE. 3 Credits.**

This seminar accompanies the student teaching or internship experiences. Students will create a variety of evidence-based products and complete their portfolios for licensure. Co-requisite: ECSP 3991.

**ECSP 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**ECSP 3991. Internship: Student Teaching. 9-12 Credits.**

Full semester student teaching internship in a setting or combination of settings that includes infants, toddlers, and/or preschoolers with disabilities. Integrated readings, research activity and weekly seminar. Pre-Corerequisites: ECSP 5110, ECSP 6100, ECSP 6120, Praxis Core requirement fulfilled, GPA of at least 3.

**ECSP 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECSP 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ECSP 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## ECONOMICS (ECON)

### Courses

#### **ECON 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

#### **ECON 1013. FYS Latin American Development. 3 Credits.**

Intensive first-year seminar focused on Latin American development process from a comparative perspective, highlighting the diversity within the region and the role that culture, traditions, and political institutions played in shaping the region's path of growth. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. Catamount Core: D2, S1, WIL1.

#### **ECON 1015. Topics In: FYS: Div & Sustain. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: D2, SU, WIL1.

#### **ECON 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

#### **ECON 1130. Economics of Globalization. 3 Credits.**

An examination of the dimensions, causes and consequences of the international flows of goods and services (trade), people (migration), and financial capital. Catamount Core: GC1, S1, SU.

#### **ECON 1280. Economics of Climate Change. 3 Credits.**

Economic concepts are used to explain the causes, consequences and potential solutions to the climate change problem, while recognizing its long-term nature, global scope, and the heterogeneity of sources that need to be regulated. Among the policies covered are BC Carbon Tax, RGGI, the clean energy subsidies in the 2022 IRA, and the European ETS. Catamount Core: GC1, S1, SU.

#### **ECON 1400. Principles of Macroeconomics. 3 Credits.**

Introduction to economic concepts, institutions, and analysis, particularly as related to the economy as a whole. May be taught with traditional approach or with strong mathematical emphasis. Catamount Core: S1.

#### **ECON 1450. Principles of Microeconomics. 3 Credits.**

Study of individual economic units with particular emphasis on market interactions among firms and households. Catamount Core: S1.

#### **ECON 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **ECON 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **ECON 2110. Money and Banking. 3 Credits.**

Commercial and central banking with special attention given to the Federal Reserve system, monetary theory, and policy. Prerequisites: ECON 1400, ECON 1450. Catamount Core: S1.

#### **ECON 2210. Public Policy. 3 Credits.**

Revenues and expenditures of federal, state, and local governments and intergovernmental relationships; the effects of expenditures and taxation upon individuals, business institutions, and the national economy. Prerequisites: ECON 1400, ECON 1450. Catamount Core: S1.

#### **ECON 2240. Game Theory. 3 Credits.**

Formal analysis of strategic interactions, in which decisions are based on the possible reactions of others, with applications to business, politics, and human relationships. Prerequisites: ECON 1400, ECON 1450. Catamount Core: S1.

#### **ECON 2300. Economic Development. 3 Credits.**

Theories of economic growth applied to developing countries of the contemporary world including the political and social determinants of economic progress. Prerequisites: ECON 1400, ECON 1450. Catamount Core: D2, GC2, S1.

#### **ECON 2350. International Econ I: Trade. 3 Credits.**

Trade Theory, policy, and history of international trade patterns, terms of trade, protectionism, competitiveness, structural adjustment, and international aspects of microeconomics. Prerequisites: ECON 1400, ECON 1450. Catamount Core: GC1, S1.

#### **ECON 2355. International Econ II: Finance. 3 Credits.**

Finance Theory, policy, and history of foreign-exchange markets, balance of payments, world monetary arrangements, and international aspects of macroeconomics and capital markets. Prerequisites: ECON 1400, ECON 1450. Catamount Core: GC1, S1.

#### **ECON 2400. Macroeconomic Theory. 3 Credits.**

Keynesian and other theories of the macroeconomy. Government policies in relation to the problems of employment, price stability, and growth. Prerequisites: ECON 1400, ECON 1450; MATH 1212 or MATH 1234. Catamount Core: S1.

#### **ECON 2450. Microeconomic Theory. 3 Credits.**

Analysis of consumer demand, supply, market price under competitive conditions and monopolistic influences, and the theory of income distribution. Prerequisites: ECON 1400, ECON 1450 and MATH 1212 or MATH 1234. Catamount Core: S1.

**ECON 2510. Using Data for Economic Policy. 3 Credits.**

How to locate, use, and present economic data to understand economic issues, problems, and policy, and integrate data into written and oral presentations. Prerequisites: ECON 1400, ECON 1450. Catamount Core: QD, S1.

**ECON 2600. Labor Economics. 3 Credits.**

The economics of work, including wage determination, unemployment, productivity, discrimination, unions, and policy issues. Prerequisites: ECON 1400, ECON 1450. Catamount Core: S1.

**ECON 2670. Economics of Gender. 3 Credits.**

Examines how gender differences produce different economic outcomes for women and men in work, leisure, earnings, poverty. Explores effectiveness of policies to overcome gender gaps. Prerequisites: ECON 1400, ECON 1450.

**ECON 2700. Industrial Organization. 3 Credits.**

The structure, conduct, and performance of U.S. industry and appraisal of its economic efficiency and social impact, including governmental policies. Prerequisites: ECON 1400, ECON 1450.

**ECON 2750. Law and Economics. 3 Credits.**

Economic analysis of the law, including property, contracts, torts and criminal law. Covers accident and malpractice compensation, product liability, breach of contract, deterrence of crime. Prerequisites: ECON 1400, ECON 1450. Catamount Core: S1.

**ECON 2755. Institutional Economics. 3 Credits.**

All economic activity takes place within a framework of institutions (such as laws, and social norms) that constrain individual behavior and thereby affect resource allocation, income distribution, and economic growth. Emphasizes the effects of transaction costs on simple and complex transactions, the principal-agent problem, and the collective action problem, among other topics. Prerequisites: ECON 1400, ECON 1450. Catamount Core: S1.

**ECON 2800. Econ of Environmental Policy. 3 Credits.**

Investigation of the relationship of markets and government regulation to environmental quality. Alternative public policies to improve efficiency and equity will be evaluated. Prerequisites: ECON 1400, ECON 1450. Catamount Core: S1, SU.

**ECON 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: ECON 1400, ECON 1450.

**ECON 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ECON 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECON 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECON 3000. Topics in: Ec Hst, Sys, Ideas. 3 Credits.**

Topics on the evolution of economic systems and ideas. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 3100. Topics in: Macro & Finance. 3 Credits.**

Topics such as national economic policies, income, wealth and welfare, financial markets and the macroeconomy, central banking, and other issues concerning macroeconomics and money. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 3200. Topics in: Micro & Applicatns. 3 Credits.**

Topics from microeconomics and fields applying it, such as game theory, health economics, environmental economics, the Vermont economy and urban and regional economy, and urban and regional economics. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 3300. Topics in: Development Ec. 3 Credits.**

Topics such as the economies of countries or regions, international trade agreements, international debts, deficits and structural adjustment, and aspects of development economics. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 3350. Topics in: International Ec. 3 Credits.**

Topics such as the economies of countries or regions, international trade agreements, international debts, deficits, and structural adjustment. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 3450. Advanced Micro Theory. 3 Credits.**

Advanced topics in microeconomic theory, including general equilibrium in exchange and production economies; the first and second welfare theorems; choice under risk; information and insurance; and key concepts in game theory with applications to imperfectly competitive market structures and other topics. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 3500. Econometrics. 3 Credits.**

A combination of economic theory, mathematics, and statistics for testing economic hypothesis and developing economic models. Conceptual development and applications. Prerequisites: ECON 2400 and ECON 2450. Catamount Core: QR.

**ECON 3510. Economic Forecasting. 3 Credits.**

Basic knowledge of how to analyze data in time series. Includes controlling for trends, seasonal components, and breakpoints. Techniques are applied to a variety of economic time series, such as inflation, stock prices, unemployment, and gross domestic product. Prerequisites: STAT 1410, ECON 2400, and ECON 2450. Catamount Core: QR.

**ECON 3600. Topics in: Labor Economics. 3 Credits.**

Topics such as labor-management relations, aspects of contemporary labor markets, discrimination, economics of education, and other aspects of the economics of gender and race. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 3640. Topics in: Economics of Race. 3 Credits.**

Topics including discrimination, economic analysis, and theories regarding differences by race in health care, education, the labor market, housing, and crime, and other aspects of the economics of race. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 3670. Topics in: Economics of Gender. 3 Credits.**

Topics including discrimination, economic analysis, and theories regarding differences by gender in health care, education, the labor market, time use, and other aspects of the economics of gender. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 3700. Topics in: Firms & Institutions. 3 Credits.**

Topics such as antitrust and regulation, decision making and the firm, technological change and industrial policies, and the economics of growth. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 3800. Topics in: Environmental Ec. 3 Credits.**

Explores fundamental issues in the field of environmental economics, such as policy instrument choice, theories of regulation, regulation-competitiveness relationship, and cost-benefit analysis. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 3850. Topics in: Health Economics. 3 Credits.**

Topics in economic theory of health and health care and empirical analysis of health care systems, including cost-benefit and cost-effectiveness analysis, demand for medical care, private and social health insurance, adverse selection and moral hazard. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ECON 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ECON 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECON 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team or research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: ECON 2400, ECON 2450.

**ECON 4000. Topics in: Ec Hst, Sys, Ideas (W). 3 Credits.**

Topics on the evolution of economic systems and ideas. Includes a substantial writing component. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 4100. Topics in: Macro & Finance (W). 3 Credits.**

Topics such as national economic policies, income, wealth and welfare, financial markets and the macroeconomy, central banking, and other issues concerning macroeconomics and money. Includes a substantial writing component. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 4200. Topics in: Micro & Applications (W). 3 Credits.**

Topics from microeconomics and fields applying it, such as game theory, health economics, environmental economics, the Vermont economy and urban and regional economy, and urban and regional economics. Includes a substantial writing component. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 4300. Topics in: Development Ec (W). 3 Credits.**

Topics such as the economies of countries or regions, international trade agreements, international debts, deficits and structural adjustment, and aspects of development economics. Includes a substantial writing component. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 4350. Topics in: International Ec (W). 3 Credits.**

Topics such as the economies of countries or regions, international trade agreements, international debts, deficits, and structural adjustment. Includes a substantial writing component. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 4400. Adv Macroeconomic Theory. 3 Credits.**

Tools and lessons of advanced macroeconomic theory with a focus on programming in Mathematica to simulate the predictions of advanced theoretical models. Prerequisites: STAT 1410, ECON 2400, and ECON 2450. Catamount Core: QR.

**ECON 4500. Advanced Economic Analysis. 3 Credits.**

Examination of major contemporary research topics in economics. Prerequisite: ECON 3500.

**ECON 4600. Topics in: Labor Economics (W). 3 Credits.**

Topics such as labor-management relations, aspects of contemporary labor markets, discrimination, economics of education, and other aspects of the economics of gender and race. Includes a substantial writing component. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 4640. Topics in: Econ of Race (W). 3 Credits.**

Topics including discrimination, economic analysis, and theories regarding differences by race in health care, education, the labor market, housing, and crime, and other aspects of the economics of race. Includes a substantial writing component. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 4670. Topics in: Econ of Gender (W). 3 Credits.**

Topics including discrimination, economic analysis, and theories regarding differences by gender in health care, education, the labor market, time use, and other aspects of the economics of gender. Includes a substantial writing component. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 4700. Topics in: Firms&Institutns (W). 3 Credits.**

Topics such as antitrust and regulation, decision making and the firm, technological change and industrial policies, and the economics of growth. Includes a substantial writing component. Topics vary by offering; periodic offering at intervals that may exceed four years. May be repeated for credit with different content. Prerequisites: STAT 1410, ECON 2400, and ECON 2450.

**ECON 4800. Topics in: Environmntl Ec (W). 3 Credits.**

Explores fundamental issues in the field of environmental economics, such as policy instrument choice, theories of regulation, regulation-competitiveness relationship, and cost-benefit analysis. Includes a substantial writing component. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 4850. Topics in: Health Ec (W). 3 Credits.**

Topics in economic theory of health and health care and empirical analysis of health care systems. Includes a substantial writing component. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: STAT 1410, ECON 2400, ECON 2450.

**ECON 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ECON 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ECON 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**EDUCATION (EDSS)****Courses****EDSS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EDSS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EDSS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSS 2990. Special Topics. 1-6 Credits.**

Topics vary. See Schedule of Courses for specific titles.

**EDSS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EDSS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDSS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSS 3010. Individually Designed Capstone. 3 Credits.**

Designed to serve as a culminating learning experience for the Individually Designed Major in CESS and other majors as appropriate. Supports students as they analyze and synthesize information and prepare a final written product for an oral defense. Prerequisite: Completion of or concurrent enrollment in an approved undergraduate research course or independent study and Instructor permission.

**EDSS 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDSS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences.

**EDSS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDSS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## EDUCATION FOR CULTURAL AND LINGUISTIC DIVERSITY (ECLD)

### Courses

**ECLD 1560. Lang Policy Issues, Race & Sch. 3 Credits.**

Examines the connection between race and language particularly as it relates to immigration and English policies. Catamount Core: D1.

**ECLD 1570. US Citizenship and Education. 3 Credits.**

Provides a fundamental overview of the processes for immigration and naturalization in the United States, including an exploration of the refugee system/process. Explores the corresponding educational policies put in place for English learners.

**ECLD 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ECLD 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ECLD 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECLD 2020. Bilingual Education & Policy. 3 Credits.**

Examines the foundation of educational policy as it relates to bilingual education and program planning in grades K-12 in U.S. schools. Review English language theory, as well as state and federal policy. Prerequisite: ECLD 1560.

**ECLD 2890. Teach Reading & Writing to ELs. 3 Credits.**

Students develop appropriate reading and writing strategies to support English learners, and then apply these strategies in a tutoring service learning context. Prerequisite: ECLD 1560 or ECLD 2020.

**ECLD 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ECLD 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ECLD 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECLD 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ECLD 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECLD 3010. Developing Curriculum for ELs. 3 Credits.**

Prepares students who intend to teach in a K-12 classroom environment or similar setting by exploring language acquisition theories, instructional methods, and lesson planning for English language learners. Prerequisite: ECLD 1560, ECLD 2020, minimum Junior standing; or Instructor permission.

**ECLD 3040. Relating/Responding To Cmnty Nds. 3 Credits.**

Students engage directly with community organizations or schools to provide services identified through conversations with community partners. In addition to field work, students engage in modules and course meetings to guide their learning, critical reflection, and the creation of a semester-long project in service to their host. Prerequisites: ECLD 1560 or EDSP 1050. Cross-listed with: EDSP 3040.

**ECLD 3050. Fmly Schl & Cmty Collaboration. 3 Credits.**

Provides a foundation for understanding basic concepts regarding home, school, and community collaboration. Focuses specifically on creating partnerships between diverse families, families whose children have disabilities, and community partners and schools that serve these populations. Prerequisites: ECLD 1560, EDSP 1050; or Instructor permission. Pre/Co-requisite: ECLD 2020. Catamount Core: GC2.

**ECLD 3890. ELL Practicum. 3 Credits.**

A practicum opportunity for Education majors who intend to pursue the ELL endorsement for grades PreK-6, 7-12, or PreK-12. Assignments include weekly reflections, informal lessons, and resource building for teaching/tutoring English learners. Prerequisite: ECLD 1560, ECLD 2020, ECLD 2890.

**ECLD 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ECLD 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ECLD 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ECLD 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ECLD 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## EDUCATION RESEARCH METHODS (EDRM)

### Courses

**EDRM 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EDRM 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EDRM 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDRM 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EDRM 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EDRM 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDRM 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDRM 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDRM 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EDRM 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EDRM 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDRM 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDRM 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## ELECTRICAL ENGINEERING (EE)

### Courses

**EE 1100. EE Principles and Design. 0 or 2 Credits.**

Hands-on introduction to contemporary electrical engineering principles and practice. Basic analog and digital circuit design, construction, operation, measurement. Interfacing sensors and actuators to a microcontroller, programming to interact with the world. Individual and team-based assignments that develop data dexterity and technical communication skills. Exposure to breadth of discipline and ethics in the profession. Design project. Prerequisite: First-Year students only.



**EE 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Department permission.

**EE 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EE 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EE 2125. Circuits I. 0 or 4 Credits.**

Fundamental DC circuit analysis course with lab component. Topics: circuit elements and variables, integrated circuits, basic laws of circuits, method of circuit analysis. Elements of design and sensors are introduced. Prerequisite: C- or better in MATH 1248 or MATH 1242.

**EE 2135. Circuits II. 0 or 4 Credits.**

AC circuit analysis and advanced circuit topics with lab component. Topics: AC steady state circuit analysis using phasors, AC power and efficiency, active and passive filters, generalized circuit analysis using the Laplace transform, Fourier series decomposition. Elements of design and sensors. Prerequisite: EE 2125, EE 2175, or EE 2145.

**EE 2145. Electrical Engr Concepts. 0 or 4 Credits.**

Fundamentals of electrical engineering; DC and AC linear circuit analysis; laboratory component. No credit for more than one of EE 003, EE 2125, EE 2145 and EE 2175. Prerequisites: MATH 1248 or MATH 1242.

**EE 2175. Electrical Circuits & Sensors. 0 or 4 Credits.**

Fundamentals of electrical circuits with applications to the use of sensors. DC and AC circuits. Sensors utilized for civil engineering and environmental engineering applications. Demonstrations, hands-on exercises. No credit for more than one of EE 003, EE 2125, EE 2175, EE 2145. Prerequisites: MATH 1248 or MATH 1242.

**EE 2185. Circuits Design Project. 0 or 2 Credits.**

Project-based course focused on the design of circuits for analog-to-digital and digital-to-analog conversion, analog computing with operational amplifiers, and filtering of signals. Advanced instrumentation, fabrication methods, and printed circuit board (PCB) layout. Prerequisite: EE 2125 or EE 2175 or EE 2145.

**EE 2810. Fundamentals of Digital Design. 0 or 4 Credits.**

Combinational logic simplification and design, MSI and PLD components, synchronous and asynchronous sequential design, algorithmic state machines, registers, counters, memory units, introduction to hardware design languages. Digital circuit and system design and analysis laboratory implementation. Prerequisite: CS 1210.

**EE 2820. Virtual Instrument Engineering. 1-3 Credits.**

Introduces logical and electrical circuit modeling using computer-based virtualization tools in a graphical format. Includes circuit simulation; scripting, interfacing; signal processing; control of instruments and data acquisition. Prerequisite: CS 1210, or Instructor permission. Cross-listed with: ENGR 2160.

**EE 2830. Embedded Programming in C. 2-3 Credits.**

Fundamental exercises in C programming for embedded systems (e.g., Arduino platform) including variable types, pointers, memory allocation, input/output, etc. and demonstration of advanced knowledge of these embedded systems concepts (second credit); with embedded systems project (third credit). Prerequisites: CS 1210. Cross-listed with: CS 2830. Catamount Core: QR.

**EE 2845. Digital Control w/Embedded Sys. 0 or 4 Credits.**

Applications of single-chip microcontrollers as embedded systems for data acquisition/real time control. C language; parallel and serial ports; timers; counters; A/D and D/A. Simple sensors and actuators. Laboratory. Prerequisites: EE 2145 or EE 2175 or EE 2125; CS 1210.

**EE 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Department permission.

**EE 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EE 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EE 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EE 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EE 2996. College Honors. 3-6 Credits.**

Honors studies leading to thesis. Prerequisite: CEMS 2010.

**EE 3000. Engineering Ethics/Leadership. 1 Credit.**

Rights and responsibilities in engineering practice and research. Case studies related to engineering ethics. Ethics and professional practice as related to professional licensure. Development of individual leadership abilities. Team-based development of written reports and oral presentations. Prerequisite: Minimum Junior standing.

**EE 3100. Electromagnetic Field Theory. 0 or 4 Credits.**

Fundamentals of electromagnetic field theory and applications: vector analysis, electric and magnetic fields, potential theory, boundary conditions and boundary value problems, dielectric and magnetic material properties, conductance, capacitance, and inductance, Maxwell-Lorentz theory. Transmission line theory. Prerequisites: PHYS 1550, MATH 2248, and EE 2135.

**EE 3110. Electronics I. 4 Credits.**

Physical principles of operation of common semiconductor devices. Analog and digital circuits using diodes and transistors. Electronic circuit analysis and simulation. Prerequisite: PHYS 1550; EE 2135.

**EE 3115. Electronics Laboratory. 0 or 2 Credits.**

Characteristics and applications of semiconductor devices; inverters and logic characterization; linear amplifiers and applications of operational amplifiers in non-linear circuits. Pre/Co-requisite: EE 3110.

**EE 3150. Signals & Systems. 0 or 4 Credits.**

Discrete- and continuous-time signals and systems. Input/output descriptions and analysis. Convolution, Fourier analysis, sampling and Laplace transforms. Application to electrical engineering design problems. Prerequisite: MATH 3201. Pre/Co-requisite: EE 2135 recommended.

**EE 3310. Low Carbon Electric Power. 3 Credits.**

Greenhouse gas emission, Global Climate Change, need for low carbon electrical power. Physics and technology of three sources will be covered: photovoltaics, electrochemical systems (batteries and fuel cells) and nuclear systems, (fission and fusion). Prerequisites: PHYS 1550 or PHYS 1650.

**EE 3315. Electric Energy Systems. 0 or 4 Credits.**

Electrical safety; Electric power (DC, AC, single and multiphase) and transmission lines; Electric transformers; DC and AC generators; DC and AC motors; Related applications (examples: pumped hydro, HVDC transmission lines, drives); Laboratory included. Prerequisite: C- or better in EE 2135 or B- or better in EE 2145 or B- or better in EE 2175.

**EE 3320. Power Electronics. 3 Credits.**

An introduction to the field of power conversion using power electronics devices. Topics include Energy and Power, AC-to-DC Converters, DC-to-DC Converters, DC-to-AC Converters, Elements of Control and Design of Power Converters, Applications of Power Electronics in Renewable Energy and Microgrids. Simulations and experiments illustrate concepts. Final project related to renewable energy. Prerequisites: EE 3110 or Graduate student standing.

**EE 3410. Electronics II. 4 Credits.**

Physical principles of operation of common semiconductor devices. Analog and digital circuits using MOS and bipolar junction transistors. Operational amplifier design. Electronic circuit analysis and simulation. Project-based final. Prerequisite: C- or better in EE 3110.

**EE 3415. Electronics Design Project. 0 or 3 Credits.**

Design, analyze, simulate, build, test and document electronic circuits that meet engineering specifications. Designs follow standard requirements-based design practices. At least one project will require creating a printed wiring board layout. All projects are documented in formal reports. Focuses on building design and written communication competencies necessary for the engineering profession. Prerequisites: EE 3115, EE 3110; WIL1 course. Catamount Core: WIL2.

**EE 3420. Integrated Circuit Fabrication. 0 or 4 Credits.**

Science and technology of integrated circuit fabrication. Interaction of processing with material properties, electrical performance, economy, and manufacturability. Study of unit processes used to make semiconductor chips. Prerequisite: PHYS 1550 or PHYS 1650. Cross-listed with: PHYS 3165.

**EE 3440. Semiconductor Materials/Devic. 4 Credits.**

Covers Energy band theory, effective mass, band structure and electronic properties of semiconductors. Transport of electrons and holes in bulk materials and across interfaces. MOSFETs, BJTs, pn junctions, and Schottky barriers. Experimental portion of course will cover electronic measurements of semiconductor devices. Prerequisites: EE 2145 or EE 3410; ME 2110, PHYS 5650, PHYS 3650, or EE 2810.

**EE 3515. Control Systems. 0 or 4 Credits.**

Analysis and design of control systems; stability, signal flow, performance criteria, classical methods. Analysis of control systems driven by random noise. Laboratory experiments. Credit not given for more than one of the courses EE 3515, EE 5530, ME 3320. Prerequisite: C- or better in EE 3150 or C- or better in ME 2120. Pre/Co-requisite: STAT 2430 or STAT 2510.

**EE 3530. Digital Signal Processing. 3 Credits.**

Covers principles and methods for digital signal processing. The analysis and design of discrete-time systems as signal processing devices is provided in the context of filter design and topics on image processing. Topics covered: quantization, reconstruction of signals, z-transform, FIR/IIR, intro to images, pixel and region-based classification and segmentation, among others. Prerequisite: EE 3150.

**EE 3610. Communication Systems. 0 or 4 Credits.**

Signal analysis; fundamentals of digital communications including PCM, source and channel coding, pulse shaping and modulation; wireless communications, modulation, antennas and link budgets; application of probability; related laboratory experience. Prerequisite: STAT 2510, C- or better in EE 3150.

**EE 3700. Intro Biomedical Engineering. 3 Credits.**

Introduction to biomedical engineering science including biomechanics, biomaterials, biomedical imaging, rehabilitation engineering, biomedical computing, biomedical instrumentation, and transport phenomena. Prerequisites: Senior standing in all engineering majors other than Biomedical Engineering; Graduate Student standing with Instructor permission.

**EE 3710. Biomedical Instrumentation. 3 Credits.**

Measurement techniques for biomedical engineering research and industry, and health care institutions. Integrated biomedical monitoring, diagnostic, and therapeutic instrumentation.

Prerequisite: EE 2145 or EE 2135 or EE 2175. Co-requisites: EE 3110, ANPS 1200, or Instructor permission. Cross-listed with: BME 3710.

**EE 3720. Biosignal Decoding. 3 Credits.**

Overview of biomedical measurement techniques; development of Python software to visualize, denoise, and decode biomedical signals.

Prerequisites: CS 1210; (BME 3000 or EE 3150) or (ME 2120 and EE 2845) or Instructor permission. Pre/Co-requisite: Beginner knowledge of Python programming is strongly suggested. Cross-listed with: BME 3720.

**EE 3815. Microcontroller Systems. 0 or 4 Credits.**

Operation and applications of microcontrollers in embedded digital systems for real-time control and data acquisition. Programming and the design of interfaces. Laboratory experience. Prerequisites: EE 2175 or EE 2145 or EE 2125; CS 1210; EE 2810.

**EE 3920. Sensors. 3 Credits.**

Sensor design, interrogation, and implementation. A wide variety of electrical, electronic, optical, mechanic, and cross-disciplinary devices. System designs, measurement techniques, and methodologies. Interface electronics, system grounding and shielding methods. Prerequisite: EE 2845 or EE 3110.

**EE 3990. Special Topics. 1-18 Credits.**

Special topics in developing areas of Electrical Engineering. Prerequisite: Senior standing, or Instructor permission.

**EE 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EE 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EE 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EE 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EE 4100. Capstone Design I. 0 or 3 Credits.**

Project-based course. Multidisciplinary teams apply their knowledge to design, analyze, build and test a functional prototype that meets client's requirements and solves unique problems. Teams follow engineering design and project management processes such as periodic reports, presentations, meetings, reviews and demonstrations using standard industry tools. Prerequisite: EE 3110 or EE 3150, and EE 3415 or Instructor permission; or Senior standing in Mechanical or Biomedical Engineering. Cross-listed with: ME 4010.

**EE 4200. Capstone Design II. 0 or 3 Credits.**

Project-based course. Multidisciplinary teams apply their knowledge to design, analyze, build and test a functional prototype that meets client's requirements and solves their problems. Teams follow engineering design and project management processes such as periodic reports, presentations, meetings, reviews and demonstrations using standard industry tools. Prerequisite: EE 4100. Cross-listed with: ME 4020.

**ELEMENTARY EDUCATION (EDEL)****Courses****EDEL 1240. Brain Rsch and Learning Theory. 3 Credits.**

Distinguishes between dominant theories of learning in the context of current research in brain development. Learning theories are applied to selected issues derived from context of schools and human development.

**EDEL 1590. Integrating the Arts. 3 Credits.**

Explores how the arts, with a focus on theater and creative movement, can actively engage students in learning, improve literacy, enrich the curriculum, and deepen students' understanding of complex concepts.

**EDEL 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDEL 2550. Teachers & the Teaching Process. 3 Credits.**

Introduce the responsibilities of the teaching profession. Students observe and learn about different models of teaching while gaining teaching experience. Students become familiar with creating classroom environments that support all students in learning. Prerequisites: EDEL 1240, EDFS 1020. Co-requisites: EDEL 2570, ECLD 1560.

**EDEL 2570. Mtg Needs of Diverse Learners. 3 Credits.**

Designed to familiarize students with different ways that that students learn. Supports educators' responsibility to create learning environments where all students are engaged and have equitable access to learning opportunities. Pre/co-requisites: Admission to Elementary Teacher Education Program; concurrent with EDEL 2550, EDSP 1050.

**EDEL 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDEL 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDEL 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDEL 3550. Lab Experience in Inquiry. 3 Credits.**

Supervised practicum in field sites. Implementation of teaching methods from Inquiry Block. Documentation of classroom work, child study, and development of portfolio. Prerequisite: Admission to Elementary Teacher Education Program; concurrent with EDEL 3570, EDEL 3580, EDEL 1590.

**EDEL 3570. Social Educ&Social Studies. 3 Credits.**

Methods of social education for elementary-aged school children. Promoting children's efficacy by nurturing personal interests. Development of folio of developmentally-sound examples of social studies learning. Pre/co-requisites: Admission to Elementary Education Program; EDEL 3550, EDEL 3580. Catamount Core: SU.

**EDEL 3580. Teaching Science for Meaning. 3 Credits.**

Teaching K-6 science through inquiry. Use of constructivist pedagogy to develop lessons and activities that develop concepts from physical, earth, and life sciences. Pre/co-requisites: Admission to the Elementary Education Program; concurrent with EDEL 3550 & EDEL 3570.

**EDEL 3750. Lab Experience in Literacy. 3 Credits.**

Supervised practicum in a field site. Implementation of teaching methods from Literacy Block. Documentation of classroom work, child study, and development of portfolio. Prerequisite: Admission to Elementary Teacher Education Program; concurrent with EDEL 3780, EDEL 3760, EDEL 2570.

**EDEL 3760. Language Arts&Literacy Skills. 3 Credits.**

Cognitive research base for the social context of children's learning. Methods of language arts as literate activity. Emphasis on emergence of literacy in the child of special need. Prerequisites: Admission to Elementary Teacher Education Program; concurrent with EDEL 3780, EDEL 3750, EDEL 2570.

**EDEL 3770. Children's Lit & Literacy. 3 Credits.**

Learning about the breadth of literature available for use in elementary school. Developing the ability to evaluate and use literature in reading and writing activities. Emphasis on bias-free methods. Pre/co-requisites: Admission to Elementary Teacher Education Program; concurrent with EDEL 3780, EDEL 3750 and EDEL 3760.

**EDEL 3780. Teaching Math for Meaning. 3 Credits.**

Methods of teaching mathematics in elementary school. Research base for how children learn mathematics and how math curriculum is organized. Special focus on teaching diverse groupings of learners. Prerequisite: Admission to Elementary Teacher Education Program; concurrent with EDEL 3750, EDEL 3760, EDEL 2570.

**EDEL 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDEL 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDEL 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDEL 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDEL 4760. Plng, Adptg, Dlvrng Lit Instr. 3 Credits.**

Extending and refining knowledge about reading, writing instruction, and assessment. Students will review literature, implement classroom-based assessment strategies, and develop lessons and units for literacy instruction. Prerequisites: EDEL 3750, EDEL 3760; Elementary Education Grades K-6) major; minimum Junior standing.

**EDEL 4880. Student Teaching Seminar. 3 Credits.**

Designed to enhance elementary education licensure candidates' experience as full-time interns in K-6 classrooms. Candidates will learn to create productive classroom environments that support the social, emotional, and academic growth of all students. Prerequisites: EDEL 4760; Elementary Education (Grades K-6) major; Senior standing; admit to Student Teaching. Co-requisite: EDEL 4991. Catamount Core: WIL2.

**EDEL 4881. Portfolio Dev&Reflective Pract. 1 Credit.**

Develops candidates' critical reflectivity on their knowledge and expertise of classroom teaching through the construction of a professional portfolio.

**EDEL 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EDEL 4991. Internship: Student Teaching. 12 Credits.**

Supervised student teaching internship in approved K-6 field site with an endorsed Elementary Education mentor. Semester long immersion culminating in a two week solo experience. Prerequisites: 4th yr Elementary Education (Grades K-6) major; admit to Student Teaching; EDEL 4760; overall GPA requirement and professional course GPA requirement (EDEL/EDSP/EDTE/EDML) of at least 3. Co-requisite: EDEL 4880.

**EDEL 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDEL 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

## EMERGENCY MEDICINE (EMED)

### Courses

#### **EMED 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **EMED 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **EMED 3000. Emergency Medicine Research I. 4 Credits.**

Lecture course with 4 hour lab. Introduction to research in Emergency Medicine with clinical exposure including shadowing EMTs, RNs, and MDs. Students will learn about research ethics, informed consent, and clinical epistemology. Prerequisites: Minimum Sophomore standing and Instructor permission; First-Year students who have prior clinical experience or are non-traditional students are considered on a case-by-case basis.

#### **EMED 3010. Emergency Medicine Research II. 4 Credits.**

Advanced discussion and research training in emergency medicine with continued emergency department-based human subjects laboratory. Includes eight hours of clinical time per week helping recruit patients for ongoing research projects as well as a one hour seminar per week. Prerequisites: EMED 3000 with minimum grade B; Instructor permission.

#### **EMED 3200. Emerg. Medicine Research III. 3 Credits.**

Emergency medicine research under guidance of a faculty member, including facilitating study enrollment and implementation of research project proposed during EMED 3010. Prerequisites: EMED 3000, EMED 3010; Instructor permission.

#### **EMED 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **EMED 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **EMED 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## ENGINEERING (ENGR)

### Courses

#### **ENGR 1010. First-Year Design Experience. 0-3 Credits.**

Introduction to the engineering profession and the engineering design process. Hands-on experiences that emphasize interdisciplinary teamwork, seeking and defining problems, and developing, fabricating and/or testing solutions. Data analysis and technical communications.

#### **ENGR 1020. Graphical Communication. 0 or 2 Credits.**

Project-based course. Principles of computer-aided drafting/design; production of engineering drawings including: orthographic, auxiliary, section, pictorials and dimensioning, graphics and charts; applications in specific engineering disciplines.

#### **ENGR 1100. Dvrsty Issues:Math/Sci/Egr. 3 Credits.**

Diversity in CEMS: under-representation, environmental justice, gender/race participation, ethical considerations, urban planning, equal opportunity, Title IX. Landscape of race/gender in STEM. Catamount Core: D1.

#### **ENGR 1500. First Year Engineering Seminar. 0 or 1 Credits.**

This first year experience seminar course exposes students to curricular options and career paths in engineering. Also introduces basic principles of engineering design through project-based laboratories. Students interact with faculty, professionals and peers in their fields.

#### **ENGR 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **ENGR 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **ENGR 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **ENGR 2010. Engineering Communications. 3 Credits.**

Traditional technical and scientific writing forms, including outlines, summaries, abstracts, technical descriptions, research reports/papers and proposals; written and oral technical communication with technical and nontechnical audience; electronic professional portfolio. Prerequisites: ENGL 1001; Engineering major.

#### **ENGR 2120. Building Information Modeling. 1-3 Credits.**

Building Information Modeling (BIM) is a digital representation integrating the design tools used by building disciplines under a single parametric computer model. Buildings, facilities and infrastructure are modeled with special attention to mechanical, plumbing, electrical and structural systems. Prerequisite: ENGR 1020 or Instructor permission.

#### **ENGR 2140. Advanced 3D Drafting. 3 Credits.**

Creation of geometric solid representations of physical objects using three dimensional CAD. Introduces parametric design; analysis tools; assembly simulation; dimension methods & standards; tolerances & geometric tolerancing. Further addresses the design for manufacturing of machined parts; sheet metal; mold design. Prerequisite: ENGR 1020 or Instructor permission.

#### **ENGR 2150. Infrastructure & Terrain Model. 1 Credit.**

Three dimensional modeling of civil infrastructure using appropriate software to automate a wide range of land surveying and civil engineering tasks such as the land surveying input, parcels, surfaces, alignments, corridors, grading, pipe networks, and earthwork. Prerequisite: ENGR 1020.

**ENGR 2160. Virtual Instrument Engineering. 1-3 Credits.**

Introduces logical and electrical circuit modeling using computer-based virtualization tools in a graphical format. Includes circuit simulation; scripting, interfacing; signal processing; control of instruments and data acquisition. Prerequisite: CS 1210, or Instructor permission. Cross-listed with: EE 2820.

**ENGR 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ENGR 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ENGR 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENGR 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ENGR 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENGR 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ENGR 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ENGR 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENGR 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ENGR 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENGR 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ENGINEERING MANAGEMENT (EMGT)****Courses****EMGT 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EMGT 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EMGT 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EMGT 2041. Engineering Economics. 3 Credits.**

Fundamental concepts and applied techniques in the economic aspects of engineering alternatives. Economic dimensions for sustainable practice, including basic financial decision making, methods to evaluate business and engineering assets, analysis of project cash flows, life cycle analysis, and replacement decisions. Prerequisites: MATH 1248; minimum Junior standing. Catamount Core: SU.

**EMGT 2990. Special Topics. 1-18 Credits.**

Specialized or experimental course offered as resources permit.

**EMGT 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EMGT 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Senior standing in Engineering Management.

**EMGT 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EMGT 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EMGT 3051. Engineering Project Management. 3 Credits.**

Principles of project management on designing, building/manufacturing engineering facilities, processes, products and structures; metrics for managing quality, schedule, and financial performance of projects; services and product procurement; project financial management; legal and insurance aspects. Prerequisites: Minimum Junior standing.

**EMGT 3071. Optimizn for Industr Decisions. 3 Credits.**

Students build optimization models for a wide range of business and engineering decisions. Provides a sound conceptual understanding of mathematical optimization and techniques used for solving real-world problems, especially in engineering design, manufacturing operations and supply chain management. Prerequisites: MATH 2248; MATH 2522 or MATH 2544.

**EMGT 3091. Industrial Sys Modeling & Sim. 3 Credits.**

Covers the fundamental concepts and techniques of modeling systems in manufacturing and business processes, including assembly lines, inventory systems, and organizational process flows. Covers fundamentals of queueing theory, system analysis, model construction, and interpretation and analysis of model reports. Prerequisites: MATH 1248 or MATH 1242; STAT 1410, STAT 2430 OR STAT 2510.

**EMGT 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EMGT 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EMGT 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EMGT 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EMGT 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENGLISH (ENGL)****Courses****ENGL 1001. Written Expression. 3 Credits.**

A foundational composition course featuring a sequence of writing, reading, and information literacy assignments. Students learn to write and revise for different rhetorical situations while increasing their mastery of academic conventions. Some sections designed for specific student audiences. Catamount Core: FW, WIL1.

**ENGL 1002. Topics In: Written Expression. 3 Credits.**

Intensive instruction and practice in writing, reading, research, and revision through the exploration of a theme related to the instructor's expertise. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: FW, WIL1.

**ENGL 1010. Topics In: FYS: Literature. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**ENGL 1017. Topics In: FYS: Writing. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH1, WIL1.

**ENGL 1020. Topics In: LASP: Literature. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**ENGL 1027. Topics In: LASP: Writing. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**ENGL 1100. Topics in Literary Genre. 3 Credits.**

Introductory exploration of one or more literary genres. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**ENGL 1102. AP English Lit & Comp. 3 Credits.**

Credit awarded for achieving a certain score on the English Literature and Composition Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Catamount Core: AH2.

**ENGL 1110. Topics in British Literature. 3 Credits.**

Subjects vary by semester. Representative topic: Jane Austen, Page and Film. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH2.

**ENGL 1112. British Literature I. 3 Credits.**

Selected texts from the beginnings to the late 18th century. Explores periodization, genre, key terms and concepts through close reading and critical analysis. Fulfills major requirements; open to non-majors. Catamount Core: AH2.

**ENGL 1114. British Literature II. 3 Credits.**

Selected texts from the late 18th century to the present. Explores periodization, genre, key terms and concepts through close reading and critical analysis. Fulfills major requirements; open to non-majors. Catamount Core: AH2.

**ENGL 1120. Topics in Amer Lit & Culture. 3 Credits.**

Subjects vary by semester. Representative topic: Reading the American Wilderness. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH2.

**ENGL 1122. American Literature I. 3 Credits.**

Selected texts from the beginnings to the Civil War. Explores periodization, genre, key terms and concepts through close reading and critical analysis. Fulfills major requirements; open to non-majors. Catamount Core: AH2.

**ENGL 1124. American Literature II. 3 Credits.**

Selected texts from end of Civil War to the present. Explores periodization, genre, key terms and concepts through close reading and critical analysis. Fulfills major requirements; open to non-majors. Catamount Core: AH2.

**ENGL 1150. Introduction to Drama. 3 Credits.**

Study of the play as a work of literature and as a dramatic experience. Continental, British, and American drama from all ages.

**ENGL 1160. Introduction to Poetry. 3 Credits.**

Examination of the forms of poetry, past and present, British and American. Provides a wide variety of perspectives on the poem. Catamount Core: AH2.

**ENGL 1170. Introduction to Fiction. 3 Credits.**

Exploration of a variety of fictional forms, including the short story, the novella, and the novel.

**ENGL 1180. Topics in Sci Fict & Fantasy. 3 Credits.**

Topics in Science Fiction and Fantasy Literature. Subjects vary by semester. Representative topics: Tolkien's Middle Earth; The Hobbit; Survey of Science Fiction and Fantasy. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH2.

**ENGL 1205. Topics in Sustainability & Lit. 3 Credits.**

Courses examine the relationships between literary study and the environment, including aspects of the history of writing about nature in English. Focus on topics/genres of literature as a means to think through challenges of sustainability. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH2, SU.

**ENGL 1210. Topics in Race & Ethnic in Lit. 3 Credits.**

Introductory courses addressing the representation and construction of race in literature and/or the contributions of ethnically diverse writers to the American culture. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH2, D1.

**ENGL 1215. Topics in Native American Lit. 3 Credits.**

Representative topics: Introduction to Native American Literature. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH2, D1.

**ENGL 1220. Topics in Afr Am Lit & Culture. 3 Credits.**

Subjects vary by semester. Representative topic: African- American Women Writers in the 20th/21st Century. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH2, D1.

**ENGL 1240. Topics in Post-Colonial Lit. 3 Credits.**

Representative topic: Introduction to Post-Colonial Literature. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH2, D2.

**ENGL 1270. Topics in Gender/Sexuality Lit. 3 Credits.**

Representative topics: Gender, Sexuality and Identity in American Poetry. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH2, D2.

**ENGL 1280. Women in Literature. 3 Credits.**

Survey of women's literary tradition in English. Focuses on the ways women have written, read, written about, and been represented in 19th and 20th century literature. Catamount Core: AH2.

**ENGL 1500. Intro to Literary Studies. 3 Credits.**

Introduction to the critical work of close reading across literary genres, understanding of key terms and concepts, and writing in the discipline. Required for English majors and minors. Topics vary by section. Catamount Core: AH2.

**ENGL 1700. Topics in Introductory Writing. 3 Credits.**

Practical experience in writing based on a particular theme, approach, or genre. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**ENGL 1702. Topics in Intro Writing: Arts. 3 Credits.**

Representative topics include Forms of Journalism and Writing for the Web. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH1.

**ENGL 1705. Topics in Intro Writing: Sust. 3 Credits.**

A nature- and science-oriented writing course focused on various issues related to sustainability (e.g. environmental concerns, ecological literacy, human values and interconnections). May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH1, SU.

**ENGL 1730. Intro to Creative Writing. 3 Credits.**

Introductory course on techniques of writing poetry, short prose fiction, and creative nonfiction. Classes organized around discussion of student work; weekly writing assignments. Catamount Core: AH1.



**ENGL 1740. The Art of the Essay. 3 Credits.**

In this intermediate writing course, students explore and practice variations in the genre known as the nonfiction essay, attending to audience, purpose, context, style, and medium. Catamount Core: AH1.

**ENGL 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. May be repeated for credit with different content.

**ENGL 2000. Literary Theory. 3 Credits.**

Survey of literary and cultural theory introducing a variety of major approaches to the interpretation of literature. Required for all English majors and minors. Pre/Co-requisite: ENGL 1500. Catamount Core: AH2, WIL2.

**ENGL 2060. Topics in Cultural Studies. 3 Credits.**

Topics focus on theoretical problems and practices of the interdisciplinary study of culture. Representative topic: Comparative identities. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2100. Topics in Genre. 3 Credits.**

Topics focus on the theoretical problems of various kinds of writing. Representative topics: Narrative; Gothic; Sentimentality. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2152. Modern Drama. 3 Credits.**

Twentieth-century drama by writers such as Ibsen, Shaw, Beckett, Brecht, Miller, Pinter, and Churchill. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2160. Topics in Poetry. 3 Credits.**

Study of poetry as a genre. Specific sections may focus on a particular theme, author, or time period. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2162. Modern Poetry. 3 Credits.**

Poetry from beginning of modern period to end of WWII, emphasizing Yeats, Eliot, Stevens, Auden, Frost, Williams. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2206. Ecofeminism. 3 Credits.**

Investigation of the parallel dominations of women and nature, through analysis and reflection on ecofeminist theory, activism, and spirituality. Prerequisites: Three hours in English, Environmental Studies, or Gender, Sexuality, & Women's Studies; or NR 1020. Catamount Core: D2.

**ENGL 2210. Topics in Race & Ethnic in Lit. 3 Credits.**

Topics address the concept of race and/or the contributions of ethnically diverse writers to American culture. Focus and readings vary. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing. Catamount Core: D1.

**ENGL 2216. US Latino Writers. 3 Credits.**

Study of texts written by Latinos since the 1960s. Topics: construction of ethnic identities, representation of race/gender relations; writers and their communities. Prerequisite: Three hours in English numbered 1010 to 1990; minimum Sophomore standing. Catamount Core: AH2, D1.

**ENGL 2222. Topics in AfAm Lit&Cul to 1900. 3 Credits.**

Topics in literature and culture of African Americans before 1900. Representative topics: Slavery and American Literature; Slavery's Shadows. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2223. Topics in 20C AfAm Lit&Culture. 3 Credits.**

Interdisciplinary topics in African American literature and culture. Representative topics include: The Harlem Renaissance and Negritude; Publishing Blackness. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours in English numbered 1010 to 1990; minimum Sophomore standing. Catamount Core: D1.

**ENGL 2240. Colonial/Post-Col World Lit. 3 Credits.**

Representative topics: Contemporary Writing from the Non-Western World; Literature and Imperialism. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing. Catamount Core: D2.

**ENGL 2244. Topics in Caribbean Lit. 3 Credits.**

Representative topics: Caribbean Women Writers. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing. Catamount Core: D2.

**ENGL 2248. Topics in African Lit. 3 Credits.**

Examines trends in contemporary African literature and relationship to other traditions. Representative topics: African Drama; African Fiction; African Poetry. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing. Catamount Core: D2.

**ENGL 2305. Topics in Bible & Lit. 3 Credits.**

Examines literary, historical approaches to Bible and its influences. Topics include: Bible as Literature; Bible and Literary Imagination. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2310. Topics in Medieval Literature. 3 Credits.**

Topics examining Medieval literature in various intellectual, historical, and aesthetic contexts. Representative topics: Medieval Drama; Daughters of Mary/Daughters of Eve. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2312. Chaucer. 3 Credits.**

Study of the principle works of Chaucer, emphasizing Chaucer's literary scope, talents, and position in medieval literature. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2320. Topics in Ren Lit & Culture. 3 Credits.**

Examines poetry, drama, and/or prose of English Renaissance in context of various movements of the Tudor-Stuart period. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2322. Topics in Shakespeare. 3 Credits.**

Examines Shakespeare's works in intellectual, historical, aesthetic contexts. Topics: Shakespeare and Philosophy; Engendering Shakespeare; Shakespeare and Renaissance Drama. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2332. Milton. 3 Credits.**

Milton's major works in various intellectual, historical, and aesthetic contexts, with special attention to Paradise Lost. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2340. Topics in Early Amer Studies. 3 Credits.**

Topics in literature and cultures of Americas from European conquest to 1800. Topics: Imagining America; Dissent in America. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2348. Topics in 18-19C Brit Lit&Cul. 3 Credits.**

Topics examining issues in eighteenth- and nineteenth-century British literature and culture. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2357. Topics in 19C Women's Writing. 3 Credits.**

Various genres by nineteenth-century women. Topics: The Petticoat Empire; Women's Regionalist Fiction; Nineteenth-century British and American Women's Writing. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2360. Topics in Victorian Literature. 3 Credits.**

Primarily poetry, drama, and/or non-fiction prose from 1832 to 1900, for example, Tennyson, the Brownings, the Rossettis, Wilde. May repeat with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2380. Topics in 19C American Studies. 3 Credits.**

Interdisciplinary topics examining issues in nineteenth-century American culture. Representative topics include: Dissent in America, American Literary Cultures. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2387. 19th Century American Fiction. 3 Credits.**

Short stories, novellas, and novels by such writers as Cooper, Sedgwick, Poe, Hawthorne, Wilson, Melville, Stowe, James, Harper, Chesnutt, Chopin, and Jewett. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2402. Topics in Modernism. 3 Credits.**

Representative topics: Joyce. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2404. Topics in Post-Modernism. 3 Credits.**

Interdisciplinary topics examining literature and cultures of the Post-Modern condition. Representative topics include: Magical Realism, Realism, and Hyper-realism. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2407. Topics in 20C Women's Writing. 3 Credits.**

Works in various genres by twentieth-century women. Representative topics include: African Women's Writing; Gender and Modernism. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2480. Topics in 20C American Studies. 3 Credits.**

Interdisciplinary topics examining issues in twentieth-century American culture. Representative topics include: Poe's Children; The Literary Vampire; Jazz. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 2700. Topics in Writing. 3 Credits.**

Topics vary by semester and professor. Representative topics: Writing Literary Criticism; Reading and Writing Autobiography; Literary Journalism. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ENGL 1700, ENGL 1702, ENGL 1705, ENGL 1730, or ENGL 1740; minimum Sophomore standing.

**ENGL 2702. Topics in Writing: Arts. 3 Credits.**

Intermediate-level creative writing course. Representative topics: Literary Journalism, Travel Writing; Art of Adaptation. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals may exceed four years. Prerequisites: ENGL 1700, ENGL 1702, ENGL 1705, ENGL 1730, or ENGL 1740; minimum Sophomore standing. Catamount Core: AH1.

**ENGL 2740. Writing Creative Nonfiction. 3 Credits.**

In this workshop for experienced writers, students pursue projects of their own design, in various creative nonfiction sub-genres, including personal essay, literary memoir, and/or literary journalism. May be repeated once for credit. Prerequisites: ENGL 1700, ENGL 1702, ENGL 1705, ENGL 1730, or ENGL 1740; minimum Sophomore standing.

**ENGL 2750. Playwriting and Dramatic Forms. 3 Credits.**

Studies models of dramatic structure and contemporary concepts of writing for the stage and apply principles to the creation of original works. May be repeated once for credit. Prerequisites: ENGL 1730 or THE 1500; minimum Sophomore standing. Cross-listed with: THE 2600.

**ENGL 2760. Writing Poetry. 3 Credits.**

This upper-level course for poets of proven ability employs a seminar/workshop format, with most classroom time devoted to manuscript discussion. May be repeated once for credit. Prerequisites: ENGL 1700, ENGL 1702, ENGL 1705, ENGL 1730, or ENGL 1740; minimum Sophomore standing.

**ENGL 2770. Writing Fiction. 3 Credits.**

This upper-level course for fiction writers of proven ability employs a seminar/workshop format, with most classroom time devoted to manuscript discussion. May be repeated once for credit. Prerequisites: ENGL 1700, ENGL 1702, ENGL 1705, ENGL 1730, or ENGL 1740; minimum Sophomore standing.

**ENGL 2790. Tutoring Writing. 3 Credits.**

Students who will be tutoring at the Writing Center explore ways of responding to writers one-on-one. Prerequisites: Minimum Sophomore standing, Instructor permission.

**ENGL 2795. Exploring Writing Centers. 3 Credits.**

A continuation of ENGL 2790, this course explores theoretical frameworks for writing centers and how they can shape ways tutors respond to writers. Prerequisite: ENGL 2790; Instructor permission.

**ENGL 2885. Travel Study. 1-6 Credits.**

Courses that involve extended travel-time away from UVM campus and that link course content to travel destinations. Representative topic: Literary London. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing; Instructor permission.

**ENGL 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Pre/co-requisites: Three hours in English courses numbered ENGL 1010 - ENGL 1990; minimum Sophomore standing. May be repeated for credit with different content.

**ENGL 3010. Topics in Lang/Critical Theory. 3 Credits.**

Advanced study in literary and cultural theory. Representative topics: Feminist Memory; Re-disciplining the History of Literature and the Literature of History. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ENGL 1500, ENGL 2000; English major, English, Secondary Education with a concentration in English minor; minimum Junior standing.

**ENGL 3100. Topics in Theme and Genre. 3 Credits.**

Advanced study in literary genres, forms, and themes. Representative topics: Noir in Fiction and Film; Great American Race Novel; Post-Apocalyptic Fiction. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ENGL 1500, ENGL 2000; English major, English, Secondary Education with a concentration in English minor; minimum Junior standing.

**ENGL 3300. Topics in Literature to 1800. 3 Credits.**

Advanced study in literature before 1800. Representative topics: Grief and Loss in Early Modern English Literature; Taste and Judgement; Doubt and Knowledge. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ENGL 1500, ENGL 2000; English major, English, Secondary Education with a concentration in English minor; minimum Junior standing.

**ENGL 3350. Topics in 19th Century Lit. 3 Credits.**

Advanced study in nineteenth-century literature. Representative topics: Romantic Poetry and Poetics; Mary Shelley and Her Circle; The Gothic. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ENGL 1500, ENGL 2000; English major, English, Secondary Education with a concentration in English minor; minimum Junior standing.

**ENGL 3400. Topics in 20th Century Lit. 3 Credits.**

Advanced study in nineteenth-century literature. Representative topics: The Beat Generation; Literature and Society in Modern Ireland; Dostoevsky's Influence on Twentieth-century American Literature. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ENGL 1500, ENGL 2000; English major, English, Secondary Education with a concentration in English minor; minimum Junior standing.

**ENGL 3700. Topics in Advanced Writing. 3 Credits.**

Advanced study in writing practice, craft, and theory. Representative topics: Innovations in Life Writing; Protest and Persuasion; Stories of the Body. May be repeated for credit with different content.

Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ENGL 2702, ENGL 2740, ENGL 2750, ENGL 2760, or ENGL 2770; English major, English, Writing, or Secondary Education with a concentration in English minor; minimum Junior standing.

**ENGL 3780. Topics in Comp & Rhetoric. 3 Credits.**

Representative topics: Investigating Literacy, Cybercultural Rhetoric. May repeat with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: ENGL 1500, ENGL 2000; English major, English, Secondary Education with a concentration in English minor; minimum Junior standing.

**ENGL 3880. Buckham Honors Seminar. 0 or 3 Credits.**

Each seminar includes participation of a distinguished visiting scholar or writer, such as Stephen Greenblatt, Barbara Johnson, Houston Baker, Sacven Bercovitch, William Kennedy, Stephen King. May be repeated for credit with different content. Prerequisites: Three hours in English numbered 1010 to 1990; minimum Sophomore standing.

**ENGL 3885. Buckham Program. 12 Credits.**

Study abroad program offered via the English Department. Prerequisite: Instructor permission.

**ENGL 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: ENGL 1500, ENGL 2000; Instructor permission for graduate students.

**ENGL 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by faculty member or faculty-staff team with a faculty member as instructor of record, for which academic credit is awarded. Departmental permission required. Offered at department discretion.

**ENGL 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Departmental permission required. Offered at department discretion.

**ENGL 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Departmental permission required. Offered at department discretion.

**ENGL 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: ENGL 1500, ENGL 2000; Instructor permission for graduate students.

**ENGL 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Departmental permission required. Offered at department discretion.

**ENGL 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**ENGL FOR SPKRS OF OTHER LANGS (ESOL)****Courses****ESOL 1990. Special Topics. 0-18 Credits.**

See Schedule of Courses for specific titles.

**ESOL 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ESOL 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ESOL 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ESOL 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ESOL 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ESOL 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ESOL 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ESOL 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**ESOL 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ESOL 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ESOL 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ESOL 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENGR & MATH SCIENCES (CEMS)****Courses****CEMS 0001. CEMS Study CATS. 0 Credits.**

An academic success program designed to support first- and second-year College of Engineering & Mathematical Sciences students with the goal of increasing student success and retention. Prerequisite: Dean's Office permission.

**CEMS 1500. CEMS First Year Seminar. 0 or 1 Credits.**

First-year experience for College of Engineering and Mathematical Sciences majors that introduces the design process and strategies for building equitable and effective teams. These skills will be developed in the context of a semester-long project. Students interact with faculty, professionals and peers in their fields. Prerequisite: College of Engineering and Mathematical Sciences major.

**CEMS 1990. Special Topics. 1-18 Credits.**

See Schedule of Topics for specific titles.

**CEMS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CEMS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CEMS 2010. HCOL Research Experience. 1 Credit.**

Required Junior year course for HCOL students. Explores a range of careers and important research areas in industry, national labs, and academia. Culminates in students identifying a research advisor and a general topic area. Prerequisite: Junior standing.

**CEMS 2020. Research Thesis Proposal. 1 Credit.**

Preparation for the senior thesis. Focuses on developing the thesis idea with the academic advisor and culminates in a thesis proposal and proposal presentation. Prerequisites: CEMS 2010 or Instructor permission.

**CEMS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CEMS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CEMS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CEMS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CEMS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CEMS 3899. Cooperative Education. 12 Credits.**

Supports students as they engage in experiential learning and reflect about their work experiences. Helps students maximize their cooperative education (co-op) position to ensure they are gaining industry relevant skills that will allow them to excel in their remaining academic coursework and throughout their careers. Prerequisites: College of Engineering and Mathematical Sciences undergraduate student, sophomore or junior standing only, GPA requirement.

**CEMS 3910. Energy Policy and Economics. 3 Credits.**

Provides overview of environmental, social and economic aspects of energy to build understanding of how to play a more effective role in shaping future policy or business decisions surrounding energy. Project-based. Prerequisites: CEMS 1500; minimum Sophomore standing. Co-requisites: A course with SU designation, a course in Physics.

**CEMS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**CEMS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**CEMS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**CEMS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**CEMS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## ENVIRONMENTAL SCIENCES (ENSC)

### Courses

#### **ENSC 1010. Intro Environmental Sci. 3 Credits.**

Explores the complex interactions between humans and environmental systems and the ecological foundations and scientific principles to better understand how the coupled human-natural system works, and how science can be used to help solve environmental problems. Catamount Core: N1, SU.

#### **ENSC 1090. Orientation to Env Sciences. 1 Credit.**

Introducing new majors to the environmental sciences through field trips, panel discussions and group projects. Prerequisites: First-Year Rubenstein School of Environment and Natural Resources and College of Agriculture and Life Sciences Environmental Sciences majors.

#### **ENSC 1490. Climate Change I. 3 Credits.**

Explores how and when climate has changed over time and its impact on people and ecosystems; how humans have altered Earth's climate historically; how climate will change in the future; and implications for people and planet. Learn to communicate about climate change and take action. Credit not awarded for both ENSC 1490 and ENSC 2490. Catamount Core: N1, N2, SU.

#### **ENSC 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **ENSC 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **ENSC 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **ENSC 2300. Global Environmental Assessmnt. 0 or 3 Credits.**

Introduction to skills for assessing human impacts on the global environment. Theory and application of GPS, geographic information systems and satellite remote sensing to address key environmental issues. Prerequisites: ENSC 1010, ENVS 1500, GEOG 1200, NR 1010, or NR 1090; minimum Sophomore standing.

#### **ENSC 2480. Global Environmental Change. 3 Credits.**

Explores changes in natural processes and anthropogenic activities that influence the atmosphere, hydrosphere, and biosphere individually and through interactions and feedbacks from a distinctly spatial perspective employed by physical geographers. Prerequisites: GEOG 1200 or ENSC 1010. Cross-listed with: GEOG 2250.

#### **ENSC 2490. Climate Change II. 1 or 3 Credit.**

Advanced exploration of how and when climate changed over time; impact on people and ecosystems; how humans have altered Earth's climate historically; how climate will change in the future; what this implies for people and planet. Learn to communicate about climate change and take action. Credit not awarded for both ENSC 1490 and ENSC 2490. Prerequisites: One class in physical or natural sciences or engineering. Catamount Core: N1, N2, SU.

#### **ENSC 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **ENSC 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Maximum of six hours. Three can be applied to elected concentration with Director permission.

#### **ENSC 2993. Independent Study. 1-18 Credits.**

Tailored to the interests of a specific student, occurs outside the traditional classroom/laboratory setting under faculty supervision, for which credit is awarded. Offered at department discretion. Up to six hours. Three can be applied to elected concentration with Director permission.

#### **ENSC 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

#### **ENSC 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Up to six hours. Three can be applied to elected concentration with Director permission.

#### **ENSC 3600. Pollutant Mvmt/Air, Land&Water. 0 or 4 Credits.**

Physical, chemical, and biological aspects of pollutant behavior from source to ultimate fate. Laboratory methodologies for measuring pollutants and predicting their transport, behavior, and fate. Prerequisites: ENSC 1010, BCOR 1400 or BIOL 1400, BCOR 1450 or BIOL 1450, CHEM 1400, CHEM 1450, MATH 1212 or MATH 1234, and MATH 1224 or MATH 1248.

#### **ENSC 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Senior standing.

#### **ENSC 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **ENSC 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENSC 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**ENSC 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENSC 3996. Environmental Sciences Honors. 1-6 Credits.**

Honors project dealing with environmental sciences. Not approved for Graduate credit.

**ENSC 4010. Recovery&Restor Altered Ecosys. 0 or 4 Credits.**

Role of stress and disturbance and the natural process of recovery in aquatic and terrestrial ecosystems. Human efforts to modify, restore, and remediate altered ecosystems. Prerequisites: ENSC 3600; NR 2030 or BCOR 2100.

**ENSC 4020. Applied Envir Assess Analysis. 0 or 4 Credits.**

Approaches used to identify, evaluate, and manage environmental risks. Focus on interactions among ecological, economic, and social considerations; often utilizing a watershed perspective. Problem formulation, methods selection. Case studies. Project-oriented. Prerequisites: Senior standing; Environmental Sciences major.

**ENSC 4740. Climate Chg: Sci & Percept. 3 Credits.**

Students will develop a complete scientific understanding of climate change's causes and consequences and learn how to effectively communicate climate change science and address commonly-used arguments against climate change. Prerequisites: BCOR 2100 or NR 2030. Catamount Core: SU.

**ENSC 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ENSC 4996. Environmental Science Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion. Prerequisites: Senior standing; Instructor permission.

**ENVIRONMENTAL STUDIES (ENVS)****Courses****ENVS 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**ENVS 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**ENVS 1500. Intro to Environmental Studies. 0 or 4 Credits.**

Survey of environmental studies examining ecological, socioeconomic, aesthetic, and technological influences determining quality of life on earth. Prerequisite: First-year/Sophomore standing. Catamount Core: SU.

**ENVS 1510. Solutions in Enviro Studies. 0 or 4 Credits.**

Analysis and critique of grand challenges in environmental studies with an emphasis on understanding and solving pervasive global and local environmental problems such as global climate change. Catamount Core: D2, SU.

**ENVS 1990. Special Topics. 1-18 Credits.**

Introductory courses of current areas of interest which vary each semester. Topics have included environmental health, energy, regional planning, international studies, literature, ethics, and natural areas management.

**ENVS 2980. Environmental Field Studies. 3 Credits.**

Travel study courses examining environmental issues from a local ecological, political, and socioeconomic perspective using experiential learning methods in diverse sites. Prerequisite: One of the following: ENVS 1500, ENVS 1510, NR 1010, NR 1020, ENSC 1010.

**ENVS 2990. Special Topics. 1-18 Credits.**

Intermediate courses of current areas of interest which vary each semester. Topics have included environmental health, energy, regional planning, international studies, literature, ethics, and natural area management. Prerequisite: One of the following: ENVS 1500, ENVS 1510, NR 1010, NR 1020, ENSC 1010.

**ENVS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Permission of course coordinator.

**ENVS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENVS 3990. Special Topics. 1-18 Credits.**

Advanced courses of current areas of interest which may vary each semester. Topics have included environmental health, energy, regional planning, international studies, literature, ethics, and natural area management. Prerequisite: Junior standing.

**ENVS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: ENVS 1510; Junior standing.

**ENVS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENVS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ENVS 4500. Senior Capstone. 1-9 Credits.**

Senior capstone thesis, project, creative arts project, or internship under faculty direction. Prerequisites: Environmental Studies major; minimum Junior standing.

**ENVS 4990. Special Topics. 1-18 Credits.**

Advanced courses of current areas of interest which may vary each semester. Topics have included environmental health, energy, regional planning, international studies, literature, ethics, and natural area management. Prerequisite: Junior standing.

**ENVS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission. Variable credit. May be repeated.

**ENVS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**EXERCISE SCIENCE (EXSC)****Courses****EXSC 1150. Intro to Exercise Science. 1 Credit.**

Introduces students to the discipline of exercise science, the responsibilities of the exercise science professional, and varied career paths in the field.

**EXSC 1650. Foundations Ex & Hlth Act Pop. 3 Credits.**

Provides a foundation of knowledge in the field of exercise science with a primary focus on maintaining health and performance in a physically active population. Surveys the basics of physical performance development, and injury prevention and care common to physically active populations. Prerequisites: Exercise Science major, Physical Education major, or Instructor permission.

**EXSC 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EXSC 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EXSC 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EXSC 2200. EBP in Exercise Science. 3 Credits.**

Develops students' basic evidence-based practice knowledge and skills, and applies findings to their practice as health and wellness professionals. Topics addressed include evidence-based practice research methods, research study design, basic statistics, and evaluation of research evidence as they apply to clinical practice and decision making. Prerequisites: Exercise Science major; STAT 1110 or STAT 1410.

**EXSC 2420. Exercise and Sport Psychology. 3 Credits.**

Emphasis on personality and behavioral dynamics of sport, psychological changes associated with exercise, assessment, performance enhancement, motivation, anxiety, group processes, and exercise adoption and maintenance. Prerequisite: PSYS 1400.

**EXSC 2750. Applied Kinesiology. 3 Credits.**

Foundational course examining applied kinesiology of human movement with focus on musculoskeletal anatomy. Prerequisite: Minimum Sophomore Exercise Science major.

**EXSC 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EXSC 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EXSC 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EXSC 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EXSC 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EXSC 3130. Biomechanics of Human Movement. 3 Credits.**

The application of kinesiology and biomechanical principles and concepts to the analysis of human movement, posture, joint structure and function, and gait. Prerequisites: ANPS 1190, ANPS 1200, EXSC 2750.



**EXSC 3400. Motor Skill Learning & Control. 3 Credits.**

Examines theoretical perspectives and current principles associated with the control and learning of movement skills. Practical application of concepts to instructional and clinical settings emphasized.

Prerequisites: Minimum Junior standing; Exercise Science or Teacher Education Physical Education majors only.

**EXSC 3450. Evaluation & Prescription. 3 Credits.**

Delivers in-depth applied and clinical functional measurement and evaluation techniques with subsequent exercise prescription for a variety of populations and conditions. Prerequisite: Senior standing in Exercise Science. Pre/Co-requisites: EXSC 3500, EXSC 3501, Senior standing in Exercise Science.

**EXSC 3500. Exercise Physiology. 3 Credits.**

Explores the acute and long-term responses to exercise on the metabolic, skeletal, cardiovascular, and respiratory systems.

Prerequisites: ANPS 1190, ANPS 1200.

**EXSC 3501. Exercise Physiology Lab. 1 Credit.**

Teaches how to measure and evaluate physiological function and structure. Prerequisites: ANPS 1190, ANPS 1200. Co-requisites: EXSC 3500.

**EXSC 3600. Adapted Physical Activity. 3 Credits.**

Examines current issues surrounding physical activity programming for individuals with disabilities. Emphasizes instructional strategies and modifications for effectively including individuals with diverse abilities into physical activity. Prerequisite: Exercise Science or Teacher Education Physical Education major; minimum Junior standing. Catamount Core: D2.

**EXSC 3620. Human Perf & Ergogenic Aids. 3 Credits.**

An exploration of ergogenic and pharmacological supplements germane to the sport and exercise arena. Topics will include legal, banned, and over the counter pharmacological supplementation for performance enhancement and physiological improvement, drug testing procedures of major groups, and current position statements and/or research in this area. Prerequisites: Exercise Science major; EXSC 3450 or EXSC 3500.

**EXSC 3630. Exercise in Chronic Conditions. 3 Credits.**

Advanced course in exercise prescription for a variety of unique populations. Recommended modifications and techniques that support fitness testing and programming for individuals with specific exercise needs will be reviewed. Prerequisites: EXSC 3600; Senior standing in Exercise Science.

**EXSC 3640. Certified Exerc Physiologist. 3 Credits.**

Designed to prepare students for the ACSM Certified Exercise Physiologist exam and includes a high level review of exercise physiology, risk stratification, and fitness assessments. Prerequisites: EXSC 3500, EXSC 3450; Senior standing.

**EXSC 3700. Exer Sci Professional Seminar. 1 Credit.**

Junior seminar that bridges the foundational curricular experience with professional practice and/or post-graduate education. Professional seminar topics include but are not limited to: resume development, interviewing techniques, collaborative communication, etc.

**EXSC 3860. Screening & Assessing Movement. 3 Credits.**

Analyzes movement, mobility, and stability of the human body; provides a hands-on clinical approach to screening and assessment of human movement; reviews the literature of movement development and abnormalities; introduces basic corrective strategies for dysfunctional or abnormal movement patterns. Prerequisite: EXSC 3130.

**EXSC 3960. Human Perform and Conditioning. 3 Credits.**

Provides a hands-on, applied overview of current research in the fields exercise and sport science. Emphasis on the understanding and application of findings specific to acute and chronic adaptations in resistance training and conditioning from the cellular to whole-body/functional levels. Prerequisites: EXSC 2750, EXSC 3500.

**EXSC 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EXSC 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EXSC 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EXSC 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EXSC 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EXSC 4720. Senior Capstone Experience. 1-6 Credits.**

Supervised capstone experience in Exercise Science. Prerequisite: Senior standing in Exercise Science.

**EXSC 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EXSC 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**FAMILY MEDICINE (FM)****Courses****FM 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**FM 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**FM 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**FILM & TELEVISION STUDIES (FTS)****Courses****FTS 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**FTS 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**FTS 1022. Topics In: LASP: Div Human Exp. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: AH1, D2, WIL1.

**FTS 1300. Topics in The TV Series. 0 or 3 Credits.**

Foundational instruction in how to analyze the aesthetic, social and political significance of a television series. Representative topics: Breaking Bad and Masculinity, Twin Peaks and Desire, Wire and Ethics. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH1.

**FTS 1320. Topics in Film Genres. 0 or 3 Credits.**

Foundational instruction in how to analyze the aesthetic, social and political significance of film genre. Representative topics: The Horror Film, The Coming of Age Film, The Superhero Film. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH1.

**FTS 1400. History of Television. 0 or 3 Credits.**

Introduction to basic television history, theory and analysis. An historical overview of television from its invention to the present. Catamount Core: AH1.

**FTS 1420. Classical Cinema. 0 or 3 Credits.**

Introduction to basic film history, theory, and analytical skills. An historical overview of classical international cinema. Catamount Core: AH1.

**FTS 1430. Contemporary Cinema. 0 or 3 Credits.**

Introduction to basic film history, theory, and analytical skills. An historical overview of contemporary international cinema. Catamount Core: AH1.

**FTS 1600. Topics in Film Festivals. 1-3 Credits.**

Investigates the history and business of the evolving role of film festivals for filmmakers, distributors, exhibitors, and audience. Students will study and attend a film festival for experiential observation of the field. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**FTS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**FTS 2050. Film/TV Theory. 0 or 3 Credits.**

Intensive study of developments in film and/or television theory, such as realism, formalism, psychoanalysis, critical race theory, and feminism. May be repeated for credit. Prerequisite: FTS 1420, FTS 1400, or FTS 1430.

**FTS 2060. Topics in Global Cinema. 0 or 3 Credits.**

Investigations of nation and identity in film and/or television approached in their specific cultural, historical, and theoretical terms. May be repeated for credit. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430. Catamount Core: GC2.

**FTS 2062. Topics in Global Cinema: Cit. 0 or 3 Credits.**

Investigations of nation and identity in film and/or television approached in their specific cultural, historical, and theoretical terms. Emphasis on themes appropriate to the Developing Global Citizens requirement. May be repeated for credit. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430. Catamount Core: GC2.

**FTS 2064. Topics in Global Cinema: Sust. 0 or 3 Credits.**

Investigations of nation and identity in film and/or television approached in their specific cultural, historical, and theoretical terms. Emphasis on themes related to sustainability. May be repeated for credit. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2400. Topics in Film/TV Theory. 3 Credits.**

Advanced study of an area of film and/or television theory, such as psychoanalysis, feminism, historicism, or formalism. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2420. Topics in Film/TV History. 3 Credits.**

Intensive focus on various historical movements within film and/or television. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2430. Topics in Doc & Avt Garde Film. 3 Credits.**

Explorations into various issues, ideas, and movements within documentary and avant-garde cinema. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2432. Topics in Documentary: Sust. 3 Credits.**

Explorations into various issues, ideas, and movements within documentary cinema, with an emphasis on sustainability. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2440. Topics in Contemporary Film/TV. 0 or 3 Credits.**

Explorations into various issues, ideas, and movements within contemporary film and/or television. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2450. Topics in Race&Ethn in Film/TV. 0 or 3 Credits.**

Exploration of historical, social, and political forces that have shaped the representations of race and ethnicity in film and/or television. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2460. Topics in Holocaust in Film. 0 or 3 Credits.**

An investigation of film and media that engages the holocaust in particular and genocide in general. Representative topics: Fascism and the Holocaust, Representations of the Holocaust in Narrative Film. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2600. Topics in Production w/lab. 0 or 4 Credits.**

Topics in film and video production with a required lab. Representative topics include: Animation; Producing; Video Essays. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2605. Topics in Production. 3 Credits.**

Topics in film and video production. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2650. Production Foundations w/lab. 0 or 4 Credits.**

An introduction to techniques and theories of video production with a required lab. May not be taken for credit concurrently with, or following receipt of, credit for FTS 2655. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2655. Production Foundations. 3 Credits.**

An introduction to techniques and theories of video production. May not be taken for credit concurrently with, or following receipt of, credit for FTS 2650. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2670. Film Theory and Practice. 3 Credits.**

An advanced study of media theory and video production. Prerequisites: FTS 2050 and one of the following: FTS 1420, FTS 1400, FTS 1430.

**FTS 2700. Topics In Screenwriting I. 3 Credits.**

An investigation of screenwriting practice and a screenwriting workshop. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430.

**FTS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**FTS 3600. Topics in Production II w/lab. 0 or 4 Credits.**

Topics in film and video production. With laboratory experience. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 2650 or FTS 2655.

**FTS 3605. Topics in Production II. 3 Credits.**

Topics in film and video production. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 2650 or FTS 2655.

**FTS 3700. Topics in Screenwriting II. 3 Credits.**

Intermediate topics in screenwriting. Representative topics: writing the thriller, the romantic comedy. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 2700.

**FTS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**FTS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Departmental permission required. Offered at department discretion.

**FTS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Departmental permission required. Offered at department discretion.

**FTS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Departmental permission required. Offered at department discretion.

**FTS 4400. Topics in Film/TV Theory. 3 Credits.**

Advanced level investigations into the critical study of film and/or television. May be repeated for credit. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430; FTS 2050.

**FTS 4500. Topics In: Senior Seminar. 0 or 3 Credits.**

Advanced level investigations into the critical study of film and/or television. May be repeated for credit. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FTS 1400, FTS 1420, or FTS 1430; FTS 2050.

**FTS 4550. Comprehensive Exam. 1 Credit.**

Capstone experience for majors culminating in a comprehensive exam. Readings and films will be available throughout the major, and in many cases, will draw from materials encountered in previous classes. Prerequisite: FTS 2050.

**FTS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**FTS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Departmental permission required. Offered at department discretion.

**FTS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**FOOD SYSTEMS (FS)****Courses****FS 1930. Food Systems Seminar I. 2 Credits.**

For students in the second year of the Food Systems major, surveys the field exploring academic research in Food Systems.

**FS 1990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**FS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**FS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**FS 2010. U.S. Food Policy and Politics. 3 Credits.**

Provides a systems perspective on U.S. food policies and politics across the food system. Focuses on understanding the U.S. food policy process, policymakers, stakeholders, issues, goals and feedbacks between food policy and politics. Prerequisite: NFS 1073 or CDAE 1020 or CDAE 1040. Cross-listed with: NFS 2113.

**FS 2020. Comparative Food Systems. 3 Credits.**

Explores food production systems looking at social, economical, environmental dimensions; draws from multiple disciplines such as economics, sociology, agronomy, biology, geography, and history; critically explore scales of agriculture from very small-scale to very large. Prerequisite: CDAE 1020 or CDAE 1040 or NFS 1073. Cross-listed with: CDAE 2080.

**FS 2030. Human Health in the Food Syst. 3 Credits.**

Explores the multifaceted and evolving intersection of food systems, dietary quality, food availability and human health outcomes. Investigates how political, economic, social and cultural drivers in the food system influence human health outcomes. Prerequisite: NFS 1043 or NFS 1073. Cross-listed with: NFS 2114.

**FS 2930. Food Systems Seminar II. 1-3 Credits.**

For the final year of the Food Systems major; refines the ability to critically address academic research in the field as well as provides professional development to prepare students for their job field. Prerequisite: FS 1930.

**FS 2990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**FS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**FS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**FS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**FS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**FS 3990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**FS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**FS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**FS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**FS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## FOREIGN LANGUAGE (LANG)

### Courses

#### **LANG 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **LANG 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **LANG 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **LANG 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

## FORESTRY (FOR)

### Courses

#### **FOR 1010. Forest Conservation. 3 Credits.**

Introduction to the ecology and management of American forests: forest distribution, ownership, and ecological factors, species interactions, multi-resource management goals, and silvicultural practices. Cannot be taken by Junior/Senior-level Rubenstein School of Environment and Natural Resources students. Catamount Core: SU.

#### **FOR 1090. Introduction to Forestry. 1 Credit.**

For First-year and Sophomore students interested in Forestry. An introduction to the curriculum, the breadth of the field of study, and career options. Includes interactions with faculty, Graduate students, practitioners, and forestry professionals to understand the benefits of a career in Forestry.

#### **FOR 1210. Dendrology. 0 or 4 Credits.**

Classification, silvical characteristics, and identification features of native and introduced trees and shrubs.

#### **FOR 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **FOR 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **FOR 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **FOR 2110. Nat Res Ecol and Assessment 1. 0 or 4 Credits.**

Basic, essential field and assessment skills; knowledge needed in upper-level classes and jobs in forestry, wildlife, fisheries, or natural resources.

#### **FOR 2120. Nat Res Ecol and Assessment 2. 4 Credits.**

Introduces concepts and skills important for assessing forest ecosystem structure and functioning to inform forest management and other natural resource conservation decisions.

#### **FOR 2220. Forest Ecosystem Analysis. 4 Credits.**

An integrated field course that focuses on acquiring skills to investigate, through quantification and interpretation, the flora, fauna, and abiotic components (soils, physiography, water, and microclimate) of forest ecosystems. Also covers consulting forestry, timber markets, industrial and family forestry, forest roads, timber inventory, and visits wood processing facilities. Prerequisite: NR 2400.

#### **FOR 2990. Special Topics. 1-18 Credits.**

Readings, investigations, and lectures in selected forest resource subjects.

#### **FOR 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **FOR 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **FOR 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

#### **FOR 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **FOR 3230. Multi-Resource Silviculture. 0 or 4 Credits.**

Theory and application of forest stand maintenance/manipulation for forest ecosystem sustainability. Topics: Silvics, regeneration, tree improvement, protection, stand structure/dynamics/tending, and multi-resource perspectives. Prerequisite: NR 2030.

#### **FOR 3330. Management of Forest Woodlots 1. 3 Credits.**

Introduction to the knowledge and skills required for serving forest management needs of small properties in New England and beyond. Prerequisite: FOR 3230.

#### **FOR 3350. Forest Ecosystem Health. 3 Credits.**

An introduction to the biotic and abiotic factors affecting the health of forest ecosystems including insects, pathogens, pollutants, and other large-scale disturbances, and will address the linkages between forest health and climate change. Prerequisite: Minimum Junior standing.

#### **FOR 3890. Forestry Work Practicum. 1-9 Credits.**

Supervised work experience in forest resource area.

#### **FOR 3990. Special Topics. 1-18 Credits.**

Advanced special topics courses or seminars in forestry beyond the scope of existing formal courses. Prerequisites: Minimum Junior standing; Instructor permission.

**FOR 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**FOR 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**FOR 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**FOR 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small research projects under the supervision of a faculty member, for which credit is awarded. Findings submitted in written form as prescribed by department. Offered at department discretion Prerequisite: Senior standing.

**FOR 3996. Honors. 1-6 Credits.**

Honors project dealing with the biology and/or management of forest ecosystems. See Program Chair.

**FOR 4280. Ecosystems Ecology. 3 Credits.**

Examination of the structure and function of terrestrial ecosystems focusing on carbon and nutrient cycles. Laboratory sessions involve spatial modeling and data analysis. Prerequisites: NR 2030, BCOR 2100, PSS 2610, or Graduate student standing. Cross-listed with: NR 3280.

**FOR 4720. Sustain Mgmt Forest Ecosys. 0 or 4 Credits.**

Principles of long-term planning and plan implementation in support of sustainable forestry; Adaptive management; biodiversity and ecosystem health; major management planning project. Prerequisites: FOR 2220, NR 3050, FOR 3230.

**FOR 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**FOUNDATIONS (EDFS)****Courses****EDFS 1010. Race and Racism in the U.S.. 3 Credits.**

Students will investigate the multi-faceted concepts of identity, racism, and the dynamics of power, privilege, and oppression in the United States. Catamount Core: D1.

**EDFS 1020. School and Society. 0 or 3 Credits.****EDFS 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDFS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EDFS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDFS 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDFS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EDFS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDFS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDFS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDFS 3030. Soc, Hst & Phil Found of Educ. 3 Credits.**

Critical examination of central educational/social issues and values with special emphasis on the struggle for justice and equality. Themes include schooling and social class, race, and gender; the purposes of education; and the responsibilities of teachers. Prerequisite: Enrollment in teacher licensing program.

**EDFS 3090. Intro to Research Methods. 3 Credits.**

Seminars and research projects. Methods of historical, descriptive, experimental, quasi-experimental, field studies, and survey research.

**EDFS 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDFS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences.

**EDFS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDFS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDFS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**FRENCH (FREN)****Courses****FREN 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**FREN 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**FREN 1100. Elementary French I. 4 Credits.**

Fundamentals of French composition, comprehension, pronunciation, speaking, reading, and writing in a cultural context. Classes are conducted in French and students engage in active use of the language. No prior knowledge expected. Cannot be taken for credit after FREN 1200. Catamount Core: GC2.

**FREN 1200. Elementary French II. 4 Credits.**

Further development of French composition, comprehension, pronunciation, speaking, reading, and writing in a cultural context. Classes are conducted in French and students engage in active use of the language. Cannot be taken for credit after FREN 2100. Prerequisite: FREN 1100 or equivalent. Catamount Core: GC2, OC.

**FREN 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**FREN 2100. Intermediate French I. 3 Credits.**

Review of grammar, moving toward increased proficiency in composition, listening comprehension, pronunciation, speaking, reading, and writing. Emphasis on cultural context. Compositions, oral practice, reading. Students may take 1 French course numbered between 2100 and 2109 for credit. Cannot be taken for credit after FREN 2200. Prerequisite: FREN 1200 or equivalent. Catamount Core: GC2.

**FREN 2108. TR Intermediate French I. 3 Credits.**

Credit for the equivalent of Intermediate French I taken at another institution and accepted for transfer credit at UVM. May count for the track 2 minor with approval of a minor advisor in French. Students may take 1 FREN course numbered between 2100 and 2109 for credit. Cannot be taken for credit after FREN 2200. Prerequisite: FREN 1200 or equivalent. Catamount Core: GC2.

**FREN 2109. AP Intermediate French I. 3 Credits.**

Credit awarded for achieving a certain score on the French Language Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Students may take 1 FREN course numbered between 2100 and 2109 for credit. Prerequisite: FREN 1200 or equivalent. Catamount Core: GC2.

**FREN 2200. Intermediate French II. 3 Credits.**

Continues building on skills from FREN 2100. Cultural context, grammar review, moving toward increased proficiency in listening comprehension, pronunciation, speaking, reading, and writing. More extensive and sophisticated readings and compositions than in FREN 2100. Students may take 1 French course numbered between 2200 and 2209 for credit. Cannot be taken for credit after FREN 3110. Prerequisite: FREN 2100 or equivalent. Catamount Core: GC2, OC.

**FREN 2208. TR Intermediate French II. 3 Credits.**

Credit for the equivalent of Intermediate French II taken at another institution and accepted for transfer credit at UVM. May count for the track 2 minor with approval of a minor advisor in French. Students may take 1 FREN course numbered between 2100 and 2109 for credit. Cannot be taken for credit after FREN 3110. Prerequisite: FREN 2100 or equivalent. Catamount Core: GC2, OC.

**FREN 2209. AP Intermediate French II. 3 Credits.**

Credit awarded for achieving a certain score on the French Language Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Students may take 1 French course numbered between 2100 and 2109 for credit. Prerequisite: FREN 2100 or equivalent. Catamount Core: GC2, OC.

**FREN 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**FREN 3100. Topics in Language. 3 Credits.**

Advanced study in French language. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FREN 3110 or Instructor permission.

**FREN 3110. Writing Workshop. 3 Credits.**

Improvement of functional skills: writing, listening, and speaking. Development of techniques to explain, elaborate, support opinions, convince, and persuade in both writing and speaking. Prerequisite: FREN 2200 or equivalent; or Instructor permission. Catamount Core: GC2, WIL2.

**FREN 3115. Focus on Oral Expression. 3 Credits.**

Guided practice of oral-aural skills through vocabulary and pronunciation exercises, readings, and oral presentations. Writing exercises reinforce oral work. Prerequisite: FREN 2200 or equivalent; or Instructor permission. Catamount Core: GC2, OC.

**FREN 3120. French Grammar in Review. 3 Credits.**

Grammar review and practice using a communicative approach to reinforce oral expression skills. Prerequisite: FREN 2200 or equivalent.

**FREN 3400. Topics in Culture. 3 Credits.**

Topics in the cultures of France and/or the French-speaking world, including Africa, the Caribbean, and/or Quebec. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FREN 3110. Catamount Core: GC2.

**FREN 3410. Contemporary France. 3 Credits.**

Study of selected aspects of France today. Improvement of language skills; emphasis on reading, writing, and analysis of a variety of materials, including literature, journalism, and images. Pre/co-requisite: FREN 3110. Catamount Core: GC2.

**FREN 3550. Topics in Culture & Literature. 3 Credits.**

Advanced study in French culture and literature. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FREN 3610 or FREN 3620.

**FREN 3610. French Lit in Context I. 3 Credits.**

A study of significant texts in the history of French literature from the Middle Ages through the 18th century, in their historical and cultural contexts. Prerequisite: FREN 3110. Catamount Core: AH2.

**FREN 3620. French Lit in Context II. 3 Credits.**

A study of significant texts in the history of French literature from the French Revolution to the present, in their historical and cultural contexts. Prerequisite: FREN 3110. Catamount Core: AH2.

**FREN 3990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**FREN 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**FREN 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Permission of Chair required.

**FREN 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**FREN 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Permission of Chair required.

**FREN 4100. Topics in Language. 3 Credits.**

Varied topics devoted to a special area such as translation, creative writing, or French for the professions (medicine, business, journalism, law). May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FREN 3610 or FREN 3620.

**FREN 4400. Topics in Culture. 3 Credits.**

In-depth study of a major aspect of French culture. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FREN 3610 or FREN 3620.

**FREN 4480. Quebec Culture. 3 Credits.**

Sociocultural study of the Francophone culture of Canada. Prerequisite: FREN 3610 or FREN 3620.

**FREN 4500. Topics in Cinema. 3 Credits.**

Study of French cinema and cinematographic aesthetics. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FREN 3610 or FREN 3620.

**FREN 4550. Topics in Culture & Literature. 3 Credits.**

Advanced study of French culture and literature. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FREN 3610 or FREN 3620.

**FREN 4600. Topics in Literature. 3 Credits.**

Selected topics dealing with poetry and/or narrative related either to an historical period or a literary movement. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: FREN 3610 or FREN 3620.

**FREN 4610. Early French Women Writers. 3 Credits.**

Exploration of how women from the Middle Ages through the Revolution spoke of love, education, the place of women, the power of writing and more. Prerequisites: FREN 3610 or FREN 3620.

**FREN 4620. La Belle Epoque. 3 Credits.**

The aesthetic and moral dilemmas of the allegedly decadent period in turn-of-the-century French literature, focusing especially on the changing representation of the artist and intellectual. Prerequisite: FREN 3610 or FREN 3620.

**FREN 4630. 20-C Lit - Society and Writers. 3 Credits.**

A study of twentieth-century French authors who shaped contemporary French culture by challenging traditional ethics and modes of thought. Representative authors include Beauvoir, Camus, and Sartre. Prerequisites: FREN 3610 or FREN 3620.

**FREN 4640. Multiethnic France: 20-21C Lt. 3 Credits.**

A study of contemporary French and Francophone African authors and filmmakers, with emphasis on the representation of colonialism, post-colonial France, and identity construction. Representative authors may include Begag, Beyala, and Sebbar. Prerequisite: FREN 3610 or FREN 3620. Catamount Core: D2.

**FREN 4650. Francophone Crossings. 3 Credits.**

Study of works in French that demonstrate multiple cultural influences. Topics may include: exile writings, cultural/linguistic mixing, colonialism and independence movements, human rights, immigration. Prerequisites: FREN 3610 or FREN 3620.



**FREN 4680. Quebec Literature. 3 Credits.**

A study of contemporary (1960-1985) major works of fiction, poetry, and drama. Authors studied include Anne Hebert, Michel Tremblay, Jacques Godbout, Gaston Miron. Prerequisites: FREN 3610 or FREN 3620.

**FREN 4990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**FREN 4991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**FREN 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Permission of Chair required.

**FREN 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**FREN 4995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Permission of Chair required.

**FREN 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**GEOGRAPHY (GEOG)****Courses****GEOG 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**GEOG 1014. Topics In: FYS: Sustainability. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: SU, WIL1.

**GEOG 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**GEOG 1200. Weather, Climate & Landscapes. 3 Credits.**

Introduction to the fundamentals of weather, climate, landform evolution, and plant distribution using a systems approach. Focus on variation in processes over space and time. Catamount Core: N1.

**GEOG 1500. Geospatial Cncpt&Visualization. 0 or 3 Credits.**

Introduction to the quantitative and qualitative geospatial concepts and tools used in Cartography, Geographic Information Science (GISci), Remote Sensing, and geographic research. Data creation, analysis, and map design using existing digital map resources, topographic/satellite data, and alternative mapping methodologies.

**GEOG 1510. Imaging the Earth. 3 Credits.**

Geographic analysis and evaluation of aerial imagery produced by remote sensors (satellites, airplanes, drones) and its relationship to environmental problems in the social and physical sciences.

**GEOG 1760. Global Environments & Cultures. 3 Credits.**

Introduction to Geography from global, place-based, cultural, and socio-environmental perspectives. Catamount Core: D2, S1, SU.

**GEOG 1765. Place, Lndscape, Environment VT. 3 Credits.**

Introduction to Vermont's physical geographies, environmental histories, and socio-environmental problems. The course also considers Vermont's global and regional connections.

**GEOG 1770. Geography/Race&Ethnicity in US. 3 Credits.**

Examination of the ways in which spatial and locational processes shape and are shaped by ethnic and racial identities, struggles, and relationships. Catamount Core: D1, S1.

**GEOG 1780. Society, Place, and Power. 3 Credits.**

An introduction to human geography: a spatial perspective on the study of population and migration, globalization, uneven economic development, geopolitics, cities and rural spaces, cultural meanings of place, and struggles for spatial justice. Catamount Core: S1, SU.

**GEOG 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GEOG 2205. Biogeography. 3 Credits.**

Examines geographic distribution of organisms, emphasizing the biotic and abiotic factors that explain temporal and spatial patterns of species, population, and community distributions. Prerequisite: GEOG 1200.

**GEOG 2230. Climatology: Concepts & Tools. 3 Credits.**

Quantitative analysis of the atmospheric-land-water processes that determine climate variability and change at the local to global scales. Historical and near real-time data manipulation via statistics, weather map interpretation, climate indices, modeling and remote sensing. Prerequisite: GEOG 1200.

**GEOG 2235. Geography of Water. 3 Credits.**

Examination of the spatial dimensions of water distribution from local to global scales, and the social, political, and economic dimensions of its use. Same as NR 2020. Catamount Core: SU.

**GEOG 2250. Global Environmental Change. 3 Credits.**

Explores changes in natural processes and anthropogenic activities that influence the atmosphere, hydrosphere, and biosphere individually and through interactions and feedbacks from a distinctly spatial perspective employed by physical geographers. Prerequisite: GEOG 1200 or ENSC 1010. Cross-listed with: ENSC 2480.

**GEOG 2510. Geog Info: Concepts & Applic. 0 or 3 Credits.**

Systematic approach to important geographical concepts (including distance, shape, scale dispersion) structured around the use of Geographical Information Systems (GIS) as an analytical tool. May not be taken for credit concurrently with, or following receipt of, credit for NR 2430. Prerequisite: Minimum Sophomore standing. Catamount Core: QD.

**GEOG 2520. Remote Sensing. 0 or 3 Credits.**

Examinations of the earth's surface from aerial photographs and satellite imagery. Emphasis is on image interpretation, classification, change detection, multivariate analysis (e.g. principal components analysis). Prerequisite: Sophomore standing. Cross-listed with: NR 2460.

**GEOG 2550. Qualitative Research Methods. 3 Credits.**

Covers data collection, analysis, and representation techniques for qualitative data with emphasis on critical perspectives and cutting-edge practices, such as participatory mapping and mixed-methods approaches. Prerequisite: Minimum Sophomore standing. Catamount Core: WIL2.

**GEOG 2705. Geography of Africa. 3 Credits.**

The character and development of the contemporary cultural, economic, and political patterns of the area against the background of its physical and resource base. Prerequisite: GEOG 1760 or GEOG 1780.

**GEOG 2710. Geography of India. 3 Credits.**

Survey of India's physical diversity, historical evolution, colonial and postcolonial legacies, and geopolitical situations, especially as they relate to globalization, migration, environment, and security. Prerequisite: GEOG 1760 or GEOG 1780.

**GEOG 2715. The Circumpolar Arctic. 3 Credits.**

Examines the physical and human geography of the circumpolar Arctic. Prerequisite: GEOG 1200 or GEOG 1760.

**GEOG 2720. The US: Place, Power, Politics. 3 Credits.**

Study of the United States through diverse perspectives in Human Geography. Examines how race, class, and gender relations shape social and political landscapes in historical and contemporary contexts. Emphasizes social/environmental justice and geographic approaches to thinking about political power. Prerequisite: GEOG 1760 or GEOG 1780.

**GEOG 2730. International Field Studies. 3 Credits.**

Field course abroad. Intensive study of the geography of a country or region, with attention to related issues. Prerequisite: Minimum Sophomore standing.

**GEOG 2760. Rural Geography. 3 Credits.**

Global, national and local scale study of rural landscapes, cultures, social issues, and environmental concerns. Prerequisite: GEOG 1760 or GEOG 1780. Catamount Core: S1.

**GEOG 2762. Cultural Ecology. 3 Credits.**

Interrelationships of social groups and their natural environments and resource bases, with primary emphasis on nonindustrial cultures, examined from the perspectives of anthropology and geography. Prerequisite: GEOG 1760 or GEOG 1780.

**GEOG 2764. Vermont Field Studies. 3 Credits.**

Field course on a geographical theme (e.g. physical or regional geography) in the Burlington area or surrounding region. Prerequisite: GEOG 1760 or GEOG 1780.

**GEOG 2770. Geography of Development. 3 Credits.**

Issues of global inequality, modernization and environmental degradation with a focus on colonialism, postcolonialism, and displacement of people, livelihoods, and cultures by development processes. Prerequisite: GEOG 1760 or GEOG 1780. Catamount Core: D2, SU.

**GEOG 2772. Historical Geography. 3 Credits.**

Examination of the tools, techniques, and perspectives used in studying the historic development of places and landscapes. Vermont and other North American case studies. Prerequisite: GEOG 1760 or GEOG 1780 or HST 1615.

**GEOG 2774. Gender, Space & Environment. 3 Credits.**

Examination of the ways in which human relationships to both the built and the natural environment are mediated by gender. Prerequisite: Six hours in Geography or Gender, Sexuality, & Women's Studies.

**GEOG 2780. Political Ecology. 3 Credits.**

Human-environment interactions under globalization. The politics of using particular ideas of 'nature' for the benefit of some and to the detriment of others in spaces from local backyards to global contexts. Environmental movements and livelihoods. Prerequisites: GEOG 1760, GEOG 1780, or ENVS 1510; and ENSC 1010, ENVS 1500, GEOG 1200, GEOL 1050, GEOL 1400, or NR 2030.

**GEOG 2790. Urban Geography. 3 Credits.**

Analysis of the morphology, function and social structure of cities. Consideration of the nature, history and theories of urban growth and development. Prerequisite: GEOG 1760 or GEOG 1780.

**GEOG 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GEOG 3230. Topics in Climate & Water. 3 Credits.**

Analysis of regional climatology, paleoclimatology, hydroclimatological hazards, or fluvial geomorphology. Topics include droughts, severe weather, climate change, floods and floodplain management, mountain and lowland rivers. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Vary with course content; minimum Junior standing.

**GEOG 3250. Topics In Global Change. 3 Credits.**

Advanced offerings on topics related to past, present and future changes in the environment, including natural and human-induced changes in the atmosphere, hydrosphere and biosphere. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Vary with course content; Minimum Junior standing.

**GEOG 3505. Spatial Analysis. 3 Credits.**

Analysis of spatial pattern and interaction through quantitative statistical models; application of GIS to statistical modeling. Prerequisite: GEOG 1500 or GEOG 2510 or NR 2430 or ENSC 2300 or GEOL 2525.

**GEOG 3520. Topics in Remote Sensing. 3 Credits.**

Applied, capstone course; remote sensing techniques will be applied to atmospheric issues at varying temporal and spatial scales, as well as to quantifying the influence of topography, vegetation, and land-water boundaries. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: GEOG 1200; GEOG 2230, GEOG 2520, or NR 2460 recommended.

**GEOG 3760. Topics in Human Env Interact. 3 Credits.**

Advanced offerings on various manifestations of social-environmental relationships. Possible topics include sustainable development, environmental justice, and urban ecology. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Vary with course content; Minimum Junior standing.

**GEOG 3770. Topics in Space,Power,Identity. 3 Credits.**

Advanced offerings on topics related to the spatial regulation and geographic construction of social identity, paying particular attention to race, gender, and sexuality. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Vary with course content; minimum Junior standing.

**GEOG 3780. Topics in Pol Econ & Ecology. 3 Credits.**

Advanced offerings in political ecology and political economy, particularly at global and regional scales. Possible topics include Third World economic restructuring, globalization, international environmental movements. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Vary with course content; minimum Junior standing.

**GEOG 3790. Topics in Crit Urban&Soc Geog. 3 Credits.**

Advanced offerings in urban and critical social geography. Possible topics include social justice and the city, human rights, geographies of social control. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Vary with course content; minimum Junior standing.

**GEOG 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GEOG 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**GEOG 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**GEOG 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**GEOG 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GEOG 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**GEOG 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**GEOLOGY (GEOL)****Courses****GEOL 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**GEOL 1020. Topics In: LASP Seminar. 0 or 4 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**GEOL 1055. Topics in Intro to Geo. 3 Credits.**

Exploration of geological processes and concepts. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**GEOL 1400. Environmental Geology. 0 or 4 Credits.**

Introduction to geologic processes and materials pertinent to environmental problems: ground water movement, supply, and contamination, waste disposal, flooding, subsidence, and landslides. Local field trips. Designed for intended Natural Science majors. Catamount Core: N2.

**GEOL 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GEOL 2105. Earth Materials. 3 Credits.**

Exploration of the building blocks of the Earth (elements, minerals, and rocks) and their connection to the Earth's past, present, and possible sustainable future. No laboratory. May not be taken for credit concurrently with, or following receipt of, credit for GEOL 3105. Prerequisite: GEOL 1400 or Instructor permission. Catamount Core: N1, SU.

**GEOL 2400. Topics in Env't & Surface Geo. 3 Credits.**

Exploration of themes and concepts in environmental and surface geology. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: GEOL 1400.

**GEOL 2405. Environmental Geochemistry. 3 Credits.**

Application of many basic principles of chemistry to selected environmental problems in geosciences (e.g. acid mine drainage, carbon dynamics, weathering, and contaminant metal mobility). No laboratory. May not be taken for credit concurrently with, or following receipt of, credit for GEOL 3405. Prerequisite: CHEM 1400. Catamount Core: N1.

**GEOL 2525. Geocomputing. 3 Credits.**

Introduction to a variety of computing tools commonly used in sciences and geosciences in particular. Hands-on experience; real data are used to resolve specific problems. Prerequisite: Sophomore standing. Catamount Core: QD.

**GEOL 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GEOL 3105. Earth Materials w/lab. 0 or 4 Credits.**

Exploration of the building blocks of the Earth (elements, minerals, and rocks) and their connection to the Earth's past, present, and possible sustainable future. With laboratory. May not be taken for credit concurrently with, or following receipt of, credit for GEOL 2105. Prerequisite: GEOL 1400 or Instructor permission. Catamount Core: N2, SU.

**GEOL 3405. Environmental Geochem w/lab. 0 or 4 Credits.**

Application of many basic principles of chemistry to selected environmental problems in geosciences (e.g. acid mine drainage, carbon dynamics, weathering, and contaminant metal mobility). With laboratory. May not be taken for credit concurrently with, or following receipt of, credit for GEOL 2405. Prerequisite: CHEM 1400. Catamount Core: N2, OC.

**GEOL 3410. Geomorphology. 0 or 4 Credits.**

Examines, using lectures, labs, and field-based independent study research projects, processes which change Earth's surface and the history of landscape development. Considers fundamental geologic constraints on environmental problems. Prerequisite: GEOL 1400 or Instructor permission.

**GEOL 3515. Field Geology. 4 Credits.**

Geological evolution of western Vermont as seen through actual field mapping in the Burlington area. Specifically designed for sophomores majoring or minoring in Geology or related sciences. Prerequisite: GEOL 1400 or Instructor permission.

**GEOL 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GEOL 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**GEOL 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**GEOL 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**GEOL 4105. Structural Geology. 0 or 4 Credits.**

Examines processes and problems concerning the mechanical behavior of the Earth's crust and surface. Includes rock deformation stress, strain, and the interpretation of geological structures. Prerequisites: GEOL 3515, GEOL 2105.

**GEOL 4405. Geochemistry of Natural Waters. 3 Credits.**

Basic concepts of chemical equilibria applied to natural waters, including thermodynamics, pH, oxidation-reduction, weathering, and solution equilibria. Prerequisite: Prerequisite: CHEM 1450. Catamount Core: N1, QD.

**GEOL 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GEOL 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**GEOL 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**GERMAN (GERM)****Courses****GERM 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**GERM 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**GERM 1050. Experience German. 1 Credit.**

Students will engage in a variety of events to enhance their understanding and appreciation of German language and culture. Provides an opportunity to experience German through a variety of interactive contexts.

**GERM 1100. Elementary German I. 4 Credits.**

An introduction to all aspects of contemporary standard German: Speaking, listening, reading, writing. Cultural components include topics such as: music, art, literature, and current events. Catamount Core: GC2, OC.

**GERM 1200. Elementary German II. 0 or 4 Credits.**

An introduction to all aspects of contemporary standard German: Speaking, listening, reading, writing. Cultural components include topics such as: music, art, literature, and current events. Prerequisite: GERM 1100 or equivalent. Catamount Core: GC2, OC.

**GERM 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GERM 2100. Intermediate German I. 3 Credits.**

Comprehensive review of German grammar, vocabulary-building skills, development of reading strategies and compositional abilities, study of contemporary German culture through literary texts. Prerequisite: GERM 1200 or equivalent. Catamount Core: GC2, OC.

**GERM 2200. Intermediate German II. 3 Credits.**

Enhancement of language proficiency with focus on effective, contextually relevant communication; emphasis on personalized content, learning strategies, and reflection skills; exploration of a variety of current issues and standpoints in contemporary German speaking countries. Students may take 1 GERM course numbered between 2100 and 2109 for credit. Prerequisite: GERM 2100 or equivalent. Catamount Core: GC2, OC.

**GERM 2202. Interm Germ II: Sustainability. 3 Credits.**

Enhancement of language proficiency with focus on effective, contextually relevant communication; emphasis on personalized content, learning strategies, and reflection skills; exploration of a variety of current issues and standpoints in contemporary German speaking countries with an emphasis on sustainability. Students may take 1 German course numbered between 2100 and 2109 for credit. Prerequisite: GERM 2100 or equivalent. Catamount Core: GC2, OC, SU.

**GERM 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GERM 3010. Staging German. 3 Credits.**

Opportunity to improve oral communication skills through the study and performance of different genres. Prerequisite: GERM 2100. Pre/Co-requisite: GERM 2202.

**GERM 3030. My Best Friend, The Dictionary. 3 Credits.**

Opportunity to expand students' vocabulary as well as their recognition and understanding of collocations, synonyms, and idiomatic expressions in their cultural context through the in-depth study of German dictionaries. Prerequisite: GERM 2100. Pre/Co-requisite: GERM 2202.

**GERM 3510. Screening Berlin. 3 Credits.**

Exploration of the history of German film production from the late 1800s through today via the lens of Berlin. Berlin is understood as an epicenter of filmmaking practices as well as an ever-present, symbolic cinematic space, representations of which reflect important cultural and subcultural currents, from concerns about industrialization to critiques of white-savior narratives. Prerequisite: GERM 2202. Catamount Core: AH1, GC2.

**GERM 3605. Im/Mobility in German Lit. 3 Credits.**

Explores a range of significant German texts from 1812 to today, paying particular attention to the ways in which literary works from various eras grapple with issues of mobility (or, in some cases, the stark lack thereof) and problematize movement across boundaries, borders, and spaces. Prerequisite: GERM 2202. Catamount Core: AH2, GC2.

**GERM 3620. Topics in 18th-19th Cen Lit. 3 Credits.**

Thematically organized course focused on German literature of the eighteenth and nineteenth centuries, with attention to political, philosophical, musical, and artistic developments. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: GERM 2202.

**GERM 3640. Topics in 20th-21st Cen Lit. 3 Credits.**

Thematically organized course focused on twentieth- and twenty-first-century German literature in historical and cultural contexts. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: GERM 2202.

**GERM 3643. Guilt & Shame in German Lit. 3 Credits.**

Focuses on representations of guilt and shame in contemporary German literary works, some of which deal with the Nazi past and many of which comment on the results of recent global events in the nation—from the Syrian refugee crisis to the legalization of gay marriage. Prerequisite: GERM 2202. Catamount Core: AH2, GC2.

**GERM 3646. Exile and Migration. 3 Credits.**

Examination of the historical contours, personal tales, and social memory surrounding experiences of exile, flight, and migration beginning with Jewish and political exile during National Socialism and ending with the so-called global refugee crisis of 2015. Prerequisite: GERM 2202. Catamount Core: AH2, GC2.

**GERM 3649. POC in Germany and Austria. 3 Credits.**

Examination of the experiences of People of Color in Germany and Austria reflected in autobiographical texts by Black children growing up in the Third Reich, the children of transnational marriage, the children of African American GIs and German/Austrian women, as well as in contemporary texts and films. Prerequisite: GERM 2202. Catamount Core: AH2, GC2.

**GERM 3652. German Short Story after 1945. 3 Credits.**

Aesthetic and thematic evolution of the short story and its relation to historical, political, and cultural developments from 1945 to the present. Prerequisite: GERM 2202.

**GERM 3655. German Graphic Novel. 3 Credits.**

Analysis of contemporary graphic novels and their main motifs to understand how the graphic novel functions formally at the intersection of word and image and culturally as an important mouthpiece for public discourse. Prerequisite: GERM 2202. Catamount Core: AH2, GC2.

**GERM 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GERM 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**GERM 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**GERM 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**GERM 4500. History of German Cinema. 3 Credits.**

Exploration of representations of the past in German films from early 1900 to today. Consideration of external factors such as ever-changing technologies and film distribution channels and their influence on the transmission of German history and culture domestically and globally. Prerequisite: One course in German at the 3000-level. Catamount Core: AH1, GC2.

**GERM 4600. Topics in German Literature. 3 Credits.**

Literary movements and their major representatives from 1945 to the present, including relevant sociopolitical, intellectual, and cultural aspects. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in German at the 3000-level.

**GERM 4605. Fatal Attractions. 3 Credits.**

Explores several famous fatal attractions in eighteenth- and nineteenth-century German literature in relation to pressing socio-historical changes and concerns that impact the relationship between individuals and society. Examines how these themes intersect with, become defined by, or contrast with prevailing notions of gender, social status, and morality. Prerequisite: One course in German at the 3000-level. Catamount Core: AH2, GC2.

**GERM 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GERM 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**GERM 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**GLOBAL AND REGIONAL STUDIES (GRS)****Courses****GRS 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**GRS 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**GRS 1500. Intro to Global Studies. 3 Credits.**

An interdisciplinary introduction to the social, political, economic, natural, and cultural dimensions of globalization and transnational interdependencies. Catamount Core: D2, SU.

**GRS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GRS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GRS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Instructor permission.

**GRS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**GRS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: Minimum Junior standing and permission of Program Director.

**GRS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: Minimum Junior standing and permission of Instructor.

**GRS 4500. Topics In: GRS Senior Seminar. 3 Credits.**

An advanced interdisciplinary seminar that examines the social, political, economic, natural, and cultural dimensions of globalization and transnational interdependencies. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Global Studies major; minimum second-semester Junior standing. Catamount Core: D2.

**GRS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Instructor permission.

**GRS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**GRS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

## **GNDR, SEXUALITY, & WMS STUDIES (GSWS)**

### **Courses**

**GSWS 1010. FYS Gender Sexuality Wn's Stdy. 3 Credits.**

Intensive first-year seminar introducing the field of Gender, Sexuality, and Women's Studies. Topics include key theoretical approaches to conceptualizing gender, sexuality, and power; how gender and sexuality are policed; and the relationship between gender, sexuality, and other social categories. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. Catamount Core: D2, S1, WIL1.

**GSWS 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**GSWS 1500. Gender Sexuality Women's Stdy. 3 Credits.**

Introduction to the field of gender, sexuality, and women's studies. Topics include key theoretical approaches to conceptualizing gender, sexuality, and power; how gender and sexuality are policed; and the relationship between gender, sexuality, and other social categories. Catamount Core: D2, S1.

**GSWS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GSWS 2050. Gender and Feminism(s). 3 Credits.**

Exploration of the politics and history of feminist movements and theories, as well as the ways in which gender has shaped public policies. The emphasis will be primarily, although not exclusively, on gender and feminism(s) in the United States. Prerequisite: GSWS 1010 or GSWS 1500. Catamount Core: D2.

**GSWS 2070. LGBT Politics and History. 3 Credits.**

Explores the history, strategies, conflicts, and issues surrounding the various movements advancing the claims of LGBT rights, as well as the roles LGBTQ people play as participants in American politics and culture. Prerequisite: GSWS 1500, GSWS 1010, POLS 1300, POLS 1013, or Instructor permission. Cross-listed with: POLS 2450. Catamount Core: D2.

**GSWS 2801. Communicating Masculinities. 3 Credits.**

An exploration of how our culture communicates about and defines masculinity, what the effects are for individuals and institutions, and the alternative possibilities for creating new masculinities. Pre/Co-requisites: GSWS 1500.

**GSWS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GSWS 3050. Internship: GSWS Core. 3-6 Credits.**

A semester-long on-site internship relevant to GSWS, secured by the student. The internship is combined with a structured academic learning plan delivered via regular class meetings with a faculty member and cohort of other students or independently under the direction of a faculty member. Required for GSWS majors and open to other qualified students. Prerequisite: A contract must be obtained from and returned to the Gender, Sexuality, & Women's Studies Program office during registration; permission of Director of Gender, Sexuality, & Women's Studies.

**GSWS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GSWS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**GSWS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: GSWS 1500; permission of Director of Gender, Sexuality, & Women's Studies.

**GSWS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: GSWS 1500; approval of Director of Gender, Sexuality, & Women's Studies.

**GSWS 4050. Topics In: GSWS Senior Seminar. 3 Credits.**

Advanced discussion-based, interdisciplinary approaches to the study of topics in the field. Representative topics: Feminist Media Studies; Feminist Theory in Historical Perspective; Gender, Sexuality and the Law. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: GSWS 1500; six additional hours in GSWS; Gender, Sexuality, & Women's Studies major or minor, Sexuality & Gender Identity Studies minor.

**GSWS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**GSWS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline for which credit is awarded. Offered at department discretion.

**GSWS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**GREEK (GRK)****Courses****GRK 1100. Elementary Ancient Greek I. 4 Credits.**

Fundamentals of fifth-century Attic (Athenian) Greek, in preparation for reading great works of Thucydides, Aeschylus, Sophocles, Euripides, Aristophanes, Lysias, Plato, Aristotle, Demosthenes, Homer, Herodotus, Sappho, Pindar, New Testament, and more. Catamount Core: GC2.

**GRK 1150. Self-Paced Greek. 1-8 Credits.**

Fundamentals of Classical Greek through tutorial instruction, credit dependent on amount of material learned. May be repeated for credit. No credit with GRK 1100 and GRK 1200.

**GRK 1200. Elementary Ancient Greek II. 4 Credits.**

Fundamentals of fifth-century Attic (Athenian) Greek, in preparation for reading great works of Thucydides, Aeschylus, Sophocles, Euripides, Aristophanes, Lysias, Plato, Aristotle, Demosthenes, Homer, Herodotus, Sappho, Pindar, New Testament, and more. Prerequisite: GRK 1100 or equivalent. Catamount Core: GC2.

**GRK 1990. Special Topics. 1-18 Credits.**

Introductory courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**GRK 2100. Intermediate Ancient Greek I. 3 Credits.**

Review of syntax. Readings from Plato, Herodotus, and Euripides. Prerequisite: GRK 1200 or equivalent. Catamount Core: GC2.

**GRK 2200. Intermediate Ancient Greek II. 3 Credits.**

Review of syntax. Readings from various authors. Prerequisite: GRK 2100 or equivalent. Catamount Core: GC2.

**GRK 2990. Special Topics. 1-18 Credits.**

Intermediate courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**GRK 3990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**GRK 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**GRK 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**GRK 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**GRK 4600. Topics in Greek Prose. 3 Credits.**

Representative topics: Greek Historians (Thucydides, Herodotus, Xenophon), Greek Orators (Lysias, Demosthenes), Greek Philosophers (Plato, Aristotle, Presocratic philosophers). May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: GRK 2200.

**GRK 4650. Topics in Greek Poetry. 3 Credits.**

Representative topics: Greek Epic (Iliad, Odyssey), Greek Lyric Poetry (Archilochus to Pindar, including Sappho, Alcaeus, Simonides, Bacchylides), Greek Comedy (Aristophanes), Greek Tragedy (Sophocles' Antigone, Euripides' Medea, or two equivalent plays). May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: GRK 2200.



**GRK 4990. Special Topics. 1-18 Credits.**

Introductory courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**GRK 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**GRK 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**HEALTH AND SOCIETY (HSOC)****Courses****HSOC 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**HSOC 1600. Health Care in America. 3 Credits.**

Examination of the organization and financing of the U.S. health care system. Focus on health disparities, health care policy, and cross-national comparisons. Cross-listed with: SOC 1300. Catamount Core: S1.

**HSOC 1700. Global Health Devel & Diversit. 3 Credits.**

An anthropological exploration of connections between global health, economic development, and cultural diversity in contemporary times. Considers ways in which informed global citizens can make a positive difference in human health, taking socioeconomic and cultural diversity into account. Cross-listed with: ANTH 1190. Catamount Core: D2, GC1, SU.

**HSOC 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HSOC 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HSOC 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HSOC 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**HSOC 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HSOC 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HSOC 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**HSOC 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HSOC 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HSOC 4991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HSOC 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded.

**HSOC 4995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HSOC 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**HEALTH EDUCATION (EDHE)****Courses****EDHE 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDHE 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDHE 2460. Personal Health. 3 Credits.**

Discussions of personal health guided by the social ecological model, which details the multiple levels of influence on a person's individual health including: family, school, neighborhood, community, state policy, federal legislation and international development.

**EDHE 2520. Race, Bullying & Discrim. 3 Credits.**

Critically examines youth bullying, violence, discrimination, and harassment as they primarily occur in educational contexts. Co-requisites: EDFS 1010 or EDFS 1020 or HSCI 1100. Cross-listed with: EDSP 2520. Catamount Core: D1.

**EDHE 2890. Practicum in Field Experience. 1-4 Credits.**

Individually prescribed teaching experience involving work with health agencies, both public and private. Responsibilities approximate those commonly associated with student teaching. Prerequisite: Permission. Variable credit.

**EDHE 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDHE 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDHE 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDHE 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDHE 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDHE 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDHE 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDHE 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HEALTH (HLTH)****Courses****HLTH 1030. Medical Terminology. 2 Credits.**

Terminology related to medical and health sciences. Online.

**HLTH 1250. Patient Care Equipment Tech. 3 Credits.**

Introduction to healthcare technology management in acute patient care, anatomy/physiology and technical principles, safety, and troubleshooting techniques. Includes electrocardiographs, physiological monitors, infusion devices, pacemakers and defibrillators. Online.

**HLTH 1510. Wilderness First Responder. 3 Credits.**

An introduction to wilderness medicine that focuses on the prevention, assessment & management of trauma, medical emergencies related to the environment in the wilderness or austere situations. Learning will occur through a variety of classroom activities (including lectures and small group discussions), skills demonstration/practice and a cumulative field exercise.

**HLTH 1980. Restore, Rejuvenate&Energize. 1 Credit.**

Experiential learning focusing on promotion of healthy behaviors designed to restore, rejuvenate and energize. Topics to be covered include physical activity, stress management, healthy nutrition, sleep hygiene, work/life balance, self-compassion, and practicing gratitude.

**HLTH 1990. Special Topics. 1-18 Credits.**

Introductory courses on health topics beyond the scope of departmental or college offerings. See Schedule of Courses for specific titles.

**HLTH 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HLTH 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HLTH 2000. Biology of Aging. 3 Credits.**

Human aging examined emphasizing biological and nonpathological physiological changes and their effects on the functioning of elders. Prerequisites: BIOL 1155, ANPS 1190 and ANPS 1200, or Instructor permission.

**HLTH 2010. Intro to Integrative Health. 3 Credits.**

Overview of social forces prompting the rise of integrative healthcare in the U.S.; the theory and practice of health professions included in integrative healthcare. Cultural and institutional views and processes shaping substance and delivery modes of healthcare in the U.S. Prerequisite: Sophomore standing.

**HLTH 2050. Cultural Health Care. 3 Credits.**

Examines the principles and theories of culture in health care with an overall goal to understand how health care is contextualized by and through culture. Catamount Core: D2.

**HLTH 2070. Human Health & the Envirnmnt. 0 or 3 Credits.**

Offers an introduction to environmental health. Topics include: methods (toxicology, epidemiology), environmental health hazards (physical, biological, chemical) and supports (nature contact), risk analysis, communication and management, health and climate change, food production and access, energy production, and water. Prerequisite: Sophomore standing. Cross-listed with: NR 2070. Catamount Core: SU.

**HLTH 2350. Adv Medical Equipment Systems. 3 Credits.**

Covers imaging systems: x-ray, fluoroscopy. CT scanners, MRI, nuclear medicine, and ultrasound. Also clinical laboratory equipment, surgery devices, healthcare networks/IT, dialysis systems, and physical therapy equipment. Online.

**HLTH 2370. Mindful Eating. 3 Credits.**

An experiential introduction to the principles and practice of mindfulness and mindful eating, including an exploration of the cultural, environmental, economic, health-related, and spiritual connections we make every time we take a bite. Prerequisite: Minimum Sophomore standing.

**HLTH 2400. Issues in Women's Health. 3 Credits.**

A holistic exploration of the health care needs of women. This course will consider the stereotypical, theoretical, and clinical approaches of care used in treating women. Prerequisites: PSYS 1400; HDF 1050; one Sociology course below 100.

**HLTH 2510. Wilderness EMT. 3 Credits.**

Focuses on the assessment and management of environmental emergencies, trauma and medical problems in the wilderness or austere environment building on the foundation of Emergency Medical Technician training through a series of lectures, small group activities and field exercises. Prerequisite: HLTH 2530 or NREMT certification.

**HLTH 2530. Emergency Medical Technician. 7 Credits.**

Preparation to become an Emergency Medical Technician. Covers all of the objectives of the National EMS Blueprint for Education. Students must successfully complete all requirements prior to sitting for the National Registry of Emergency Medical Technicians licensure exam. Prerequisites: HLTH 1030; current certification in Basic Cardiac Life Support (CPR). Pre/Co-requisite: HLTH 1030.

**HLTH 2760. Hlth in Mediterranean. 3 Credits.**

Faculty-led travel study course to Greece. Explores the history, culture, and practices of the Mediterranean lifestyle with a focus on longevity-associated behaviors and the intrinsic connection between health and sustainable development. Immersion in a learning experience centered on five longevity-associated health behaviors of the Ikarian culture. Prerequisites: Three credit hours in English. Catamount Core: D2, SU.

**HLTH 2770. Iceland Ther Thermal Springs. 3 Credits.**

Travel study to Iceland to explore the therapeutic effects of thermal waters which have long, historic importance providing a sustainable model of heat, social gathering, and healing. Prerequisites: Minimum Junior standing and Instructor permission. Catamount Core: SU.

**HLTH 2990. Special Topics. 1-18 Credits.**

Intermediate courses on health topics beyond the scope of departmental or college offerings. See Schedule of Courses for specific titles.

**HLTH 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HLTH 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HLTH 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**HLTH 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HLTH 3000. Emergency Service Leadership. 3 Credits.**

Explores the concepts of leadership through the lens of Emergency Services. Participants will increase their understanding of their personal leadership style and establish a plan to develop their personal leadership skills. Prerequisite: College of Nursing and Health Sciences major or Emergency Medical Services minor.

**HLTH 3010. Sci & Evidence Integrativ HLTH. 3 Credits.**

Integrative health brings together conventional and complementary approaches to health, emphasizing treating the whole person. Examines the levels of scientific evidence on the efficacy of integrative therapies and identify opportunities for integrative therapies to improve outcomes for patients and planetary health. Prerequisite: HLTH 2010.

**HLTH 3100. Health and Culture: Oaxaca. 3 Credits.**

Gain appreciation for cultural diversity by exploring the social, psychological, health practices, and historical trajectories of Oaxacan perceptions within the overarching theme of health. Prerequisites: Minimum Junior standing and Instructor permission.

**HLTH 3410. Exploring Healthcare Systms. 3 Credits.**

Explores a healthcare system outside the USA. Common elements in all healthcare systems are required for effective and efficient delivery. Field visits, presentations, and cultural exposure are included in the program. Prerequisite: Instructor permission.

**HLTH 3570. Advanced EMT. 6 Credits.**

Follows the national EMS Scope of Practice Model to expand the Emergency Medical Technician's knowledge and skills in preparation for licensure as an Advanced Emergency Medical Technician. Prerequisite: HLTH 2530.

**HLTH 3840. Health & Well Coach Immersion. 1 Credit.**

Initial course in sequence of Integrative Health and Wellness Coaching courses. Introduces the practice of Integrative Health and Wellness Coaching with focus on experiential learning of integrative therapies for self-care as emerging healthcare providers and their future clients. Required for NBHWC National Board Certification Exam. Prerequisites: Integrative Health and Wellness Coaching minor and minimum Junior standing or Instructor permission. Co-requisites: HLTH 3850.

**HLTH 3850. Health & Well Coaching Intro. 3 Credits.**

Interactive course teaching the theoretical framework, strategies, and techniques of basic motivational interviewing and behavioral change theory as well as the coaching structure of Integrative Health and Wellness Coaching. Required for NBHWC National Certification Exam. Prerequisites: Integrative Health and Wellness Coaching minor and minimum Junior standing or Instructor permission. Co-requisite: HLTH 3840.

**HLTH 3860. Health & Well Coaching Advance. 4 Credits.**

Covers the theoretical framework, strategies and techniques of effective communication, advanced motivational interviewing, positive psychology and behavioral change and the application of these to the practice of Integrative Health & Wellness Coaching. Advanced coaching skills/structure with complex patients/situations will be covered. Required for NBHWC Exam. Prerequisites: HLTH 3840, HLTH 3850. Catamount Core: OC.

**HLTH 3910. Building your Coaching Career. 1 Credit.**

Prepares Integrative Health & Wellness Coaching students for the NBHWC exam and a career as a Health & Wellness Coach. Students will receive mentoring, resume building, professional communication, establishing community contacts, and national exam preparation.

**HLTH 3920. Hlth Wellness Coach Practicum. 3 Credits.**

Supports students as they integrate relevant knowledge from their academic Integrative Health and Wellness Coaching studies through a practical learning opportunity. Through classroom and practicum experiences, students will have the opportunity to build upon their learning as an emerging health and wellness coach. Prerequisites: HLTH 3860.

**HLTH 3940. Trauma & Trauma Systems. 3 Credits.**

Develops an understanding of trauma and trauma systems, focusing on rural areas. Includes readings and a series of lectures delivered by individuals involved in Vermont's trauma system. A variety of clinical and operational topics will be addressed through co-learning projects and presentations. Prerequisites: HLTH 2530, HLTH 3570; or Health Science, Nursing, Public Health major, Emergency Medicine minor.

**HLTH 3990. Special Topics. 1-18 Credits.**

Advanced courses on health topics beyond the scope of department or college offerings. See Schedule of Courses for specific titles.

**HLTH 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HLTH 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HLTH 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**HLTH 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HEALTH SCIENCES (HSCI)****Courses****HSCI 1100. Introduction to Public Health. 3 Credits.**

An introductory investigation of public health that explores the development and scope of the discipline of public health, and issues that have been raised with regard to the practice of public health. Catamount Core: S1.

**HSCI 1200. Antiracism and Health. 3 Credits.**

Provides an appreciation for antiracist health-professionalism by examining the intersection of racism and healthcare and how this intersection shapes the way we treat and interact with one another across a wide spectrum of differing identities. Catamount Core: D1.

**HSCI 1300. Epidemics: Dynam of Inf Diseas. 3 Credits.**

Through the analysis of historical and fictional infectious disease outbreaks, explores factors which encourage and discourage the emergence of infectious disease. Also examines examples of how disease has influenced human history, focusing on the impact of disease on the rise and fall of civilizations.

**HSCI 1900. Foundations of Health Equity. 3 Credits.**

Introduces the concept of health equity and provides an overview of health disparities in the US. Through the lens of social justice, examines historical and current issues at the root of inequitable health outcomes across the US and prompts consideration of possible solutions.

**HSCI 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HSCI 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HSCI 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HSCI 2100. Fndns of Global Health. 3 Credits.**

Explores global health and global health challenges affecting people primarily in developing or resource-constrained countries. Prerequisite: Minimum Sophomore standing. Cross-listed with: ANTH 2191. Catamount Core: D2, GC1.

**HSCI 2190. Global Public Health Practice. 3 Credits.**

Designed for skill-building and to prepare students to work in the global public health field while negotiating cultural differences and responding to complex global public health situations that occur at the intersection of culture and disease. Prerequisite: Global Public Health minor.

**HSCI 2200. Rsrch Methods in Public Health. 3 Credits.**

Exploration of research methods as they pertain to public health and sustainability. With an emphasis on the multiple dimensions of sustainability and health disparities, students will evaluate and analyze primary, secondary and tertiary sources of information. Prerequisite: HSCI 1100. Catamount Core: SU.

**HSCI 2300. Health Promotion. 3 Credits.**

Introduces common theories from behavioral and social sciences that are currently being used in health education and health promotion. Focus on issues such as sexual health, smoking, and chronic diseases to support the skill building necessary to effectively motivate behavior change and improve health outcomes. Prerequisite: HSCI 1100. Catamount Core: S1.

**HSCI 2400. Hlthcare & Pub Hlth Syst US. 3 Credits.**

Summarizes and explains key aspects of the US healthcare and public health delivery systems, including the legal, ethical, economic, and regulatory dimensions of health care and public health policy, and the roles, influences and responsibilities of the different agencies and branches of government with regards to healthcare and public health. Prerequisite: HSCI 1100.

**HSCI 2500. Health Communication. 3 Credits.**

Collaborative investigation of the nature of health communication and an exploration of the ways in which health communication is intertwined with public health and health care. Prerequisites: HSCI 1100; minimum Sophomore standing.

**HSCI 2600. Racism and Health Disparities. 3 Credits.**

Introduces basic issues that underlie health disparities, with a focus on the connection between racism and health disparities in the U.S. Catamount Core: D1.

**HSCI 2700. Social Justice and Sport. 3 Credits.**

A discourse in American sports culture which has long been a haven for the most unjust attitudes and ideas including sexism, racism, and homophobia will be juxtaposed with the strong history of athletes using their high-profile stage for social change. Catamount Core: D2.

**HSCI 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HSCI 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HSCI 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HSCI 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**HSCI 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HSCI 3100. Epi, Pub Hlth & Emerg Disease. 3 Credits.**

Explores the role of epidemiology in public health, focusing on current and emerging diseases and the principles, concepts, and methods of population-based epidemiology - the study of patterns and determinants of disease in populations. Topics will include measuring disease frequency, rates and proportions, application of epidemiologic study design and disease investigation. Prerequisite: HSCI 2200.

**HSCI 3200. Pressing Issues in Global PH. 3 Credits.**

Explores contemporary issues in global public health through an interdisciplinary perspective. Examines the complex social, political, and environmental factors that impact global health through modules in Climate Change, Humanitarian Crises, Infectious Disease, Chronic Disease, and Global Mental Health. Pre/Co-requisite: HSCI 2100.

**HSCI 3300. Hlth Promotion Prog Plan/Eval. 3 Credits.**

In stages, create a project proposal and evaluation plan for a health-related program. A complete proposal and evaluation plan will be required of each student as the final course outcome. Prerequisites: HSCI 2300; Public Health Sciences major; minimum Junior standing.

**HSCI 3400. Writing for Health Profess.. 3 Credits.**

Review of principles of good writing with an emphasis on non-technical writing commonly used in health care organizations, and organizations that support health and health care in the U.S. and globally. Adaption of materials for lay or low literacy audiences. Prerequisites: HSCI 2500; Health Sciences major; minimum Junior standing.

**HSCI 3450. App Leadership in Hlth Equity. 3 Credits.**

This culminating course will offer an opportunity for students to engage across disciplines to work towards creating more just communities and societies to ensure that all people can reach their highest potential for health. Prerequisites: 12 credits towards Public Health Sciences; Public Health Sciences Major or Minor; Instructor permission.

**HSCI 3500. Capstone. 3 Credits.**

The health-related capstone is a service-learning based course that provides an opportunity to integrate academic learning and skills while gaining exposure to health issues and populations through a service placement with a community agency. Prerequisites: HSCI 3300, HSCI 2200, HSCI 2400, HSCI 3100, HSCI 2500, HSCI 2300, HSCI 2100; Public Health Sciences major; minimum Senior standing.

**HSCI 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**HSCI 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HSCI 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HSCI 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**HSCI 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HEBREW (HEBR)****Courses****HEBR 1100. Elementary Hebrew I. 4 Credits.**

The spoken language of everyday use with oral, aural, and written practice in speaking, reading, and comprehension.

**HEBR 1200. Elementary Hebrew II. 4 Credits.**

The spoken language of everyday use with oral, aural, and written practice in speaking, reading, and comprehension. Prerequisite: HEBR 1100 or equivalent.

**HEBR 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HEBR 2100. Intermediate Hebrew I. 3 Credits.**

Reading, translation, and discussion in Hebrew of texts selected to show the development of Hebrew culture from Biblical times to the present. Prerequisites: HEBR 1100, HEBR 1200 or equivalent.

**HEBR 2200. Intermediate Hebrew II. 3 Credits.**

Reading, translation, and discussion in Hebrew of texts selected to show the development of Hebrew culture from Biblical times to the present. Prerequisites: HEBR 1100, HEBR 1200 or equivalent, HEBR 2100.

**HEBR 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HEBR 3150. Topics in Advanced Hebrew. 3 Credits.**

Opportunity to further develop communication skills in Hebrew. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: HEBR 2100.

**HEBR 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HEBR 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HEBR 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HEBR 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HEBR 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HEBR 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**HIGHER EDUCATION (EDHI)****Courses****EDHI 1110. Exploring Leadership & Iden. 3 Credits.**

Expands on fundamental theories and frameworks focused on leadership development, ethics, and social identities. Students will learn how to apply frameworks in a practical way that encourages them to reflect on their own understandings and assumptions. Topics will include assessments, values, ethical dilemmas, and social identities through equity & diversity. Catamount Core: D2.

**EDHI 1120. Data Literacy to Promote Change. 3 Credits.**

The purpose of this course is to teach data literacy to promote change. Universities are important contexts for student success, yet few individuals receive formal education to understand university structures and how decisions are made. Together, we will focus on how to use university data to present data-informed solutions to problems at UVM. Catamount Core: QR.

**EDHI 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDHI 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EDHI 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDHI 2890. Practicum. 1-18 Credits.**

A required component of a curriculum that is an on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded.

**EDHI 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDHI 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EDHI 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDHI 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDHI 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDHI 3890. Practicum. 1-18 Credits.**

A required component of a curriculum that is an on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded.

**EDHI 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific titles.

**EDHI 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences.

**EDHI 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDHI 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDHI 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HISTORIC PRESERVATION (HP)****Courses****HP 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HP 2100. Intro to Historic Preservation. 3 Credits.**

Introduction to the preservation of historic built and cultural environments, with emphasis on the history of the historic preservation movement in America; laws available to protect historic resources; policy making considerations; national standards for preservation, rehabilitation, restoration, and reconstruction; and best practices for managing historic sites and structures. Prerequisites: Minimum Sophomore standing. Catamount Core: SU.

**HP 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HP 3990. Special Topics. 3 Credits.**

Courses are offered under this number in specialized areas of historic preservation through Continuing Education.

**HP 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HP 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HP 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HP 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HP 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**HISTORY (HST)****Courses****HST 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: W1L1.

**HST 1011. Topics In: FYS: Race in US. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: D1, W1L1.

**HST 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**HST 1130. AP World History. 3 Credits.**

Credit awarded for achieving a certain score on the World History: Modern Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Credit not given for both HST 1130 and HST 1315. Catamount Core: AH3.

**HST 1160. AP US History. 3 Credits.**

Credit awarded for achieving a certain score on the US History Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Credit not given for both HST 1160 and HST 1610. Catamount Core: AH3.

**HST 1170. AP European History. 3 Credits.**

Credit awarded for achieving a certain score on the European History Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Credit not given for both HST 1170 and HST 1715. Catamount Core: AH3.

**HST 1300. Topics in Global History. 1-3 Credits.**

Topics examining historical themes and questions on a global scale. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**HST 1310. Global History to 1500. 3 Credits.**

The development and cross-fertilization of civilizations in Eurasia, Africa, and the Americas from about 3500 BCE to AD 1500. Catamount Core: AH3, D2.

**HST 1315. Global History since 1500. 3 Credits.**

Character, development, and emerging interdependence of the world's major civilizations since 1500. Catamount Core: AH3, D2.

**HST 1370. Global Environmental History. 3 Credits.**

The role and influence of nature on global human history and how people and cultures have influenced the natural world around them. Catamount Core: AH3, D2, SU.

**HST 1410. Colonialism and Africa. 3 Credits.**

An exploration of the history of colonialism in Africa. Topics include conquest and resistance, the ecological and demographic consequences of colonialism, the nature of authority in indigenous polities and methods of colonial rule, women and gender in colonial Africa, labor, cash cropping and migration, the historical constructions of ethnicity. Catamount Core: AH3, D2.

**HST 1422. Hst Islam&Mid East to 1258. 3 Credits.**

Introduction to the major institutions evolved in the Middle East from the advent of Islam to the Mongol conquest of Baghdad in 1258. Catamount Core: AH3, D2.

**HST 1425. Hst Islam&Mid East since 1258. 3 Credits.**

Introduction to the major institutions evolved in the Islamic Middle East since the Mongol conquest of Baghdad in 1258 to the present. Catamount Core: AH3, D2.

**HST 1440. History of China and Japan. 3 Credits.**

An introductory survey of the history of Chinese and Japanese civilizations from their Neolithic origins until the twentieth century. Catamount Core: AH3, D2.

**HST 1472. Latin Am Indigenous History. 3 Credits.**

Examination and comparison of various indigenous cultures and societies across Latin America. The course considers broader social, cultural, and political trends throughout Latin America, focusing on the particular impact that those trends had on indigenous communities in Mexico, the Andes, and beyond.

**HST 1475. Modern Latin American History. 3 Credits.**

Comparative survey concentrating on Latin America from the independence movements to the present with emphasis on cultural, political, and economic development and US intervention. Catamount Core: AH3, D2.

**HST 1500. Topics in American History. 3 Credits.**

Topics examining historical themes and questions in the history of the Americas, with a particular emphasis on places beyond the United States. May repeat be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**HST 1525. North American Indian History. 3 Credits.**

Surveys Native North American history across regions of the continent that became Canada and the United States from pre-contact to the present, with emphasis on Indian-European interaction. Catamount Core: AH3, D1.

**HST 1550. Topics in Canadian History. 3 Credits.**

Topics examining the history of Canada. Frequently includes a field trip to Canada. May repeat be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**HST 1600. Topics in US History. 3 Credits.**

Topics examining the history of the United States and/or its colonial antecedents. May repeat be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**HST 1610. US History to 1865. 3 Credits.**

Survey of American history from the pre-Revolutionary period through the Civil War era. Catamount Core: AH3.

**HST 1615. US History since 1865. 3 Credits.**

Survey of US history from the Civil War era. Catamount Core: AH3.

**HST 1700. Topics in European History. 3 Credits.**

Topics examining the history of Europe. Representative topic: Twentieth-century European History in Film. May repeat be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH3.



**HST 1705. Topics in Ancient History. 3 Credits.**

Topics examining Ancient history. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**HST 1710. Early Europe. 3 Credits.**

Survey of European history, 500-1648. Catamount Core: AH3.

**HST 1715. Modern Europe. 3 Credits.**

Survey of European history, 1648-present. Catamount Core: AH3.

**HST 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HST 2050. History Methods. 3 Credits.**

Investigation of the theory and practice of history through critique of historians' methods, analysis of primary sources, and development of the research and writing skills necessary for constructing historical arguments. Prerequisites: History major; three hours in History; Sophomore standing recommended. Catamount Core: WIL2.

**HST 2120. Topics in Gender&Sexuality Hst. 3 Credits.**

Topics examining the history of gender and/or sexuality. Representative topic: Sex in Modern History. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History or Gender, Sexuality, & Women's Studies. Catamount Core: D2.

**HST 2240. World War II. 3 Credits.**

Causes, conduct, and consequences of global war from 1931 to 1945, including social, economic, political, and diplomatic as well as military aspects. Prerequisite: Three hours of History.

**HST 2300. Topics in Global History. 3 Credits.**

Topics examining historical themes and questions on a global scale. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2410. Topics in African History. 3 Credits.**

Topics examining the history of Africa. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2414. Nigeria: Giant of Africa. 3 Credits.**

History of Nigeria from earliest times to the present, concentrating on the impact of colonial conquest, nationalism, and the politics and economics of independence. Prerequisite: Three hours of History. Catamount Core: D2.

**HST 2416. History of Southern Africa. 3 Credits.**

Lecture survey, covering the history of Southern Africa from the Bantu Migrations to the end of Apartheid. Prerequisite: Three hours of History. Catamount Core: D2.

**HST 2420. Topics in Middle East History. 3 Credits.**

Topics examining Middle Eastern history. Representative topics: Iran, Egypt, and Turkey. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2423. Rel & Pol in Islamic Hist. 3 Credits.**

Exploration of the relationship between religion and politics in Islamic history, from the rise of Islam in the seventh century to modern times. The course defines the Islamic world broadly, including the Indian subcontinent and Africa. Prerequisite: Three hours of History. Catamount Core: D2.

**HST 2425. History of Modern Middle East. 3 Credits.**

Offers an historical understanding of social and political change in the Middle East during the nineteenth and twentieth centuries. Prerequisite: Three hours of History. Catamount Core: D2.

**HST 2443. Modern China. 3 Credits.**

China from the late Qing Dynasty to the present, with particular attention to the influence of Western imperialism, the process of revolution, and the Communist era. Prerequisite: Three hours of History. Catamount Core: D2.

**HST 2447. Modern Japan. 3 Credits.**

Transition from tradition to modernity in Japan from the Meiji Restoration, 1868 to the present. Prerequisite: Three hours of History. Catamount Core: D2.

**HST 2448. Samurai in History & Film. 3 Credits.**

Explores the history of the samurai class in Japan, as represented in primary historical sources, recent secondary scholarship, and contemporary popular culture. Prerequisite: HST 1440 or HST 2447.

**HST 2472. Topics in Mexican History. 3 Credits.**

Topics examining Mexican history. Representative topics: Modern Mexico. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2500. Topics in American History. 3 Credits.**

Topics examining historical themes and questions in the history of the Americas, with a particular emphasis on places beyond the United States. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2510. Topics in North Am Enviro Hist. 3 Credits.**

Topics examining the environmental history of North America. Representative topic: History of the Wild. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2545. Drugs in the Americas. 3 Credits.**

Examination of the history of drugs and drug trafficking in Latin America from the colonial era to the present. Above all, this is a course about the impact of drugs and drug trafficking on people: thus, this course is also about violence, racism, inequality, poverty, migration, discrimination, criminalization, incarceration, and human rights. Prerequisite: Three hours of History.

**HST 2550. Topics in Canadian History. 3 Credits.**

Topics examining the history of Canada. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2555. Canadian-American Relations. 3 Credits.**

Canada's relationship with the United States from the Revolutionary War to the present, emphasizing diplomatic, economic, social, and environmental relations in the nineteenth and twentieth centuries. Prerequisite: Three hours of History.

**HST 2640. Topics in US Social History. 3 Credits.**

Topics examining themes in the social history of the United States and/or its colonial antecedents. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2642. Topics in US Women's History. 3 Credits.**

Topics examining the experiences of women in the United States and/or its colonial antecedents. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History or Gender, Sexuality, and Women's Studies minor.

**HST 2644. Topics in Black History. 3 Credits.**

Topics examining the experiences of Black people in the United States and/or its colonial antecedents. Representative topics: African-American History to 1865; African-American History since 1865. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History. Catamount Core: D1.

**HST 2685. Topics in Diplomatic History. 3 Credits.**

Topics examining the diplomatic history of the United States and/or its colonial antecedents, usually with an emphasis on law. Representative topics: Treaties and International Law; US Civil War in Global Context. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History. Catamount Core: AH3.

**HST 2698. The Cold War. 3 Credits.**

An exploration of the ideological and geopolitical struggle between the United States and the Soviet Union, encompassing the political, social, cultural, and economic repercussions of the conflict in Europe and the United States. Prerequisite: Three hours of History.

**HST 2700. Topics in European History. 3 Credits.**

Topics examining European history. Representative topics: Capetian France; World War I in Europe; Twentieth-century Europe. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2705. Topics in Ancient History. 3 Credits.**

Topics examining Ancient history. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours in History or Classics.

**HST 2711. Medieval Mystics & Heretics. 3 Credits.**

Exploration of the explosion of new religious ideas that characterized the period from 1100 to 1500 and the Church's response to these challenges. Prerequisite: Three hours of History.

**HST 2713. Medieval Urban Legends. 3 Credits.**

Examines legends from and about the European Middle Ages, analyzing how and why societies create and cling to intellectually improbable interpretations of the world. Prerequisite: Three hours of History.

**HST 2721. The Renaissance. 3 Credits.**

European society from the fourteenth to early sixteenth century, emphasizing the transition from medieval to modern society and the roots of Renaissance Italy's cultural and artistic brilliance. Prerequisite: Three hours of History.

**HST 2730. Topics in British History. 3 Credits.**

Topics examining the history of Britain. Representative topics: Britain to 1688; Britain since 1688. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2740. Topics in French History. 3 Credits.**

Topics examining French history. Representative topics: France since Napoleon. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of History.

**HST 2750. History of Poland. 3 Credits.**

History of the Polish people and Polish state from the tenth century to the present. Strong emphasis on the twentieth century. Prerequisite: Three hours of History.

**HST 2760. Modern Germany. 3 Credits.**

Political, cultural, and social history of Germany from unification in 1871 through the Wilhelmine empire, Weimar Republic, Nazi era, and postwar period. Prerequisite: Three hours of History.

**HST 2790. The Holocaust. 3 Credits.**

Study of the background, events, and aftermath of the Holocaust in Nazi Germany and Europe under German control. Prerequisite: Three hours of History.

**HST 2792. Jews in Modern Europe. 3 Credits.**

The history of the Jewish people from the eighteenth century to the present, focusing on Europe and the United States. Prerequisite: Three hours of History. Catamount Core: D2.

**HST 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Three hours of History.

**HST 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**HST 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**HST 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**HST 4110. Topics in Environmental Hist. 3 Credits.**

Topics examining environmental history. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4120. Topics in Gender&Sexuality Hst. 3 Credits.**

Topics examining the history of gender and/or sexuality. Representative topic: *Queer Lives*. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History or appropriate work in Gender, Sexuality, & Women's Studies; minimum Junior standing. Catamount Core: D2.

**HST 4210. Comparative Slavery. 3 Credits.**

History of slavery from a comparative perspective, including Classical Antiquity, Islam and the Middle East, Africa, Latin America, and the Southern United States. Prerequisites: Twelve hours of History; minimum Junior standing. Catamount Core: D2.

**HST 4240. Bases and US Global Power. 3 Credits.**

A history-based interdisciplinary exploration of American military bases as vehicles for the construction US global hegemony. Students discuss academic books and articles, approach cultural questions through movies and maps, and write a major research paper. Topics include grand strategy, geography, international law, and the relationship between American soldiers and local populations. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4300. Topics in Global History. 3 Credits.**

Topics examining themes in Global history. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Twelve hours of History; minimum Junior standing.

**HST 4420. Topics in Middle East History. 3 Credits.**

Topics examining the history of the Middle East. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4443. Topics in Chinese History. 3 Credits.**

Topics examining Chinese history. Representative topics: China under Chairman Mao; 20th-century China; China and the West. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4447. Topics in Japanese History. 3 Credits.**

Topics examining Japanese history. Representative topics: Postwar Japan; Japan in the World. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4470. Topics in Latin Am History. 3 Credits.**

Topics examining themes in Latin American history. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Twelve hours of History; minimum Junior standing.

**HST 4475. History & Memory. 3 Credits.**

Through the lens of firsthand accounts in memoirs, autobiographies, and testimonials, covers the history of several Latin American nations in the twentieth century. Explores the theoretical and methodological issues raised by this type of historical source/literary genre. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4500. Topics in American History. 3 Credits.**

Topics examining historical themes and questions in the history of the Americas, with a particular emphasis on places beyond the United States. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4510. Topics in North Am Enviro Hist. 3 Credits.**

Topics examining the environmental history of North America. Representative topic: *Cree Country*. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Twelve hours of History or appropriate work in Environmental Studies; minimum Junior standing.

**HST 4550. Topics in Canadian History. 3 Credits.**

Topics in Canadian history. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Twelve hours of History; minimum Junior standing.

**HST 4600. Topics in US History. 3 Credits.**

Topics examining the history of the United States and/or its colonial antecedents. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4640. Topics in US Social History. 3 Credits.**

Topics examining themes in the social history of the United States and/or its colonial antecedents. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4690. Topics in Euro & Am History. 3 Credits.**

Topics examining the interconnected history of Europe and the Americas. Representative topic: *World's Fairs*. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Twelve hours of History; minimum Junior standing.

**HST 4700. Topics in European History. 3 Credits.**

Topics examining the history of Europe. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Twelve hours of History; minimum Junior standing.

**HST 4705. Topics in Ancient History. 3 Credits.**

Topics examining Ancient history. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4710. Topics in Medieval Europe. 3 Credits.**

Topics examining themes in Medieval European history. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4720. Topics in Early Modern Europe. 3 Credits.**

Topics examining themes in Early Modern European history. Representative topics: Books & Readers in Europe, 1250-1650. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4750. Topics in Modern Europe. 3 Credits.**

Topics examining themes in Modern European history. Representative topic: France Under German Occupation. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4790. Topics in Holocaust History. 3 Credits.**

Topics examining themes in Holocaust Studies and Modern European history. Representative topics: The Holocaust & Memory; Auschwitz; The Holocaust in Poland. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: Twelve hours of History; minimum Junior standing.

**HST 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**HST 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**HOLOCAUST STUDIES (HS)****Courses****HS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Declared minor in Holocaust Studies and permission of director.

**HS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Declared minor in Holocaust Studies and permission of director.

**HS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**HONORS COLLEGE (HCOL)****Courses****HCOL 1000. FY Writing Seminar. 0 or 3 Credits.**

The first course of a two-semester sequence required of all Honors College first-year students. These seminars engage with a wide variety of contemporary social and ecological problems and share a focus on writing and information literacy. Topics vary by year. Prerequisite: Honors College First-Year standing. Catamount Core: WIL1.

**HCOL 1500. FY Research Presentation Sem. 0 or 3 Credits.**

Second semester of two-semester sequence for Honors College first-year students focusing on collaborative group work and the presentation of research. Prerequisite: Honors College First-Year standing.

**HCOL 1990. Special Topics. 1-18 Credits.**

A two-semester sequence required of all Honors College First-Year Students. Course content may vary slightly from year to year.

**HCOL 2000. Sophomore Seminar. 3 Credits.**

For Honors College sophomores, seminars that are typically discussion based, writing intensive, and multidisciplinary. Course content will vary from year to year. Prerequisite: Honors College student; Sophomore standing.

**HCOL 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HCOL 3000. Thesis Proposal Preparation. 1 Credit.**

Designed to assist students in the production and submission of an Honors College thesis proposal. Prerequisites: Honors College and College of Arts & Sciences student; minimum Junior standing.

**HCOL 3881. HEC: Course Addition. 1 Credit.**

Enriched course work added to a three-credit course at the 2000-level or above via a binding agreement with the faculty instructor. Prerequisite: Honors College and College of Arts & Sciences student.

**HCOL 3882. HEC: Lab/Studio. 1-3 Credits.**

Undergraduate research project taking place in a laboratory, field, or studio setting, specifically contracted with a faculty member. Prerequisite: Honors College and College of Arts & Sciences student.

**HCOL 3883. HEC: Readings & Research. 1-3 Credits.**

Focused and customized pre-thesis work in the form of a readings and research project, specifically contracted with a faculty member. Prerequisite: Honors College and College of Arts & Sciences student.

**HCOL 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HCOL 4000. Thesis Support Seminar. 0 Credits.**

Brings together students writing their college honors theses in semi-monthly meetings to share their research topics, concerns and findings. Prerequisite: Honors College and College of Arts & Sciences student.

## HUMAN DEVELOPMENT & FAMILY SCIENCE (HDF)

### Courses

**HDF 1010. Fndn HumDev&FamSci for Majors. 3 Credits.**

Seminar designed to introduce incoming majors to college expectations and skills, and to concepts and practices of Human Development & Family Science and critically thinking about these concepts and practices. Prerequisite: Human Development and Family Science major. Pre/Co-requisites: HDF 1050.

**HDF 1050. Human Development. 3 Credits.**

A comprehensive survey of life span individual and family development within social and historical context. Catamount Core: S1.

**HDF 1200. Aging: Change & Adaptation. 3 Credits.**

Individual and social meanings of aging and old age; physical, physiological, psychological, and sociological changes accompanying aging; individual, family, community, and societal adaptations to aging. Cross-listed with: SOC 1320.

**HDF 1320. Exploring Dvlpmnt in Community. 1 Credit.**

Experiential learning course focused on self-exploration work with instruction and reflection to enrich the learning experience and strengthen community. Students will be asked to engage in community so as to explore the role that community serves in support of self and others. Prerequisite: Instructor permission.

**HDF 1600. Family Context of Development. 3 Credits.**

Developmental ecological approach to analysis of the family as a system in which individuals develop. Catamount Core: S1.

**HDF 1650. Human Relationships & Sexuality. 3 Credits.**

Sexual responsibility and the biological, social, psychological growth, and development of human beings in terms of sex role identity. Catamount Core: S1.

**HDF 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HDF 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HDF 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HDF 2010. The Helping Relationship. 3 Credits.**

Prepares students for the Human Services Profession through the study and practice of professional standards and select helping skills central to effective helping relationships. Prerequisites: HDF 1050 or HDF 1600; Minimum Sophomore standing. Cross-listed with: CNSL 2010.

**HDF 2200. Adult Development & Aging. 3 Credits.**

Examines the biological, cognitive, psychological, and social changes experienced during adulthood and late life. Prerequisites: HDF 1050, HDF 1200, or SOC 1320; minimum Sophomore standing.

**HDF 2205. Dev through Relationships. 3 Credits.**

Introduces Bowlby's attachment theory as a framework for understanding human development. Through readings, lectures, and critical reflection activities, explores the cross-cultural differences as well as the transcultural and foundational nature of early relationships, their intergenerational transmission, and their impact on later relationships and development (including developmental trauma). Prerequisite: HDF 1050 or HDF 1600.

**HDF 2410. Interrogatng White Identity. 3 Credits.**

Introductory examination of white identity development and white identity development models from an ecological perspective. Prerequisites: HDF 1050 or HDF 1600; Minimum Sophomore standing. Catamount Core: D1.

**HDF 2610. Social Context of Development. 3 Credits.**

Developmental ecological approach to analysis of social institutions as influences on human development. Focus on education, community, health care, and social services. Prerequisites: HDF 1600; Minimum Sophomore standing.

**HDF 2670. Sexual & Gender Identities. 3 Credits.**

Exploration of diverse lesbian, gay, bisexual, and/or transgender identities, families, and communities, and their current personal, social, and cultural meanings and contexts. Prerequisites: HDF 1050, HDF 1600; minimum Sophomore standing. Catamount Core: D2.

**HDF 2890. Theories of Human Development. 3 Credits.**

Introduction to the most influential theories of human development where students study, compare, and evaluate select theories and apply them to issues of practical importance. Prerequisites: HDF 1050, HDF 1600; minimum Sophomore standing. Catamount Core: S1.

**HDF 2990. Special Topics. 1-18 Credits.**

Lectures, laboratories, readings, or projects relating to contemporary areas of study. Enrollment may be more than once, accumulation up to 12 hours. Prerequisite: Minimum Sophomore standing.

**HDF 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisites: HDF 1050, HDF 2610, and Instructor permission.

**HDF 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HDF 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**HDF 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Minimum Sophomore standing.

**HDF 3210. Psychology of Aging. 3 Credits.**

This course provides students with a comprehensive overview of psychological aspects of aging and identifies key lessons and facilitative practices for supporting positive aging. Prerequisites: HDF 2610, HDF 2890, PSYS 2002 or EDFS 3090 or SOC 2500 or SWSS 2640; minimum Junior standing.

**HDF 3600. Family Ecosystem. 3 Credits.**

Family viewed in and as an environment for human development. The family ecological approach applied to practical family concerns. Prerequisites: HDF 2610, HDF 2890, PSYS 2002 OR EDFS 3090 OR SOC 2500 OR SWSS 2640; Minimum Junior standing.

**HDF 3630. Advanced Child Development. 3 Credits.**

Survey of professional literature in child development with special emphasis on influence of early life experiences throughout the life cycle. Prerequisites: HDF 2610, HDF 2890; PSYS 2002 OR EDFS 3090 OR SOC 2500 OR SWSS 2640; Minimum Junior standing.

**HDF 3640. Contemporary Issues Parenting. 3 Credits.**

Contemporary cultural factors that influence adult lifestyles and their relationship to successful parenting. May be repeated up to six credits. Prerequisites: HDF 2610, HDF 2890, PSYS 2002 or EDFS 3090 or SOC 2500 or SWSS 2640; Minimum Junior standing.

**HDF 3660. Seminar in Human Development. 3 Credits.**

Intensive study of issues in human development and their application in a wide variety of professional areas. May be taken more than once up to a maximum of 12 hours. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: HDF 2610, HDF 2890, PSYS 2002 OR EDFS 3090 OR SOC 2500 OR SWSS 2640; Minimum Junior standing.

**HDF 3670. Adv Gender & Sexual Iden. 3 Credits.**

Intensive study of lesbian, gay, bisexual, and/or transgender identities, families, and communities in diverse individual, social, political, and cultural contexts. Prerequisite: HDF 2610, HDF 2890; PSYS 2002, EDFS 3090, SOC 2500, or SWSS 2640; minimum Junior standing.

**HDF 3680. Sem In Close Relationships. 3 Credits.**

Causal conditions influencing formation, maintenance, and dissolution of intimate adult relationships. Draws on theory and students' personal experiences to explicate the nature of close relationships in contemporary American society. Prerequisites: HDF 2610, HDF 2890; PSYS 2002, EDFS 3090, SOC 2500, or SWSS 2640; minimum Junior standing.

**HDF 3990. Special Topics. 1-18 Credits.**

Lectures, laboratories, readings, or projects relating to contemporary areas of study. Enrollment may be more than once, accumulation up to twelve hours. Prerequisites: HDF 2610, HDF 2890, PSYS 2002 or EDFS 3090 or SOC 2500 or SWSS 2640; Minimum Junior standing.

**HDF 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HDF 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion.

**HDF 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HDF 4991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisites: HDF 2010, HDF 2410, HDF 2610, HDF 2890; PSYS 2002 or EDFS 3090 or SOC 2500 or SWSS 2640; Senior standing; Instructor permission.

**HUMANITIES (HUMN)****Courses****HUMN 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HUMN 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HUMN 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HUMN 1995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HUMN 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HUMN 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HUMN 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HUMN 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**HUMN 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HUMN 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HUMN 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HUMN 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HUMN 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**HUMN 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HUMN 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**HUMN 4991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**HUMN 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**HUMN 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded.

**HUMN 4995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**INTERNSHIP (SINT)****Courses****SINT 1991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member/faculty-staff team with member as instructor of record; academic credit not degree eligible; offered at department discretion. May be crosslisted with departmental internship courses. Prerequisite: Degree students only.

**SINT 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member/faculty-staff team with faculty member as instructor of record; academic credit not degree eligible; offered at department discretion. May be crosslisted with departmental internship courses. Prerequisite: Degree students only.

**SINT 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member/faculty-staff team with faculty member as instructor of record; academic credit not degree eligible; offered at department discretion. May be crosslisted with departmental internship courses. Prerequisite: Degree students only.

**ITALIAN (ITAL)****Courses****ITAL 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**ITAL 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**ITAL 1100. Elementary Italian I. 4 Credits.**

Fundamentals of Italian composition, comprehension, pronunciation, speaking, reading, and writing in a cultural context. Classes are conducted in Italian and students engage in active use of the language. No prior knowledge expected. Cannot be taken for credit after ITAL 1200. Catamount Core: GC2.

**ITAL 1200. Elementary Italian II. 4 Credits.**

Continuation of ITAL 1100. Fundamentals of Italian composition, comprehension, pronunciation, speaking, reading, and writing in a cultural context. Classes are conducted in Italian and students engage in active use of the language. Cannot be taken for credit after ITAL 2100. Prerequisite: ITAL 1100 or equivalent. Catamount Core: GC2, OC.

**ITAL 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ITAL 2100. Intermediate Italian I. 3 Credits.**

Review of grammar, moving toward increased proficiency in composition, comprehension, pronunciation, speaking, reading, and writing. Emphasis on cultural context. Compositions, oral practice, reading. Students may take 1 ITAL course numbered between 2100 and 2109 for credit. Cannot be taken for credit after ITAL 2200. Prerequisite: ITAL 1200 or equivalent. Catamount Core: GC2.

**ITAL 2108. TR Intermediate Italian I. 3 Credits.**

Credit for the equivalent of Intermediate Italian I taken at another institution and accepted for transfer credit at UVM. May count for the Italian Studies minor with approval of a minor advisor. Students may take 1 ITAL course numbered between 2100 and 2109 for credit. Cannot be taken for credit after ITAL 2200. Prerequisite: ITAL 1200 or equivalent. Catamount Core: GC2.

**ITAL 2109. AP Intermediate Italian I. 3 Credits.**

Credit awarded for achieving a certain score on the Italian Language Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Students may take 1 ITAL course numbered between 2100 and 2109 for credit. Prerequisite: ITAL 1200 or equivalent. Catamount Core: GC2.

**ITAL 2200. Intermediate Italian II. 3 Credits.**

Continuation of ITAL 2100. Grammar review, moving toward increased proficiency in composition, comprehension, pronunciation, speaking, reading, and writing. Emphasis on cultural context. More extensive and sophisticated readings and compositions than in ITAL 2100. Students may take 1 ITAL course numbered between 2200 and 2209 for credit. Cannot be taken for credit after ITAL 3110. Prerequisite: ITAL 2100 or equivalent. Catamount Core: GC2, OC.

**ITAL 2208. TR Intermediate Italian II. 3 Credits.**

Credit for the equivalent of Intermediate Italian II taken at another institution and accepted for transfer credit at UVM. May count for the Italian Studies minor with approval of a minor advisor. Students may take 1 ITAL course numbered between 2200 and 2209 for credit. Cannot be taken for credit after ITAL 3110. Prerequisite: ITAL 2100 or equivalent. Catamount Core: GC2, OC.

**ITAL 2209. AP Intermediate Italian II. 3 Credits.**

Credit awarded for achieving a certain score on the Italian Language Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Students may take 1 ITAL course numbered between 2200 and 2209 for credit. Prerequisite: ITAL 2100 or equivalent. Catamount Core: GC2, OC.

**ITAL 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ITAL 3110. Reading and Writing Workshop. 3 Credits.**

Improvement of reading and writing skills through the analysis and discussion of increasingly complex texts -- literary, filmic, cultural. Prerequisite: ITAL 2200 or equivalent.

**ITAL 3500. Topics in Cinema. 3 Credits.**

Topics in the history of Italian cinema and its role as a window on Italian culture. Emphasis on improving linguistic fluency. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ITAL 2200 or equivalent.

**ITAL 3520. Early Italian Lit in Context. 3 Credits.**

An introduction to Italian literature from its beginnings through the early modern period. Authors may include Dante, Boccaccio, Machiavelli. Emphasis on improving linguistic fluency. Prerequisite: ITAL 2200 or equivalent. Catamount Core: AH2.

**ITAL 3550. Topics in Culture & Literature. 3 Credits.**

Topics exploring the cultural realities of Italy, from politics to pop music, food to fashion. Emphasis on improving linguistic fluency. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: ITAL 2200 or equivalent. Catamount Core: GC2.

**ITAL 3560. Cultures of Women in Italy. 3 Credits.**

A study of Italian women writers, journalists, artists, and film directors. Emphasis on reading and discussion. Prerequisite: ITAL 2200 or equivalent.

**ITAL 3565. Italian Fairy Tales. 3 Credits.**

A study of Italian fairy tales from the origins of this genre in sixteenth-century Venice to contemporary narratives. Emphasis on reading and discussion. Prerequisite: ITAL 2200 or equivalent. Catamount Core: AH2.

**ITAL 3580. Italian Food Culture. 3 Credits.**

An exploration of the multiple connections between food and culture in Italy from the Middle Ages to the present day through literature, cookbooks, politics, history, religion, and more. Emphasis on reading and discussion. Prerequisite: ITAL 2200 or equivalent. Catamount Core: GC2.



**ITAL 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ITAL 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ITAL 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ITAL 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ITAL 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ITAL 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**ITAL 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ITAL 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

## JAPANESE (JAPN)

### Courses

**JAPN 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**JAPN 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**JAPN 1100. Elementary Japanese I. 0 or 4 Credits.**

Introduction to spoken and written Japanese through aural-oral drills and grammar presentation. The three writing systems of Japanese (hiragana, katakana, and kanji) are introduced. No prior knowledge expected. Catamount Core: GC2, OC.

**JAPN 1200. Elementary Japanese II. 0 or 4 Credits.**

Continuation of JAPN 1100. Prerequisite: JAPN 1100 or equivalent. Catamount Core: GC2, OC.

**JAPN 1300. Japanese Daily Communication. 3 Credits.**

Introductory level course on speaking everyday Japanese. Emphasis on solid understanding and accurate use of grammar patterns in a culturally appropriate context and conversational situations. No prior knowledge expected.

**JAPN 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**JAPN 2100. Intermediate Japanese I. 4 Credits.**

Continuation of JAPN 1200 designed to enable the students to converse in everyday Japanese and to read and write basic texts. Prerequisite: JAPN 1200 or equivalent. Catamount Core: GC2, OC.

**JAPN 2200. Intermediate Japanese II. 4 Credits.**

Continuation of JAPN 2100. Prerequisite: JAPN 2100 or equivalent. Catamount Core: GC2, OC.

**JAPN 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for special titles.

**JAPN 3100. Advanced Japanese I. 3 Credits.**

Further development of oral proficiency and advanced study of grammatical structure of modern Japanese, supplemented by audiovisual materials and authentic written texts of several kinds. Prerequisite: JAPN 2200 or equivalent.

**JAPN 3110. Japanese Conversation I. 1-3 Credits.**

Development of speaking and listening skills related to concrete topics through total immersion in Japanese. Prerequisite: JAPN 2200 or equivalent.

**JAPN 3150. Kanji is Key I. 3 Credits.**

A kanji character course designed for teaching 500-600 kanji characters in JLPT Levels 3-2 (N3-N2) and also reinforcing 300 kanji introduced in JAPN 1100 / JAPN 1200. Teaches basic pictographs and radicals to predict meanings and readings of kanji characters. Prerequisite: JAPN 2200 or equivalent.

**JAPN 3200. Advanced Japanese II. 3 Credits.**

Continuation of JAPN 3100. Prerequisite: JAPN 3100 or equivalent.

**JAPN 3210. Japanese Conversation II. 1-3 Credits.**

Development of functional skills to carry out daily conversation in varied social contexts. Prerequisite: JAPN 2200 or equivalent.

**JAPN 3250. Kanji is Key II. 3 Credits.**

Kanji character course designed for teaching 500-600 kanji characters in JLPT Levels 3-2 (N3-N2) and also reviewing 300 kanji introduced in JAPN 2100 / JAPN 2200. Teaches basic pictographs and radicals to predict meanings and readings of kanji characters. Prerequisite: JAPN 3150.

**JAPN 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**JAPN 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**JAPN 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**JAPN 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**JAPN 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**JAPN 4100. Studies of Japanese Texts I. 3 Credits.**

Introduction to rapid reading skills, directed reading of authentic texts and guided practice of conversational skills in multiple social contexts. Course can be repeated with different content. Prerequisite: JAPN 3200 or equivalent.

**JAPN 4110. Japanese for Communication I. 1-6 Credits.**

Training in skills to communicate on concrete and abstract topics. Repeatable with different content. Prerequisite: JAPN 3200 or equivalent.

**JAPN 4200. Studies of Japanese Texts II. 3 Credits.**

Continuation of JAPN 4100. Application of the rapid reading skills developed in JAPN 4100 using higher-level reading materials. Course can be repeated with different content. Prerequisite: JAPN 4100 or equivalent.

**JAPN 4210. Japanese for Communication II. 1-6 Credits.**

Development of skills to present information and view points in varied social contexts. Repeatable with different content. Prerequisite: JAPN 3200 or equivalent.

**JAPN 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**JAPN 4991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**JAPN 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**JAPN 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**JAPN 4995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**JAPN 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**JEWISH STUDIES (JS)****Courses****JS 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**JS 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**JS 1500. Jews and Judaisms. 3 Credits.**

An introduction to Jewish history, religious thought and practice, ethics, and law. Cross-listed with: REL 1240. Catamount Core: AH3, D2.

**JS 1610. Contemporary Israel. 3 Credits.**

Addresses the modern nation-state of Israel through such topics as media, demographics, politics, religion, immigration, popular culture, and/or urban planning and systems.

**JS 1990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**JS 2990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**JS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**JS 3990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**JS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**JS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**JS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**JS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**JS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**LATIN (LAT)****Courses****LAT 1100. Elementary Latin I. 0 or 4 Credits.**

For students who present less than two years of high school Latin. Catamount Core: GC2.

**LAT 1140. AP Latin 3. 3 Credits.**

Credit awarded for achieving a score of 3 on the Latin Advanced Placement (AP) Examination.

**LAT 1200. Elementary Latin II. 0 or 4 Credits.**

For students who present less than two years of high school Latin. Prerequisite: LAT 1100 or equivalent. Catamount Core: GC2.

**LAT 1300. AP Latin 4 or 5. 3 Credits.**

Credit awarded for achieving a score of 4 or 5 on the Latin Advanced Placement (AP) Examination.

**LAT 1400. Self-Paced Latin. 1-8 Credits.**

Fundamentals of Classical Latin through tutorial instruction, credit dependent on amount of material learned. May be repeated for credit. No credit with LAT 1100 and LAT 1200.

**LAT 1990. Special Topics. 1-18 Credits.**

Introductory courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**LAT 2100. Intermediate Latin I. 3 Credits.**

Selections from Cicero and other prose authors. Prerequisite: LAT 1200 or equivalent. Catamount Core: GC2.

**LAT 2200. Intermediate Latin II. 3 Credits.**

Selections from Vergil and Ovid. Prerequisite: LAT 1200 or equivalent. Catamount Core: GC2.

**LAT 2990. Special Topics. 1-18 Credits.**

Intermediate courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**LAT 3100. Topics In: Latin Literature. 3 Credits.**

Selections from principal Roman authors. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: LAT 2100, LAT 2200, or equivalent.

**LAT 3990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**LAT 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**LAT 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**LAT 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**LAT 4600. Topics in Latin Prose. 3 Credits.**

Representative topics: Republican Prose (Caesar, Sallust, Cicero), Roman Oratory (Cicero's *De Oratore*, Orator, Brutus), Historians of the Empire (Augustus, Tacitus, Suetonius, Ammianus Marcellinus), Roman Letters (Cicero, Horace, Pliny). May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: LAT 3200.

**LAT 4650. Topics in Latin Poetry. 3 Credits.**

Representative topics: Roman Epic Poetry (Lucretius, Vergil, Ovid), Roman Lyric Poets (Catullus, Horace, Propertius, and Tibullus), Roman Comedy (Plautus and Terence), Satire (Horace, Persius, Juvenal, Petronius). May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: LAT 3200.

**LAT 4990. Special Topics. 1-18 Credits.**

Courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**LAT 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**LAT 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

## LEADERSHIP AND POLICY STUDIES (EDLP)

### Courses

#### **EDLP 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

#### **EDLP 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **EDLP 1993. Independent Study. 1-18 Credits.**

#### **EDLP 2110. Sports Leadership. 3 Credits.**

Examines leadership in all areas of sports. Uses sport as a vehicle to explore leadership theory and aid in developing students' leadership skills. Explores social change theory, investigates sports as a vehicle for change.

#### **EDLP 2890. Practicum. 1-18 Credits.**

A required component of a curriculum that is an on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded.

#### **EDLP 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

#### **EDLP 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **EDLP 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **EDLP 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

#### **EDLP 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **EDLP 3890. Practicum. 1-18 Credits.**

A required component of a curriculum that is an on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded.

#### **EDLP 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

#### **EDLP 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Permission of the Coordinator of Professional Laboratory Experiences.

#### **EDLP 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **EDLP 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

#### **EDLP 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## LEARNING COMMUNITY (LC)

### Courses

#### **LC 0010. Arts & Creativity Lrng Cmty. 1 Credit.**

Students will: explore the blossoming local cultural arts community; engage in cognitive opportunities in arts-related fields; and interact with artists and others behind the scenes to gain an understanding of the vital nexus between artistic creation, curation, criticism and community.

#### **LC 0020. Cultural Crossroads Lrng Cmty. 1 Credit.**

Students will explore the cultural and linguistic diversity of lives in Vermont and around the world, and deepen understanding of human languages, cultures, identity, diversity, and social justice, to learn how to live, work and learn in an increasingly global and interconnected society.

#### **LC 0030. Innov & Entrepreneur Lrng Cmty. 1 Credit.**

Every product, object, service, and concept in our society was envisioned in someone's imagination. Through a series of plenary lectures, panel discussions, and experiential learning opportunities, this community challenges students to use their imagination to figure out how they can transform their world.

#### **LC 0040. CL:Ldrshp&Soc Change Lrng Cmty. 1 Credit.**

Deepens students' understanding of how to create social change through leadership, and support individual and community success at UVM.

#### **LC 0050. Outdoor Experience Lrng Cmty. 1 Credit.**

Students will be able to describe the benefits of outdoor experiences on human well-being; engage in a variety of outdoor activities throughout Burlington that expand a sense of connection to place; and will develop self-awareness, teamwork, and outdoor leadership in an inclusive community.

**LC 0060. Sustainability Lrng Cmty. 1 Credit.**

Students explore and practice three central themes of sustainability - Outdoor Exploration, Food Systems, and Matter and Energy. Through field-based activities, discussion, and reflection, builds skills and intention around creating the conditions for well-being for life at all scales: personal, social, and ecological.

**LIBRARY SCIENCE (EDLI)****Courses****EDLI 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDLI 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDLI 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDLI 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDLI 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDLI 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDLI 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDLI 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDLI 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDLI 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**LINGUISTICS (LING)****Courses****LING 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**LING 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**LING 1100. Languages of the World. 3 Credits.**

An exploration of the incredible inventory of the world's languages, addressing language universals and the breadth of language variation. Students investigate how linguists group and compare languages, and approach with a critical lens relations between global processes, world languages, political/cultural systems of power, and language endangerment. Catamount Core: D2.

**LING 1200. Linguistic Diversity in US. 3 Credits.**

Survey of linguistic diversity in the United States, focusing on language and identity of various ethnic and cultural groups, with strong focus on standard language ideology and how language is used to marginalize and justify discrimination of already subordinated groups. Catamount Core: D1, S1.

**LING 1300. Intercultural Communication. 3 Credits.**

Designed for those planning to work or live in increasingly multicultural, multilingual contexts, and for those interested in the interdisciplinary study of language and culture. Explores various theories of culture and foundational and recent research on intercultural and cross-cultural communication and related topics. Students perform a self-study of linguistic and cultural exchanges throughout the course. Catamount Core: S1.

**LING 1400. Structure of English Language. 3 Credits.**

Using descriptive linguistic theory, this course examines basics of English grammar with emphasis on hands-on examples. Also includes exploration of politicization of English grammar.

**LING 1500. Introduction to Linguistics. 3 Credits.**

Introduction to biological, cognitive, and cultural bases of human communication through language, and to modern linguistic theory. Assignments provide opportunities for critical thinking and writing. Catamount Core: S1.

**LING 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**LING 2210. Sociolinguistics. 3 Credits.**

Exploration of language and nonverbal interactions as cultural activities. Focus on rules and patterns people display appropriate to communication and social interaction. Prerequisites: LING 1500 or ANTH 1600.

**LING 2220. Language, Gender and Sexuality. 3 Credits.**

Considers the field's emergence and evolution in relation to sociolinguistic and feminist theory. Examines how gendered identities are socially and linguistically constructed from a range of theoretical and methodological perspectives. Maintains a focus throughout on queer linguistic scholarship, looking beyond binaries; disentangling gender, sex, and sexuality; interrogating relationship of language to systems of power/oppression. Prerequisite: LING 1200, LING 1500, ANTH 1600, or GSWS 1500.

**LING 2230. African American English. 3 Credits.**

Overview of African American English from linguistic and cultural perspectives. Topics include: linguistic structure and history/development, discourse genres, hip-hop language, education, and media representations, among others. Prerequisite: LING 1200 or LING 1500. Catamount Core: D1.

**LING 2310. Psycholinguistics. 3 Credits.**

Psycholinguistics studies the cognitive processes involved in acquiring, understanding, and producing language. Speech perception, word recognition, and sentence processing are some of the topics covered. Prerequisite: LING 1500 or PSYS 1400.

**LING 2320. Second Language Acquisition. 3 Credits.**

Exploration of first language influence, individual cognitive differences, and age in second language acquisition. The role of interaction, socialization, and identity are also considered. Prerequisite: LING 1500 or PSYS 1400.

**LING 2400. TESOL and Applied Linguistics. 3 Credits.**

Provides an overview of second language/ESL classroom theory and research. Topics include: teaching approaches, learning environment and outcomes, program planning, syllabus and material design, lesson planning, and assessment. Emphasis on practical application of topics discussed. Prerequisite: LING 1500.

**LING 2510. Phonetics. 3 Credits.**

Linguistic, acoustic, and articulatory phonetics. Stresses phonetic theory and the analysis of speech variation around the world and across the lifespan. Prerequisite: LING 1500.

**LING 2530. Phonology. 3 Credits.**

Surveys the study of the organization of sounds and internal word structure, covering a range of phenomena: alternations, constraints, tone, and more. Prerequisite: LING 1500.

**LING 2560. Syntax. 3 Credits.**

Introduction to the syntax of natural languages and a rigorous approach to the analysis of sentence structure. Prerequisites: ANTH 1600 or LING 1500.

**LING 2610. Morphology. 3 Credits.**

Overview of morphological analysis and theory. Students will engage with linguistic data to understand the broad range of morphological patterns on display in the world's languages. Prerequisite: LING 1500.

**LING 2620. Pragmatics. 3 Credits.**

An exploration of the contexts of language--physical, linguistic, and cultural--and their roles in determining the meaning of everyday talk and writing. Prerequisite: LING 1500.

**LING 2630. Semantics. 3 Credits.**

Students will engage with language as a logical system and explore how it is that linguistic utterances mean what they mean. They will learn to express linguistic constituents as logical expressions. Other topics include modification, entailments, quantification, negation, and idioms. Prerequisite: LING 1500 or ANTH 1600. Catamount Core: MA, QR.

**LING 2640. Historical Linguistics. 3 Credits.**

Exploration of how languages change and the methods of historical linguistics. Explores how the concept of relatedness among languages is determined and provides an introduction to linguistic reconstruction. The connection between synchronic variation and long term change will be emphasized. Prerequisite: LING 1500.

**LING 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**LING 3210. Language & Media. 3 Credits.**

Using quantitative and qualitative methods in sociolinguistics, explores the strategic deployment of linguistic resources in various forms of media. Focuses on gaining critical understanding of the ways styles are constructed and circulated in our mediated social worlds for the projection of identities and the representation of groups. Prerequisites: 2 courses in LING numbered 2200 to 2299.

**LING 3320. Memory & Language Learning. 3 Credits.**

Explores the role of memory in the acquisition, processing and use of a second language. We will assess and critique different tests that have been used to measure memory capacity. Prerequisite: LING 1500 or equivalent.

**LING 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**LING 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**LING 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**LING 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**LING 4400. Techniques & Procedures in ESL. 4 Credits.**

Designed for students preparing to teach English to speakers of other languages. Teaches best practices for second-language classrooms, and gain extensive first-hand experience in ESL teaching. Also relevant for teaching other foreign languages. Prerequisites: LING 1500, LING 2400. Pre/co-requisite: LING 1400, LING 2320.

**LING 4500. Linguistics Capstone Seminar. 3 Credits.**

Seminar on a topic in linguistics. Includes a research component, readings, writing, and discussion centered on the topic of focus. Prerequisites: Linguistics major; minimum Junior standing.

**LING 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**LING 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**LING 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**LITERACY (EDLT)****Courses****EDLT 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDLT 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDLT 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDLT 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDLT 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDLT 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDLT 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDLT 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDLT 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDLT 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MATHEMATICS (MATH)****Courses****MATH 1012. College Algebra. 3 Credits.**

Sets, relations, functions with particular attention to properties of algebraic, exponential, logarithmic functions, their graphs and applications in preparation for MATH 1212. May not be taken for credit concurrently with, or following receipt of, credit for any mathematics course numbered MATH 1212 or above. Pre/co-requisites: Two years of secondary school algebra; one year of secondary school geometry. Catamount Core: QR.

**MATH 1034. Pre-Calculus Mathematics. 3 Credits.**

Skills in working with numerical, algebraic, and trigonometric expressions are developed in preparation for MATH 1234. May not be taken for credit concurrently with, or following receipt of, credit for any mathematics course numbered MATH 1234 or above. Prerequisite: Two years of secondary school algebra; one year of secondary school geometry. Catamount Core: QR.

**MATH 1077. Exploring Modern Mathematics. 3 Credits.**

Introduction to mathematics of finite systems with applications, such as probability, statistics, graph theory, fair division and apportionment problems, voting systems. Prerequisites: Two years of secondary school algebra, MATH 1012, or MATH 1034. Catamount Core: MA, QR.

**MATH 1088. Numbers for Naturalists. 3 Credits.**

Data, statistics, modeling, algebra, word problems, and calculus for students in the Rubenstein School of Environment and Natural Resources. Students who do well in the algebra section may continue with MATH 1212 or MATH 1234. Credit not awarded to College of Engineering and Mathematical Sciences students. Prerequisite: Three years of high school math. Catamount Core: MA, QR.

**MATH 1111. Elementary School Math. 3 Credits.**

Operations with real numbers: decimals, fractions, percents, integers. Set operations, Venn diagrams, algebra, and problem solving provide background for future instruction in elementary/middle school mathematics. Prerequisite: Three years of secondary school math. Catamount Core: MA, QR.

**MATH 1122. Fund Cncpts Elm School Math. 3 Credits.**

Topics include geometry, measurement, probability, statistics, algebra, number theory, and problem solving to provide background for future instruction in elementary and middle school mathematics. Prerequisite: Three years of secondary school math. Catamount Core: QR.

**MATH 1212. Fundamentals of Calculus I. 3 Credits.**

Introduction to limits and differential/integral calculus with a wide variety of applications. Students interested in intensive use of mathematics should take MATH 1234. Credit not awarded for both MATH 1212 and MATH 1234 unless followed by MATH 1248. See MATH 1242. Prerequisite: C- or better in MATH 1012 or C- or better in MATH 1034, or a score of 61 or higher on the placement assessment. Catamount Core: MA, QR.

**MATH 1224. Fundamentals of Calculus II. 3 Credits.**

Techniques and applications of integration. An introduction to multi-variable calculus: partial derivatives and double integrals. Students completing MATH 1224 may be admitted to MATH 1248; however, MATH 1212 and MATH 1242 is preferable to MATH 1212. Prerequisite: MATH 1212 or MATH 1234. Catamount Core: MA, QR.

**MATH 1234. Calculus I. 4 Credits.**

Introduction to calculus of functions of one variable including: limits, continuity, techniques and applications of differentiation and integration. Credit not given for more than one course in the pair MATH 1212, MATH 1234 unless followed by MATH 1248 or MATH 1242. No credit following receipt of credit for MATH 1248 or above. Prerequisite: C- or better in MATH 1034 or a score of 76 or higher on the placement assessment. Catamount Core: MA, QR.

**MATH 1242. Transitional Calculus. 5 Credits.**

Intended to make the transition from a B or better in MATH 1212 to MATH 2248. Topics are similar to MATH 1248 but recognizing different backgrounds of students in MATH 1212 versus MATH 1234. Prerequisite: B or better in MATH 1212. Credit will not be given for both MATH 1248 and MATH 1242. Catamount Core: MA, QR.

**MATH 1248. Calculus II. 4 Credits.**

Vectors and vector operations. Techniques and applications of integration. Polar coordinates, Taylor polynomials, sequences and series, power series. Prerequisite: C- or better in MATH 1234. Credit will not be given for both MATH 1248 and MATH 1242. Catamount Core: MA, QR.

**MATH 1990. Special Topics. 1-18 Credits.**

Introductory courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Prerequisite: Instructor permission.

**MATH 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MATH 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MATH 2001. Development of Mathematics. 3 Credits.**

Project-based course. Historical development of mathematical sciences emphasizing interrelations among them. Individual assignments correspond to background and interests of students. Prerequisite: Nine hours of college mathematics.

**MATH 2055. Fundamentals of Mathematics. 3 Credits.**

Emphasizing proofs, fundamental mathematical concepts and techniques are investigated within the context of number theory and other topics. Prerequisite: MATH 1234 or MATH 1242. Credit not given for more than one of MATH 2055 and CS 1640. Catamount Core: MA, QR.

**MATH 2111. Algebra for Educators. 3 Credits.**

Algebraic concepts and relationships are explored and developed. Linear, quadratic, and exponential functions are featured. Prerequisite: 3 credits of Math numbered MATH 1111 or above. Catamount Core: QR.

**MATH 2180. Geometry for Educators. 3 Credits.**

An examination of geometric relationships using reasoning and proof. Topics include Euclidean, non-Euclidean and finite geometries, affine transformations, constructions, and spatial geometry. Provides background for future instruction in middle and high school geometry. Prerequisites: Three credits of Mathematics at MATH 1111 or above, minimum Sophomore standing.

**MATH 2248. Calculus III. 4 Credits.**

Vector-valued functions. Calculus of functions of several variables: partial derivatives, gradient, divergence, curl, multiple integrals, line integrals, Stokes' and Green's theorems. Prerequisite: C- or better in MATH 1248 or MATH 1242. Catamount Core: MA, QR.

**MATH 2468. Real Anlys in One Variable. 3 Credits.**

Principles of analysis in one variable. Heine-Borel and Bolzano-Weierstrass theorems; rigorous development of differential and integral calculus; infinite sequences and series of functions. May not be taken concurrently with or after MATH 3468. Prerequisite: MATH 2055 (preferred) or CS 1640. Catamount Core: MA, QR.

**MATH 2500. Eng Math Linear Algebra Lab. 1 Credit.**

Survey of the fundamental concepts of linear algebra necessary to describe the solution space of a linear differential equation and for solving systems of linear differential equations. Credit not awarded following receipt of credit for MATH 2522 or MATH 2544. Prerequisite: MATH 1234. Co-requisites: MATH 1248 or MATH 1242.

**MATH 2522. Applied Linear Algebra. 3 Credits.**

Vectors, matrices, linear independence, vector spaces (with focus on real  $n$ -space), determinants, linear transformations, eigenvalues and eigenvectors. Applications from engineering and the sciences incorporated through required computer assignments. Credit not given for both MATH 2522 and MATH 2544. Prerequisite: MATH 1248 or MATH 1242. Catamount Core: MA, QR.



**MATH 2544. Linear Algebra. 3 Credits.**

Vector spaces, linear independence, bases, linear transformations, matrices, determinants, change of basis characteristic equations, eigenvalues and eigenvectors, with applications. Emphasis on understanding and gaining facility with these concepts including proofs. Credit not given for both MATH 2522 and MATH 2544. Prerequisite: MATH 1248 or MATH 1242. Co-requisite: MATH 2248 or MATH 2055. Catamount Core: MA, QR.

**MATH 2551. Groups and Rings. 3 Credits.**

An introduction to the basic concepts of abstract algebra emphasizing examples, including modular arithmetic, symmetric groups, cyclic groups, polynomial rings, homomorphisms, and isomorphisms. May not be taken concurrently with or after MATH 3551. Prerequisite: MATH 2055 (preferred) or CS 1640. Catamount Core: MA, QR.

**MATH 2678. Basic Combinatorial Theory. 3 Credits.**

Introduction to basic combinatorial principles emphasizing problem-solving techniques. Enumeration, generating functions, Fibonacci numbers, pigeonhole principle, inclusion-exclusion, and graph theory. Prerequisites: MATH 2055 (preferred) or CS 1640. Catamount Core: MA, QR.

**MATH 2700. Fundmntls of Financial Math. 3 Credits.**

Students will be introduced to the basic ideas and algebraic structures of interest theory, time-value of money, annuities, loans, bonds, cash-flows and portfolios. Prerequisites: MATH 1224, MATH 1248 or MATH 1242. Catamount Core: QR.

**MATH 2766. Intro to Complex Systems. 3 Credits.**

Discrete dynamical systems, continuous time models, chaos, cobweb plots, cellular automata, agent based models, fractals, and introductory network science (including dynamic network models). May not be taken for credit concurrently with, or following receipt of, credit for any of MATH 3766, MATH 6701, MATH 6713, CSYS 5766, CSYS 6701, CSYS 6020, CSYS 6713. Prerequisites: MATH 1234 and familiarity with a programming language. Catamount Core: QR.

**MATH 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MATH 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MATH 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Junior/Senior standing; approval of Department Chair.

**MATH 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MATH 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MATH 3201. Adv Engineering Mathematics. 3 Credits.**

Differential equations, Laplace transforms, and systems of differential equations; brief introduction to Fourier series. Examples from engineering and physical sciences. Credit not granted for both MATH 3230 and MATH 3201. No credit for Mathematics majors. Prerequisite: MATH 2248. Co-requisites: Preferred: MATH 2522 or MATH 2544; or MATH 2500. Catamount Core: QR.

**MATH 3230. Ordinary Diffrentl Equation. 3 Credits.**

Solutions of linear ordinary differential equations, the Laplace transformation, and series solutions of differential equations. Prerequisite: MATH 2248. Corequisite: MATH 2522 or MATH 2544. Credit not granted for more than one of the courses MATH 3230 or MATH 3201. Catamount Core: QR.

**MATH 3456. Complex Analysis. 3 Credits.**

An introduction to the theory of analytic functions of one complex variable, covering the techniques of complex analysis useful in science and engineering as well as the theory. Topics include complex numbers, analytic and holomorphic functions, power and Laurent series expansions, and Cauchy's theorems on integration. Prerequisites: MATH 2055 or CS 1640; MATH 2248. Catamount Core: QR.

**MATH 3468. Anyl in Several Real Vars I. 3 Credits.**

Properties of the real numbers, basic topology of metric spaces, infinite sequences and series, continuity. Prerequisites: MATH 2468 or MATH 2551 or C- or better in MATH 2055; MATH 2248; MATH 2522 or MATH 2544. Catamount Core: QR.

**MATH 3472. Anyl Several Real Vrbes II. 3 Credits.**

Differentiation and integration in n-space, uniform convergence of functions, fundamental theorem of calculus, inverse and implicit function theorems. Prerequisite: MATH 3468. Catamount Core: QR.

**MATH 3517. Elementary Number Theory. 3 Credits.**

Divisibility, prime numbers, Diophantine equations, congruence of numbers, and methods of solving congruences. A significant portion of the course devoted to individual and/or team projects. Prerequisite: MATH 2055; MATH 2248 or MATH 2522 or MATH 2544. Catamount Core: QR.

**MATH 3551. Abstract Algebra I. 3 Credits.**

Basic theory of groups, rings, fields, homomorphisms, and isomorphisms. Prerequisites: MATH 2468 or MATH 2551 or C- or better in MATH 2055; MATH 2522 or MATH 2544. Catamount Core: QR.

**MATH 3555. Abstract Algebra II. 3 Credits.**

Modules, vector spaces, linear transformations, rational and Jordan canonical forms. Finite fields, field extensions, and Galois theory leading to the insolubility of quintic equations. Prerequisite: MATH 3551. Catamount Core: QR.

**MATH 3559. Cryptography. 3 Credits.**

A survey of classical and modern cryptography. Topics include the strengths and weaknesses of various cryptosystems, specific public-key and private-key cryptosystems such as RSA, ElGamal, and elliptic curve cryptosystems, as well as digital signatures and key exchange. Prerequisite: MATH 2055 or CS 1640; MATH 2248, MATH 2522, or MATH 2544. Cross-listed with: CS 3559.

**MATH 3737. Intro to Numerical Analysis. 3 Credits.**

Error analysis, root-finding, interpolation, least squares, quadrature, linear equations, numerical solution of ordinary differential equations. Prerequisites: MATH 2248; MATH 2522, MATH 2544, or MATH 3201; CS 1210. Cross-listed with: CS 3737. Catamount Core: QR.

**MATH 3766. Chaos, Fractals & Dynamical Syst. 3 Credits.**

Discrete and continuous dynamical systems, Julia sets, the Mandelbrot set, period doubling, renormalization, Henon map, phase plane analysis and Lorenz equations. Prerequisite: MATH 2522 or MATH 2544. CS 1210 recommended. Catamount Core: QR.

**MATH 3990. Special Topics. 1-18 Credits.**

For advanced students in the indicated fields. Lectures, reports, and directed readings on advanced topics. Credit as arranged. Offered as occasion warrants.

**MATH 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MATH 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MATH 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MATH 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MATH 4344. Topology. 3 Credits.**

Capstone course that includes a final project. An introduction to point set topology. Topics include open and closed sets, continuous functions, compactness, connectedness, metric and Hausdorff spaces. Provides a background for analysis and graduate topology courses as well as for topological data science. Prerequisites: MATH 2055 or CS 1640; MATH 2248, MATH 2522, or MATH 2544; one 3-credit course in WIL1. Catamount Core: QR, WIL2.

**MATH 4788. Exploring Biomathematics. 3 Credits.**

Capstone course; students develop, apply and document mathematical approaches to biological and ecological problems. Coursework includes discussions on ethics in science, problem solving, computer (dry lab) assignments, and analysis of research papers and technical writing. Prerequisites: MATH 2522 or MATH 2544; MATH 3230 or MATH 3201; one 3-credit course designated WIL1. Catamount Core: WIL2.

**MATH 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MATH 4996. Undergraduate Honors Thesis. 1-6 Credits.**

Program of reading and research culminating in written thesis and oral presentation. Honors notation appears on transcript and Commencement Program. Contact department chairperson for procedures.

**MECHANICAL ENGINEERING (ME)****Courses****ME 1010. First-Year Design Experience. 0 or 2 Credits.**

Project-based. Introduction to the engineering profession and design. Hands-on experiences that emphasize interdisciplinary teamwork, technical communications, and project design methodologies.

**ME 1020. Engineering Shop Experience. 0 or 1 Credits.**

Introduction to the machine shop and fabrication lab environments; shop safety; proper use of essential shop tools; machining techniques. Prerequisite: ENGR 1020.

**ME 1120. Dynamics. 3 Credits.**

Kinematics and kinetics of particles and rigid bodies in two and three dimensions. Computer-aided analysis. Prerequisite: CEE 1100, MATH 2248.

**ME 1140. Mechanics of Solids. 3 Credits.**

Stress, strain, temperature relationships, torsion, bending stresses and deflections. Columns, joints, thin-walled cylinders. Combined stresses and Mohr's circle. Prerequisites: CEE 1100 with a grade of C- or better. Cross-listed with: CEE 2100.

**ME 1210. Thermodynamics. 3 Credits.**

Principles of engineering thermodynamics; applications of these principles to thermodynamic cycles. Prerequisites: MATH 1248 or MATH 1242, PHYS 1500 or PHYS 1600, CHEM 1400.

**ME 1220. Applied Thermodynamics. 3 Credits.**

Analysis of isentropic processes, gas, vapor and combined power cycles; refrigeration/heat pump cycles; relationships for ideal and real gases; gas mixtures and psychrometric applications. Prerequisite: ME 1210 with a C- minimum. Catamount Core: SU.

**ME 1310. Intro to Robotics and Coding. 1 Credit.**

Introduction to computational engineering for data science and robotics in python. Prerequisite: CS 1210.

**ME 1510. Computational Mech Engr Lab. 1 Credit.**

Introduction to finite element analysis, solid modeling, and stress-strain analysis with post-processing techniques. Prerequisite: CEE 1100. Co-requisite: ME 1140 or CEE 2100.

**ME 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. One to three hours with Instructor approval.

**ME 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ME 1993. Independent Study. 1-18 Credits.****ME 2110. Materials Engineering. 3 Credits.**

Atomic structure, crystalline structure, mechanical properties and testing of materials, phase equilibria, processing of metals, polymers, and ceramics. Prerequisite: ME 1140.

**ME 2111. Materials and Mechanics Lab. 0 or 2 Credits.**

Experimentation, engineering measurements, and data analysis in solid mechanics. Instrumentation for dynamic measurements. Photoelasticity. Mechanical testing and heat treatments of engineering materials. Prerequisite: ME 1140. Pre/Co-requisite: ME 2110.

**ME 2120. System Dynamics. 3 Credits.**

Project-based. Modeling of systems with mechanical, electrical, fluid, and thermal elements. Linear systems analysis. Response of vibratory and feedback systems. Computer simulation. Prerequisite: ME 1120. Co-requisite: MATH 2522 or MATH 2544.

**ME 2230. Fluid Mechanics. 3 Credits.**

Fluid pressure distributions; integral control volume systems; differential relations for a fluid particle; dimensional similarity; viscous flow in ducts; boundary layer flows; inviscid incompressible flows. Prerequisites: ME 1120, ME 1140 or CEE 2100, ME 1210, MATH 3201.

**ME 2231. Thermo-Fluid Lab. 0 or 2 Credits.**

Engineering measurements, data analysis and theory of experimentation. Experiments with fluids and material testing machines and instrumentation for dynamic measurements. Prerequisites: ME 1120, ME 1140 or CEE 2100, ME 1210, MATH 3201. Co-requisite: ME 2230.

**ME 2240. Heat Transfer. 3 Credits.**

One- and two-dimensional steady and unsteady thermal conduction; natural and forced internal and external convection; thermal radiation; heat exchangers; boiling and condensation heat transfer. Prerequisite: ME 2230.

**ME 2310. Design of Elements. 3 Credits.**

Mechanical fatigue criteria, fatigue analysis and design of springs, bolted/welded joints, gearing, shafts, bearings, power transmission. Computer-aided design and analysis. Prerequisite: Junior standing; ME 1140.

**ME 2910. Senior Thesis. 3 Credits.**

Investigation of a research or design project under supervision of assigned staff member culminating in acceptable thesis. Prerequisite: Senior standing; department permission.

**ME 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Senior standing in Civil or Mechanical Engineering.

**ME 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ME 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ME 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ME 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ME 2996. College Honors. 1-6 Credits.**

Honors studies leading to a thesis.

**ME 3060. Integrated Product Dev. 3 Credits.**

Project-based course focusing on the entire product life cycle. Team dynamics, process and product design, quality, materials, management, and environmentally-conscious manufacturing. Prerequisite: Senior standing. Cross-listed with: BUS 3360. Catamount Core: QR.

**ME 3170. Structural Dynamics. 3 Credits.**

Vibrations, matrices, earthquake engineering, stability and wave propagation. Prerequisites: Senior/Graduate standing in Engineering or physical sciences, or Instructor permission. Cross-listed with: CEE 3720.

**ME 3180. Composite Materials. 3 Credits.**

Fibers, matrices. Unidirectional and short fiber composites. Experimental characterization. Prerequisite: ME 2110.

**ME 3230. Incompressible Flow. 3 Credits.**

Intermediate treatment of incompressible fluid flow; Navier-Stokes equations; two-dimensional potential flows; wing theory; vorticity and vortex structures; laminar and turbulent boundary layers. Prerequisites: ME 2230 or equivalent.

**ME 3250. Compressible Flow. 3 Credits.**

Theory of compressible flow. Normal and oblique shocks; expansion waves; unsteady wave motion; method of characteristics; linearized external flows; conical and 3D flows. Prerequisite: ME 2230 or equivalent.

**ME 3260. Renewable Energy Harvesting. 3 Credits.**

Covers the engineering fundamentals of different renewable energy technologies, including wind power, tidal power, solar power, biomass, hydropower, etc. Focus placed on the mathematical derivation and application of small scale vibration energy harvesting technologies. Prerequisite: ME 2230 or CEE 3600.

**ME 3262. Energy Systems Engineering. 3 Credits.**

Engineering assessment of both potentially sustainable and unsustainable practical primary energy systems. Examination of options of meeting demand and impacts on the environment. Prerequisite: ME 1220.

**ME 3270. Rocket Propulsion. 3 Credits.**

Flight mechanics and propulsion requirements for atmospheric and space flight. Thermochemistry of fuels and propellants. Operating principles of chemical, electrical and nuclear propulsion systems. Pre/co-requisites: ME 2230, ME 3250 recommended or permission of the Instructor.

**ME 3271. Air Breathing Propulsion. 3 Credits.**

Presents a study on air-breathing propulsion systems. Initial focus will be on various types of engine systems, real and ideal parametric cycle analysis, and individual internal component performance. Will then move to contemporary propulsion topics and research that push aerospace systems to new flight envelopes. Prerequisites: ME 2240, ME 3250.

**ME 3310. Machinery Analysis & Synthesis. 3 Credits.**

Kinematic and kinetic analysis of two- and three-dimensional machines; kinematic synthesis, electromechanical and servo mechanisms; application to robotic mechanisms. Prerequisite: Senior standing in ME.

**ME 3320. Control Systems. 3 Credits.**

Analysis and design of continuous and discrete-time control systems; stability, signal flow, performance criteria, classical and state variable methods, simulation design tools, computer-based realizations. Credit not given for more than one of the courses EE 3515, ME 3320. Prerequisites: EE 3150 or ME 2120. Cross-listed with: EE 5530.

**ME 3330. Mechanical Vibrations. 3 Credits.**

Analysis, measurement, and control of mechanical vibrations; SDOF, MDOF, and rotating systems, forced, free, and random vibrations. Prerequisite: ME 2120 or Senior/ Graduate standing in engineering or physical sciences.

**ME 3390. Modern Manufacturing Processes. 3 Credits.**

Product development, product design, concurrent engineering, rapid prototyping, semiconductor manufacturing, metal and plastic products manufacturing, EDM, ECM, laser, ultrasonic and high energy forming methods, biotechnology. Prerequisite: Junior standing in Mechanical Engineering.

**ME 3410. Biomaterials Engineering. 3 Credits.**

A materials science and engineering approach is used to explore the structure-function relationships of natural and bio-inspired materials for various engineering applications. The emphasis is on mechanical design and function. The medical applications of biomaterials will be discussed. Prerequisite: ME 2110 or BME 3600. Cross-listed with: BME 3410.

**ME 3460. Biomechanics of Human Motion. 3 Credits.**

Biomechanics of Human Motion will describe the typical processes-from small scale protein interactions to large scale joint torques-that result in human locomotion. Clinical problems and athletic performance will be discussed. Students will learn about musculoskeletal tissues related to force generation/transmission and will perform kinematic/kinetic analyses. Prerequisites: BME 2000 or ME 1120. Pre/Co-requisites: ME 2110 or ME 2120 or BME 3000. Cross-listed with: BME 3460.

**ME 3480. Biomechanics: Tissue Engr. 3 Credits.**

Solid biomechanics including structure, function and mechanical properties of biological tissues. Tissue engineering involving cell mechanics, scaffold materials, and signaling. Current literature topics are covered. Prerequisites: ME 2110 or BME 3600. Cross-listed with: BME 3480.

**ME 3530. Computational Fluids Engr. 0 or 3 Credits.**

Project-based. Computational methods for solving the Navier-Stokes equations and combined thermo-fluid flows; finite-differences and finite-volume techniques; use of standard commercial CFD software. Prerequisite: ME 2230 or equivalent.

**ME 3820. Seminar. 1 Credit.**

Presentation and discussion of advanced mechanical engineering problems and current developments. Prerequisite: Senior/Graduate engineering enrollment.

**ME 3899. Cooperative Ed Experience. 12 Credits.**

On-site, full-time, supervised work experience that satisfies the educational objectives defined by the Department of Mechanical Engineering co-op program. Prerequisite: Senior standing.

**ME 3990. Special Topics. 1-18 Credits.**

Content is dictated by expanding professional interest in newly developing, or recently developed, technical areas in which there is particular need or opportunity. Prerequisite: Senior/Graduate standing.

**ME 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**ME 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ME 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**ME 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**ME 4010. Capstone Design I. 3 Credits.**

Project-based course. Multidisciplinary teams apply their knowledge to design, analyze, build and test a functional prototype that meets client's requirements and solves unique problems. Teams follow engineering design and project management processes such as periodic reports, presentations, meetings, reviews and demonstrations using standard industry tools. Prerequisite: EE 3110 or EE 3150, and EE 3415 or Instructor permission; or Senior standing in Mechanical or Biomedical Engineering. Cross-listed with: EE 4100.

**ME 4020. Capstone Design II. 0 or 3 Credits.**

Project-based course. Multidisciplinary teams apply their knowledge to design, analyze, build and test a functional prototype that meets client's requirements and solves their problems. Teams follow engineering design and project management processes such as periodic reports, presentations, meetings, reviews and demonstrations using standard industry tools. Prerequisite: ME 4010. Cross-listed with: EE 4200.

**ME 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MEDICAL GEN COM COURSE (MD)****Courses****MD 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MD 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MD 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MEDICAL LABORATORY SCIENCE (MLS)****Courses****MLS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MLS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MLS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MLS 2010. Medical Diagnostic Techniques. 0 or 3 Credits.**

Introduces the field of Medical Laboratory Science. Using lecture and laboratory practice, students will demonstrate professionalism and interpersonal skills while achieving competence with common laboratory procedures. Students will demonstrate knowledge in using aseptic techniques to handle and analyze specimens, using appropriate laboratory equipment. Prerequisites: CHEM 1100; or CHEM 1400, CHEM 1450.

**MLS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MLS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MLS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MLS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MLS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MLS 3000. Applied Medical Diagnostics. 3 Credits.**

Introduces the methodologies, techniques, and clinical applications associated with point of care testing in a community health setting. Students explore community health issues and engage in service-learning hours with a community partner outside of scheduled class time. Service learning combines community service with academic instruction, focusing on critical, reflective thinking. Prerequisites: MLS 2010 or a Medical Laboratory Science major; minimum Junior standing.

**MLS 3100. Clinical Chemistry I. 3 or 4 Credits.**

Lectures and laboratory experiences introduce basic principles in clinical quantitative analysis and laboratory instrumentation; test results are correlated with clinical case studies. Prerequisites: ANPS 1190 and ANPS 1200; CHEM 1400 and CHEM 1450; CHEM 1580 or CHEM 2580.

**MLS 3110. Clinical Chemistry II. 3 Credits.**

Advanced instruction in body chemistry and pathophysiology of disease with emphasis on diagnostic lab techniques in chemistry. Prerequisites: MLS 3100, PATH 2010.

**MLS 3192. Clinical Practicum: Chemistry. 3 Credits.**

Experiences in an approved clinical laboratory education site in the area of clinical chemistry. Prerequisite: Medical Laboratory Science Seniors only.

**MLS 3200. Hematology. 3-4 Credits.**

Advanced theory and analysis of blood cell physiology and related pathology. Concepts of hemostasis and clinical assessment methods. Prerequisites: One semester of organic chemistry, one semester of biochemistry.

**MLS 3292. Clinical Practicum: Hematology. 3 Credits.**

Experiences in approved clinical laboratory education site in the area of clinical hematology. Prerequisite: Medical Laboratory Science Seniors only.

**MLS 3300. Clinical Microbiology II. 3 Credits.**

Comprehensive study of non-bacterial pathogenic microorganisms and their disease states in humans. Includes medical mycology, parasitology and virology. Prerequisites: MMG 1650 or MMG 2010.

**MLS 3392. Clin Practicum:Microbiology. 3 Credits.**

Experiences in an approved clinical laboratory education site in the area of clinical microbiology. Prerequisite: Medical Laboratory Science Seniors only.

**MLS 3400. Immunohematology. 4 Credits.**

Advanced theory and experience related to human blood groups and transfusion practice. Prerequisite: BHSC 3420 or MMG 3230.

**MLS 3492. Clin Practicum:Immunohematolog. 3 Credits.**

Experiences in an approved clinical laboratory education site in the area of clinical immunohematology. Prerequisite: Medical Laboratory Science Seniors only.

**MLS 3892. Public Health Lab Practicum. 12 Credits.**

Public health laboratory experiences under the direction of public health scientists, performing methods for screening and diagnostic purposes as well as good public health practice. MLS Seniors.

**MLS 3900. Topics in Medical Lab Science. 3 Credits.**

Seminar on topics in the practice and profession of Medical Laboratory Science. Online course. MLS majors only. Topics vary by offering; periodic offering at intervals that may exceed four years.

**MLS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MLS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MLS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MLS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MLS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MLS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MLS 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MICR & MOLECULAR GENETICS (MMG)****Courses****MMG 1010. First Year Colloquium. 1 Credit.**

Colloquium is designed to enhance faculty-student interactions in Microbiology and Molecular Genetics and to inform first-year majors about the educational and research opportunities in MMG. Instructor's permission for non- majors.

**MMG 1020. Unseen Wrlds:Microbes & You. 3 Credits.**

Examination of current topics in Microbiology, such as antibiotic resistance, vaccinations, sexually transmitted diseases, and the human microbiome, focusing on the impact of microbes on human and animal health, the environment, agriculture, and modern culture around the world. Catamount Core: SU.

**MMG 1650. Microbiology & Pathogenesis. 0 or 4 Credits.**

Overview of microbiology, emphasizing the relationships between the structure, metabolism, and genetics of microorganisms and their roles in nature and in pathogenesis. Prerequisite: One semester chemistry. Not intended for students who have completed BIOL 1400 and BIOL 1450 or equivalent.

**MMG 1990. Special Topics. 1-18 Credits.**

An approved area of study or project under the guidance of an MMG faculty member and the Academic advisor.

**MMG 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MMG 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MMG 1995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MMG 2010. Microbiol & Infectious Disease. 0 or 4 Credits.**

An introduction to basic microbiology and microbes that cause infectious diseases, with a focus on microbial structure, function, metabolism, ecology, and pathogenesis. Pre/co-requisites: One semester of Biology and Chemistry.

**MMG 2040. Intro Molecular Genetics. 0 or 4 Credits.**

Designed to present the science of molecular genetics combined with the laboratory practices of recombinant DNA technology (genetic engineering), gene editing, and bioinformatics. Prerequisite: BCOR 1400 or BCOR 1425; Microbiology & Molecular Genetics major or minor. Pre/Co-requisites: BCOR 1400 or BCOR 1425; Microbiology & Molecular Genetics major or minor.

**MMG 2060. Intr Biomedical Research Meth. 3 Credits.**

Introduces life science majors/minors to the scientific processes involved in biomedical research and to current research techniques and approaches, also introduces reading and interpreting primary literature articles, as well as discussing current topics regarding the ethical concerns of biomedical research. Prerequisite: BCOR 1400, BCOR 1450 or BCOR 1425.

**MMG 2990. Special Topics. 1-18 Credits.**

An approved area of study or project under the guidance of an MMG faculty member and the Academic advisor. Prerequisite: Instructor permission. Credits negotiable.

**MMG 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MMG 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MMG 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MMG 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Undergraduate Program Director approval. Offered at department discretion.

**MMG 3010. Applied Cell & Mol Bio Lab. 4 Credits.**

A course based undergraduate research experience (CURE), covering the basic principles and techniques of mammalian cell culture and molecular biology tools to perform a student-designed CRISPRi experiment. The research culminates with working group presentations and the writing of individual research manuscripts. Lab work outside of class time is routinely necessary. Prerequisites: MMG 2040 or BIOC 3007 or Instructor permission.

**MMG 3050. Biochemistry I. 3 Credits.**

Introduction to chemistry and structure of biological macromolecules; examination of mechanisms of chemical processes in biological systems, including enzyme catalysis, biosynthesis, regulation, and information transfer. Prerequisite: CHEM 1550 or CHEM 2585. Cross-listed with: BIOC 3005.

**MMG 3060. Biochemistry II. 3 Credits.**

Continuation of Biochemistry I. Biochemistry of nucleic acids; nucleic acid based processes, such as replication and transcription; cellular information transfer, genomics, and proteomics. Prerequisite: MMG 3050. Cross-listed with: BIOC 3006.

**MMG 3070. Biochemistry Lab. 3 Credits.**

Introduction to biochemical tools, including spectrometry, chromatography, and electrophoresis; natural and recombinant enzyme isolation; assays of DNA-modifying enzymes; computer-based structure/function exercises. Prerequisite: BIOC 3005 or MMG 3050. Cross-listed with: BIOC 3007.

**MMG 3110. Bacterial Genetics. 3 Credits.**

Bacterial genetics and the biology of bacteria at an intermediate to advanced level. Specific topics include regulation of replication, transcription, translation, post-translation, mRNA stability, secretion, signaling, and motility. Prerequisites: Introductory microbiology, biochemistry, genetics, and/or cell biology courses.

**MMG 3200. Environmental Microbiology. 3 Credits.**

The activities of microorganisms, primarily bacteria, in air, soil, and water. Prerequisites: CHEM 2580 or equivalent with Instructor permission.

**MMG 3210. Advanced Medical Microbiology. 3 Credits.**

Addresses the clinical importance of infectious diseases with emphasis on the appropriate collection, handling and identification of clinically relevant bacteria. Disease states, modes of transmission, prevention and antibiotic susceptibility testing will also be discussed. Prerequisites: MMG 2010 or equivalent or Instructor permission.

**MMG 3220. Adv Medical Microbiology w/lab. 4 Credits.**

Comprehensive study of human pathogenic bacteria and their disease states in humans. Laboratory sessions provide practical experience in handling and identifying these pathogens. Prerequisites: MMG 1650 or MMG 2010 or equivalent or Instructor permission.

**MMG 3230. Immunology. 3 Credits.**

Analysis of the immune response with respect to structure and function of immunoglobulins and the T-cell receptor, tolerance, innate and adaptive immunity, the Major Histocompatibility Complex, hypersensitivity states, transplantation, cancer, and AIDS. Prerequisite: Instructor permission.

**MMG 3250. Eukaryotic Virology. 3 Credits.**

An in-depth analysis of eukaryotic virus-mammalian cell interactions emphasizing mechanisms by which viruses modulate gene expression in infected cells. Prerequisites: MMG 2010 and BCOR 2500 or equivalents.

**MMG 3300. Adv St Emerg Infec Dis. 3 Credits.**

Presents an interdisciplinary approach to understanding the emergence, and re-emergence, of infectious diseases in a rapidly changing global environment. Historical, cultural, environmental and biological perspectives are incorporated into the analysis of emerging bacterial, viral and protozoal pathogens. Prerequisites: MMG 2010, BCOR 2500. Catamount Core: D2, SU.

**MMG 3310. Survey Bioinformatic Databases. 3 Credits.**

Provides a broad overview of bioinformatics as applied to biomedical research. Topics include data mining, DNA sequence alignment, genetic variation, study design for high-throughput sequencing (HTS), and transcriptomics. Emphasizes a direct, hands-on experience and interacting with software, as opposed to creating software. Prerequisite: MMG 2040 or BCOR 2300; Instructor permission. Catamount Core: QR.

**MMG 3320. Advanced Bioinformatics. 3 Credits.**

Provides advanced training in bioinformatics tools and techniques. Particular emphasis is given to programs associated with sequence analysis, comparative genomics, structural biology, and computational biology. Other topics such as data integration, biological data interpretation, R and UNIX-scripting, multi-omics, and systems biology will be covered. Emphasizes a direct, hands-on experience. Prerequisites: MMG 3310 or Instructor permission. Catamount Core: QR.

**MMG 3330. Genetics and Genomics. 3 Credits.**

Integrated entry into both genome science and modern genetic analysis. Students will develop skills needed to access, organize and interpret emerging genomic information. Prerequisite: Junior/Senior/Graduate standing in biological or computational sciences.

**MMG 3350. Bioterrorism. 3 Credits.**

Covers the microbiological, epidemiological, social and political aspects of bioterrorism. Also examines potential strategies for bioweapon preparedness and response, with a specific focus on ethical and social issues. Prerequisites: MMG 2010 or Instructor permission.

**MMG 3990. Special Topics. 1-18 Credits.**

Supervised investigations in microbiology or molecular genetics. Prerequisite: Instructor permission. Credit as arranged.

**MMG 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MMG 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MMG 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MMG 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Undergraduate Program Director approval. Pre/co-requisite: MMG 2995 or Advisor Permission. Offered at department discretion.

**MMG 4899. Senior Seminar. 1 Credit.**

This required capstone course for Microbiology and Molecular Genetics majors involves written and oral presentations by graduating seniors on current topics in microbiology/molecular genetics. Prerequisites: MMG 2010; second semester Senior standing.

**MMG 4990. Special Topics. 1-18 Credits.**

An approved area of study or project under the guidance of an MMG faculty member and the Academic advisor. Prerequisite: Instructor permission. Credits negotiable.

**MIDDLE LEVEL TEACHER EDUCATION (EDML)****Courses****EDML 1890. Foundations of Middle Level Ed. 3 Credits.**

The evolution of middle grades reform, and the nature and needs of young adolescence with a special emphasis on the approximate ages of 10-14 years.

**EDML 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDML 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDML 2890. Teachers & Teaching Process. 3 Credits.**

Examines professional responsibilities of middle level teachers as defined by Vermont and national standards via classroom observations.

**EDML 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDML 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDML 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDML 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDML 3220. Social Justice Education. 3 Credits.**

Examines social justice issues in education and explores what it means to be a social justice educator. Students will critically reflect, analyze relevant cases, and engage in social justice advocacy. Pre/Co-requisites: EDML 3770 or EDML 3890 or EDML 3990 or EDTE 1610 or NR 1610 or Instructor permission. Catamount Core: D2, GC2.

**EDML 3270. Inquiry Middle Grades Sci & SS. 3 Credits.**

Focuses on learning knowledge and skills to teach science and social studies to young adolescents. Develops inquiry-based teaching skills while engaging with sustainability-focused topics that integrate social, economic, and environmental issues. Learning will be applied through the design of lessons and units. Pre/Co-requisites: EDML 1992, EDML 2992; or Instructor permission.

**EDML 3600. Teaching Young Adolescents. 3-6 Credits.**

Focus on understanding and reflecting on an integrative and developmental approach to the design of middle level curriculum, as well as teaching in one area of specialization.



**EDML 3700. Middle School Org & Pedagogy. 3-6 Credits.**

Focuses on exploring theory and practice in responsive school organization for young adolescents, including interdisciplinary/partner teaming, block scheduling, and teacher advisories, as well as teaching lessons in one area of specialization. Pre/co-requisite: EDML 1890, EDML 2890.

**EDML 3770. Young Adolescent ELA Methods. 3 Credits.**

Examines young adolescent literature and research-based instructional practices for supporting students with reading and writing in middle grades English Language Arts.

**EDML 3870. Content Literacy in Mid Grades. 3 Credits.**

Focus on the use of content and disciplinary literacy strategies, including multiliteracies, in middle level content areas. Pre/co-requisite: Minimum Junior standing.

**EDML 3890. Mid Level Teaching Practicum I. 3 Credits.**

Second teaching practicum on a middle level team to learn policy, curriculum, exemplary pedagogy, assessment in one of two academic concentrations defined by student's IDIMC plan. Prerequisite: Admission to Middle Level Professional Program.

**EDML 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDML 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDML 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDML 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDML 4860. Internship Support Seminar. 3 Credits.**

Addresses and responds to internship experiences including planning, reflective practice, classroom management, teamwork, and assessment of learning. Guidance in development of Professional Teaching Portfolio. Pre/Co-requisites: EDML 3600, EDML 4890, EDML 3700.

**EDML 4890. Mid Lev Teaching Practicum II. 3 Credits.**

Teaching practicum on middle level team in one of two areas of academic concentration, acquiring knowledge of and skills in curriculum, pedagogy, and assessment. Pre/Co-requisite: Admission to Middle Level Professional Program.

**EDML 4991. Student Teaching: Internship. 12 Credits.**

A (15 week) full-semester, full-time, full-day, clinical component of the teacher preparation program. The primary purpose of the student teaching experience is to provide candidates with a carefully mentored experience to help develop and enhance the knowledge, skills, and dispositions necessary to positively impact student learning and development. Prerequisites: EDML 3600, EDML 4890, EDML 3700; Instructor Permission; PRAXIS Core; Earned GPA of 3. Co-requisite: EDML 4860.

**MILITARY STUDIES (MS)****Courses****MS 1110. Intro to ROTC & US Army. 0 or 1 Credits.**

Discussion of the customs, traditions, branches, organization, as well as the many changes in the roles and missions of the Army of the 21st century. Includes a non-credit laboratory to develop, practice and refine leadership skills in a variety of positions.

**MS 1120. Intro Mil Skills&Followership. 0 or 1 Credits.**

Development of basic skills of an Army officer, including navigation and communications. Students are exposed to leadership development exercises during leadership laboratories.

**MS 1210. Leadership&Team Development. 0 or 2 Credits.**

Learning and application of ethics-based leadership skills that develop individual abilities and contribute to effective team building. Development of oral presentations, writing, and coordination of group efforts. Includes a non-credit laboratory to develop, practice, and refine leadership skills in a variety of positions.

**MS 1220. Individual&Team Leading. 0 or 2 Credits.**

Techniques for training/counseling others as an aspect of continued leadership development. Includes safety and risk management assessments, and planning for individual and team safety. Includes a non-credit laboratory to develop, practice and refine leadership skills in a variety of positions.

**MS 1990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**MS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MS 2131. Lead&Train Small Organizations. 0 or 3 Credits.**

Series of opportunities to lead small groups, receive personal assessments, and lead in complex situations. Plan and conduct training to develop leadership skills. Prerequisite: Completion of basic course program or basic camp. Includes a non-credit laboratory to develop, practice and refine leadership skills in a variety of positions.

**MS 2132. Lead&Manage Small Organization. 0 or 3 Credits.**

Plan for and adapt to the unexpected in organizations under stress. Examine importance of ethical decisions in a positive climate that enhances team performance. Includes a non-credit laboratory to develop, practice and refine leadership skills in a variety of positions. Prerequisite: MS 2131.

**MS 2990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**MS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MS 3241. Ldrshp Challenges&Goal Setting. 0 or 3 Credits.**

Plan, conduct, and evaluate activities. Assess organizational cohesion and develop strategies for improvement. Develop confidence in skills to lead people and manage resources. Includes a non-credit laboratory to develop, practice and refine leadership skills in a variety of positions. Prerequisite: MS 2132.

**MS 3242. Lead Org Ethically&Competently. 0 or 3 Credits.**

Identify and resolve ethical dilemmas. Refine counseling and motivating techniques. Examine aspects of tradition and law related to leading as an officer in the Army. Includes a non-credit laboratory to develop, practice and refine leadership skills in a variety of positions. Prerequisite: MS 3241.

**MS 3990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**MS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## MOLECULAR PHYSIOLOGY & BIOPHYS (MPBP)

### Courses

**MPBP 1990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**MPBP 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MPBP 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MPBP 2990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**MPBP 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MPBP 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MPBP 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MPBP 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Department permission.

**MPBP 3990. Special Topics. 1-18 Credits.**

Topics of interest to high level Undergraduate and Graduate students beyond the scope of existing courses.

**MPBP 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MPBP 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MPBP 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MPBP 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## MUSIC ENSEMBLE (MUE)

### Courses

#### **MUE 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **MUE 2111. Small Ensembles. 1 Credit.**

Small music ensembles including the following sections: (A) Pep Band; (B) Jazz Guitar Ensemble; (C) Latin Jazz Ensemble; (D) Percussion Ensemble; (E) Nonet; (F) Jazz Combo. See the expanded course descriptions for more ensemble-specific details. Audition for placement. Prerequisite: Placement audition. Catamount Core: AH1.

#### **MUE 2125. Jazz Vocal Ensemble. 1 Credit.**

Nine to sixteen vocalists (SATB), a cappella or accompanied by piano or rhythm section, performing arrangements of standard songs and jazz tunes. Open to students from all majors and colleges. Audition for placement. Prerequisite: Placement audition. Catamount Core: AH1.

#### **MUE 2200. University Concert Band. 1-2 Credits.**

Large woodwind, brass, and percussion ensemble. Repertoire chosen from the standard literature as well as contemporary music, with emphasis on the art of ensemble playing. Open to students from all majors and colleges. Audition for placement. With Instructor permission, students with a different participation level may register for one credit. Prerequisite: Placement audition. Catamount Core: AH1.

#### **MUE 2300. University Concert Choir. 1-2 Credits.**

Mixed SATB choir. Performing choral masterworks from the baroque period to the present. Open to students from all majors and colleges. With Instructor permission, students with a different participation level may register for one credit. Catamount Core: AH1.

#### **MUE 2400. University Symphony Orchestra. 1-2 Credits.**

Full orchestra comprising strings, woodwinds, brass, and percussion. Several performances each year. Open to students from all majors and colleges. Audition for placement. With Instructor permission, students with a different participation level may register for one credit. Prerequisite: Placement audition. Catamount Core: AH1.

#### **MUE 2500. University Jazz Ensemble. 1-2 Credits.**

Exploration of classic big band repertoire and works of contemporary composers and arrangers. Performance in one major concert every semester and occasional appearances off campus. Open to students from all majors and colleges. Enrollment confirmed by audition. With Instructor permission, students with a different participation level may register for one credit. Prerequisite: Placement audition. Catamount Core: AH1.

#### **MUE 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **MUE 3111. Advanced Small Ensembles. 1 Credit.**

Small music ensembles including the following sections: (A) Post Bop Ensemble; (B) Chamber Music. See the expanded course descriptions for more ensemble-specific details. Audition required for admission. Prerequisite: Placement audition. Catamount Core: AH1.

#### **MUE 3200. Vermont Wind Ensemble. 1 Credit.**

Vermont Wind Ensemble is a select instrumental group. Repertory is chosen from the standard literature as well as contemporary music. Open to students from all majors and colleges. Audition required for admission. Students should also be enrolled concurrently in MUE 2200. Prerequisite: Placement audition. Co-requisite: MUE 2200. Catamount Core: AH1.

#### **MUE 3300. Catamount Singers. 1 Credit.**

Mixed, select SATB chamber choir. Performing vocal music from the medieval period to the present. Open to students from all majors and colleges. Audition required for admission. Prerequisite: Placement audition. Catamount Core: AH1.

#### **MUE 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **MUE 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded.

#### **MUE 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **MUE 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **MUE 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **MUE 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

## MUSIC LESSONS (MUL)

### Courses

#### **MUL 1111. Beginning Group Lessons: Piano. 1 Credit.**

Group lessons at the beginning level in piano. May not be counted toward the Music major or minor, except for students concentrating in Music Technology and Business. May be taken a total of four times for credit. Catamount Core: AH1.

#### **MUL 1113. Beginning Grp Lessons: Guitar. 1 Credit.**

Group lessons at the beginning level in guitar. May not be counted toward the Music major or minor. May be taken up to four times for credit. Catamount Core: AH1.

#### **MUL 1115. Beg Grp Less: Taiko Japan Drum. 1 Credit.**

Group lessons at the beginning level in Taiko Japanese Drumming. May not be counted toward the Music major or minor. May be taken up to four times for credit. Catamount Core: AH1.

**MUL 1200. Basic Private Lessons. 1 Credit.**

Private lessons in basic instrumental or vocal skills for non-music majors. A meeting with the teacher is required to assess appropriate placement. May be repeated for credit. Lab fee required. Prerequisites: For piano: MUL 1111 or equivalent; audition required. Catamount Core: AH1.

**MUL 1300. Private Lessons: Non-Majors. 1-2 Credits.**

Private instruction on an instrument/voice for non-majors and non-minors. Contact department immediately after registering. Subject to availability of staff. Lab fee required. May be repeated for credit. Not open for credit to Music majors/minors. Prerequisite: Lesson audition required before enrollment confirmed. Catamount Core: AH1.

**MUL 1500. Required Secondary Lessons. 1 or 2 Credit.**

Private instruction for Music majors on a required secondary instrument/voice. Subject to staff availability. Lab fee required. May be repeated for credit. Prerequisite: Music majors; successful completion of Level II Examination. Catamount Core: AH1.

**MUL 1600. Elective Secondary Lessons. 1 or 2 Credit.**

Private instruction for music majors on an elective, non- required secondary instrument/voice. Subject to staff availability. Lab fee required. May be repeated for credit. Prerequisite: Music majors; successful completion of Level II Examination. Catamount Core: AH1.

**MUL 1700. Basic Private Lessons: MTB. 1-2 Credits.**

Private lessons on primary instrument or voice for Music Majors with a concentration in Music Technology and Business who have not yet passed the Level II Examination. Prerequisite: Pre-Level II Exam Music major with declared Music Technology and Business concentration. Catamount Core: AH1.

**MUL 1990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**MUL 2111. Piano Proficiency I. 1 Credit.**

Basic piano technique, harmonizing, and grand staff reading. Prerequisites: MUL 1111 or equivalent rudimentary keyboard skills and music reading ability; Music or Music Education majors or Instructor permission only. Catamount Core: AH1.

**MUL 2112. Piano Proficiency II. 1 Credit.**

Functional piano skills for musicians. Scales, technique, harmonizing, sight reading, repertory. Prerequisites: MUL 2111 or equivalent determined by placement test; Music or Music Education majors or Instructor permission only. Catamount Core: AH1.

**MUL 2113. Piano Proficiency III. 1 Credit.**

Preparation for Piano Proficiency Exam. Scales, repertory, sight reading, chordal accompaniment styles, score reading, transposing. Prerequisites: MUL 2112 or equivalent determined by placement test; Music or Music Education majors or Instructor permission only. Catamount Core: AH1.

**MUL 2121. Group Jazz Piano I. 1 Credit.**

Introduction to jazz piano techniques, including rootless voicings, soloing, and comping; and covering basic chord progressions, blues, and standard tunes. Prerequisites: MUL 1111; or basic keyboard knowledge and Instructor permission. Catamount Core: AH1.

**MUL 2122. Group Jazz Piano II. 1 Credit.**

Exploration of topics including stride, modal comping, and chord substitution. Some review of concepts from MUL 2121. Prerequisites: MUL 2121; Music or Music Education majors or minors only. Catamount Core: AH1.

**MUL 2300. Accompanying. 1-2 Credits.**

Lessons in piano accompanying, taught by piano and instrumental/vocal faculty. Juried and/or public performance with soloist(s) required. Prerequisite: Instructor permission. Catamount Core: AH1.

**MUL 2400. Private Lessons: MU Minors. 1-2 Credits.**

Private instruction on an instrument/voice for Music minors. Subject to availability of staff. Lab fee required. May be repeated for credit. Prerequisites: Music minors; lesson audition required before enrollment confirmed. Catamount Core: AH1.

**MUL 2500. Private Lessons: MU Majors. 1 or 2 Credit.**

Private instruction on an instrument/voice for Music majors. Lab fee required. Juried examinations generally every semester of study. May be repeated for credit. Prerequisites: Music majors; successful completion of Level II Examination. Catamount Core: AH1.

**MUL 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MUL 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MUL 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MUL 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MUL 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MUL 4500. Adv Private Lessons: MU Majors. 1 or 2 Credit.**

Private instruction on an instrument/voice for Music majors. Lab fee required. Juried examinations every semester of study. May be repeated for credit. Prerequisites: Music majors; MUL 2500; and successful completion of Level III Examination. Catamount Core: AH1.

**MUL 4550. Senior Recital. 1 Credit.**

The solo recital is the capstone performance experience for music majors. Repertoire for the recital will be chosen in consultation with the private lesson teacher and, where appropriate, the area head. Students should take MUL 4500 concurrently. Prerequisites: Music or Music Education majors only; Students must have performed on at least four Student Performance Recitals before they are eligible for this course.

**MUL 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MUL 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MUSIC (MU)****Courses****MU 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**MU 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**MU 1110. Intro to Western Music. 3 Credits.**

A survey of musical styles from antiquity to the present drawing from the Western concert and other traditions. Catamount Core: AH1.

**MU 1120. Intro to Jazz History. 3 Credits.**

Survey of jazz from its roots in ragtime and blues of the late nineteenth century to contemporary styles. Catamount Core: AH1, D1.

**MU 1140. Blues & Related Traditions. 3 Credits.**

Traces the development of blues from African origins to modern blues, its rural and urban social contexts, and relation to African-American history and culture. Catamount Core: AH1, D1.

**MU 1143. US Popular Music Since 1989. 3 Credits.**

An exploration of the sounds and social politics of US popular music over the last three decades. Focuses on the transformations wrought by digital technologies to the production, consumption, and politics of popular music. Through examination of songs, music videos, and writings, students refine critical listening and writing skills. Catamount Core: AH1.

**MU 1145. History of Rock and Roll. 3 Credits.**

Examines rock music as a succession of related musical styles and as a social movement reflecting and influencing the changing American political and social landscape. Catamount Core: AH1.

**MU 1147. Music & Culture: New Orleans. 3 Credits.**

Examines the interrelationships between styles of music in New Orleans and the cultures that support them; includes a trip to New Orleans during spring break. Catamount Core: AH1, D1.

**MU 1170. Intro World Music Cultures. 3 Credits.**

Survey of selected traditional, popular, and classical music cultures from around the globe (Asia, Sub-Saharan Africa, Middle East, Latin America, etc.) through readings, recordings, demonstrations. Catamount Core: AH1, D2.

**MU 1175. Music of Latin Am & Carib. 3 Credits.**

A study of the culture and history of Latin America and the Caribbean through music. Explores and compares traditional, classical, and popular genres from the pre-conquest to the present with particular attention to Indigenous, African, and European roots. Catamount Core: AH1, D2.

**MU 1310. Music Theory Fundamentals. 3 Credits.**

Fundamentals of music notation, rhythm, melody, scales, and harmony. A course for non-majors or for students preparing to enter MU 2320 or MU 2310. Catamount Core: AH1.

**MU 1550. Intro to Teaching Music. 3 Credits.**

Introduction to the foundational principles, philosophies, opportunities, issues, and roles inherent to teaching music in various contexts and settings including school, community, and private settings. Open to all music majors and non-majors who are interested in teaching people through their love of music.

**MU 1770. Intro to Music Technology. 3 Credits.**

Introductory overview of music technology. Study of acoustic physics, history of music technology, basic hardware set up, computerized music notation, Digital Audio Workstation (DAW) electronic music production, and music video creation. Prerequisite: MU 1310 or Instructor permission. Catamount Core: AH1.

**MU 1775. Live Sound Reinforcement. 3 Credits.**

Overview of techniques and tools used in amplification of live sound performance in music, theater, and dance. Study of physical properties of sound, fundamentals of acoustics, and current technology and equipment.

**MU 1990. Special Topics. 1-18 Credits.**

Courses on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. No prerequisite. May be counted toward the major/minor with Instructor permission.

**MU 2110. Hist Western Classical Music. 3 Credits.**

Study of Western classical music from 1300 to the present, exploring music from various stylistic periods from a historicist perspective and examining how music history aligns with broader concepts, theories, and beliefs circulating at a particular moment in time. Prerequisites: MU 1310, MU 2320, or MU 2310. Catamount Core: AH3.

**MU 2112. Music History & Literature I. 3 Credits.**

Survey of musical styles through the Baroque. Prerequisites: MU 2310 and MU 2313; MU 1110 is strongly recommended; Majors/minors, or Instructor permission.

**MU 2114. Music History & Literature II. 3 Credits.**

Survey of musical styles from 1750 to the present. Prerequisites: MU 2310 and MU 2313; MU 1110 is strongly recommended; Majors/minors; or Instructor permission.

**MU 2120. Jazz History Styles & Analysis. 3 Credits.**

An in-depth survey of jazz from early New Orleans to contemporary styles. Work includes close listening, study of transcriptions, and stylistic analysis. Final projects. Prerequisites: MU 2320 or MU 2310.

**MU 2170. World Music Cultures. 3 Credits.**

Through readings, close listening, and hands-on study of percussion instruments, students explore how music communicates in culturally specific contexts from around the globe. Research projects. Prerequisites: Music majors/minors or Instructor permission. Catamount Core: D2.

**MU 2310. Harmony and Form I. 3 Credits.**

Study of diatonic melody and harmony, phrase structure, and elaborative techniques. Music majors are required to take MU 2311 concurrently. Prerequisite: MU 1310 or equivalent music theory fundamentals proficiency, determined by placement test. Co-requisites: MU 2311 is required for Music majors and encouraged for all enrolled in MU 2310. Catamount Core: AH1.

**MU 2311. Harmony and Form Lab I. 1 Credit.**

Intensive study of solfege, elementary keyboard harmony, and dictation. Students should also register for MU 2310. Prerequisite: Ability to read music and to sing or play a musical instrument at elementary level. Co-requisite: MU 2310.

**MU 2313. Harmony and Form II. 3 Credits.**

Study of chromatic harmony (applied chords, modulation) and small forms (binary, ternary, variation). Music majors take MU 2314 concurrently. Prerequisite: MU 2320 or MU 2310 or Instructor permission. Co-requisite: Music majors taking MU 2313 to fulfill a theory requirement also take MU 2314 Harmony and Form Lab II concurrently. Catamount Core: AH1.

**MU 2314. Harmony and Form Lab II. 1 Credit.**

Intensive study of solfege, intermediate keyboard harmony, and dictation. Students should also register for MU 2313. Prerequisites: MU 2311 or MUL 2321. Co-requisite: MU 2313.

**MU 2319. Composition. 3 Credits.**

Studies in free composition and the mechanics of score preparation, leading to performance of original work on a departmental concert. Prerequisite: MU 2313 or Instructor permission.

**MU 2320. Jazz Harmony. 3 Credits.**

Study of jazz harmony, including essential harmonic progressions, turnarounds, chord substitutions, and melody harmonization. Music majors with concentration in Jazz Studies or Music Technology and Business take MU 2321 Jazz Harmony Lab concurrently. Prerequisite: MU 1310 or equivalent music theory fundamentals proficiency. Co-requisite: MU 2321 is required for Music majors with a concentration in Jazz Studies or Music Technology and Business and is encouraged for all others enrolled in MU 2320. Catamount Core: AH1.

**MU 2321. Jazz Harmony Lab. 1 Credit.**

Musical skills will be sharpened through singing prepared and unprepared material, through practice of rhythmic exercises, and through melodic, harmonic, and rhythmic dictation. Practice in the use of solfege syllables from the moveable do system to aid successful sight singing. Co-requisite: MU 2320.

**MU 2327. Theory/Practice Jazz Improv I. 3 Credits.**

Basic repertory, idiomatic usage, aural skills, theoretical constructs, and strategies for the jazz improviser. Prerequisites: MU 2320 or MU 2310 or Instructor permission; intermediate instrumental skill.

**MU 2552. Brass Techniques. 2 Credits.**

Class instruction on trumpet, trombone, and horn including materials and procedures for teaching these instruments in elementary and secondary schools. Pre/Co-requisite: MU 1550.

**MU 2554. String Techniques. 2 Credits.**

Develop basic technical proficiency on violin, viola, cello, and double bass. Emphasis on beginning pedagogy, and teaching string instruments in a classroom setting. Pre/Co-requisite: MU 1550.

**MU 2556. Woodwind Techniques. 2 Credits.**

Class instruction on flute, clarinet, saxophone and oboe/bassoon including materials and procedures for teaching these instruments in elementary and secondary schools. Pre/Co-requisite: MU 1550.

**MU 2558. Percussion Techniques. 2 Credits.**

Class instruction of various orchestral pitched and unpitched percussive instruments including materials and procedures for teaching these instruments in the elementary and secondary schools. Pre/Co-requisite: MU 1550.

**MU 2560. Vocal Techniques. 2 Credits.**

Foundation course in applied singing, and in teaching singing. Intended for students in music education, and students intending to teach private singing lessons or lead choirs. Pre/Co-requisite: MU 1550.

**MU 2770. Creating Music for Video. 3 Credits.**

Students will score short films using digital audio software. Emphasis is on 4-5 scoring projects, with additional background reading and written critiques. Prerequisites: MU 1310, MU 1770. Catamount Core: AH1.

**MU 2771. Studio Production I. 2 Credits.**

Explores the fundamentals of music studio recording production. Topics include recording hardware, ProTools software, microphone technique, signal processing, and post production engineering. Prerequisites: MU 1770 or Instructor permission.

**MU 2772. Studio Production II. 2 Credits.**

Explores advanced techniques of music studio production. Topics include recording hardware, signal processing, Digital Audio Workstations, and post production engineering (mixing and mastering). Prerequisite: MU 2771.

**MU 2782. Arts Management. 3 Credits.**

Focuses on the business of presenting the performing arts. Topics include: planning, marketing, logistics and operations of non-profit arts organizations. Prerequisite: Sophomore standing.

**MU 2785. Music Business and Copyright. 3 Credits.**

Survey of basic concepts and practices in music business including copyright, licensing, publishing, contracts, marketing, agencies, unions and guilds, and career development. Prerequisite: Sophomore standing.

**MU 2990. Special Topics. 1-18 Credits.**

Courses on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Prerequisites: MU 2310 and MU 2313; Majors/minors, or Instructor permission.

**MU 3105. Topics In: Composer Seminar. 3 Credits.**

Survey of the musical style of one or more composers. Context, history, legacy. Representative topics: Bach, Beethoven, Stravinsky, and Ellington. See Schedule of Courses for specific topics. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three credits in Music at the 2000-level.

**MU 3310. Chromatic Harmony, Large Forms. 3 Credits.**

Study of advanced chromatic harmony, large forms (sonata, rondo), art song, and free forms. All students are encouraged to enroll in MU 3311 concurrently; it is required for Music majors with a concentration in Composition and Theory or Music History and Literature. Prerequisite: MU 2313 or Instructor permission. Catamount Core: AH1.

**MU 3311. Chromatic Harmony Lab. 1 Credit.**

Intensive study of solfege, chromatic harmony at the keyboard, dictation, and score reading. Prerequisite: MU 2314 or Instructor permission. Co-requisite: MU 3310.

**MU 3313. Post-19c Theory and Practice. 3 Credits.**

Study of extended tonality, atonality, and 12-tone techniques. Examples drawn from 20th and 21st century literature. Music majors take MU 3314 concurrently. Prerequisite: MU 2313 or Instructor permission. Catamount Core: AH1.

**MU 3314. Post-19c Theory Lab. 1 Credit.**

Intensive study of solfege, extended tonality and atonality at the keyboard, dictation, and score reading. Prerequisite: MU 2314 or Instructor permission. Co-requisite: MU 3313.

**MU 3319. Advanced Composition. 3 Credits.**

Creative work in free composition culminating in public performance of completed work on a departmental concert. Prerequisite: MU 2319.

**MU 3320. Arranging for Jazz Orchestra. 3 Credits.**

Composing and arranging for big band. Practice in techniques of jazz arranging and study of historic works. Final project is jazz standard arranged for big band, read by the UVM Jazz Ensemble. Prerequisite: MU 2320 or MU 2313 or instructor permission. Catamount Core: AH1.

**MU 3325. Jazz Small Group Composition. 3 Credits.**

Composing for small jazz ensembles. Practice in 2-, 3-, and 4-horn techniques. This seminar features student-led analysis, discussion, and in-class performances of writing projects. Final project is original composition arranged for small jazz ensemble, performed on departmental concert. Prerequisite: MU 2320, MU 2313, or Instructor permission. Catamount Core: AH1.

**MU 3327. Theory/Practice Jazz Improv II. 3 Credits.**

Chord substitution, re-harmonization, scale alteration, free" improvisation, and other techniques in written assignments and classroom performance of modern jazz repertory. Prerequisites: MU 2327, or Instructor permission.

**MU 3550. General Music Methods. 3 Credits.**

Methodologies, lesson planning, assessment, and standards-based curriculum development for general music at the elementary and secondary school levels. Pre/co-requisites: MU 1550; acceptance into licensure program in Music Education.

**MU 3551. Practicum in Teaching Music. 2 Credits.**

Supervised field experience in music education. Prerequisites: MU 3550, MU 3552, MU 3555.

**MU 3552. Choral Music Methods. 2 Credits.**

Standards-based curriculum development, lesson planning, repertoire selection, rehearsal techniques, and assessment strategies for teaching choral music at the elementary and secondary school levels. Pre/co-requisite: MU 1550; acceptance into licensure program in Music Education.

**MU 3554. Instrumental Music Methods. 2 Credits.**

Standards-based curriculum development, lesson planning, repertoire selection, rehearsal techniques, and assessment strategies for teaching instrumental music at the elementary and secondary school levels. Pre/co-requisites: MU 1550; acceptance into licensure program in Music Education.

**MU 3560. Conducting I. 3 Credits.**

Baton technique, score reading, and laboratory practice. Preparation and performance of selected scores, including rehearsal procedures. Prerequisites: MU 3311 and MU 3310.

**MU 3562. Conducting II. 3 Credits.**

Focus on advanced conducting techniques and score preparation. Exploration of instrumental and vocal conducting techniques. Prerequisite: MU 3560.

**MU 3771. Studio Production III. 2 Credits.**

Explores professional techniques of music studio production. Topics include recording hardware, signal processing, Digital Audio Workstations, and post production engineering (mixing and mastering). Prerequisite: MU 2772.

**MU 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MU 4110. Senior Project: Music History. 1 Credit.**

Directed readings and research. Research project. Prerequisites: Music History concentration; Senior standing; Instructor permission.

**MU 4310. Senior Project: Comp/Theory. 1 Credit.**

Research paper or composition/analysis; topic chosen under direction of a faculty member. Prerequisite: Composition/Theory concentration; Senior standing; Instructor permission.

**MU 4551. Teaching Internship Seminar. 1 Credit.**

Companion course to supervised field work, giving students experience in specialized areas for their professional development. It is designed to provide context to the field work, resources for effective planning and teaching, and assist in developing the Vermont Licensure Portfolio and achieving InTASC standards. Prerequisite: Senior standing. Co-requisite: MU 4552.

**MU 4552. Internship: Student Teaching. 11 Credits.**

Teaching Interns will work under the guidance of their Licensed Music Mentor and University Supervisor to become committed reflective practitioners, instructional leaders and change agents, collaborating with other professionals to make a positive difference in schools and in the lives of all learners. Prerequisites: Music Education majors only; Senior Standing; admission to student teaching; overall GPA and GPA in professional courses at least 3. Co-requisite: MU 4551.

**MU 4770. Senior Project: MTB. 1 Credit.**

Project utilizes current music technology. Topic chosen under direction of faculty member. Prerequisites: MU 3771; Music Technology and Business concentration; Senior standing.

**MU 4771. Internship: MTB. 1 Credit.**

Supervised fieldwork designed to give students experience in specialized areas for their professional development. Prerequisite: MU 3771; Music Technology & Business concentration; Senior standing; Instructor permission.

**MU 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MU 4991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**MU 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MU 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**MU 4995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**MU 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

## NATURAL RESOURCES (NR)

### Courses

**NR 1010. Natural Hist & Human Ecology 1. 0 or 4 Credits.**

Integrates the science of ecology and the science of humans and society to understand the relationship between the natural landscape's effects on society and social organization, and society's effects on the natural landscape. Catamount Core: N2.

**NR 1020. Natural Hist & Human Ecology 2. 0 or 4 Credits.**

Integrates the science of ecological sciences and the science of humans and society to understand the relationship between the natural landscape's effects on society and social organization, and society's effects on the natural landscape. Pre/Co-requisite: NR 1010. Catamount Core: S1.

**NR 1050. Critical Reflection & Dialogue. 1 Credit.**

An opportunity for First-Year students to develop skills of critical reflection and dialogue through the examination of several environmental issues, and to build strong working relationships with peers and faculty. Includes nuanced, personal conversations in small and large groups, and will consider disparate viewpoints and experiences. Pre/Co-requisites: RSENR First-Year student standing.

**NR 1060. Race & Culture in NR. 0 or 3 Credits.**

Introduces First-year students to issues of race and culture and their relevance to society, natural resources, and the environment. Prerequisite: NR 1050. Catamount Core: D1.

**NR 1090. VT: Natural & Cultural Hst. 0 or 4 Credits.**

Introduction to the Vermont landscape that combines elements of natural history, field ecology, and environmental history. Students visit locations around the Champlain Valley as they build observational skills, study natural systems, and examine past and present human relationships with nature. Pre/Co-requisite: RSENR transfer students only. Catamount Core: N2, SU.

**NR 1210. Speaking and Listening. 2 Credits.**

Course aids students in learning to speak, listen and critique public speaking. Different delivery styles focus on relevant environmental and natural resource topics.

**NR 1610. Foundations of PBE. 4 Credits.**

Introduces the principles and practices of place-based education. Students learn to design place-based curriculum and educative materials from an interdisciplinary analysis of specific places. Cross-listed with: EDTE 1610. Catamount Core: SU.

**NR 1990. Special Topics. 1-18 Credits.**

Introductory topics in environmental and natural resource issues beyond the scope of exiting courses.

**NR 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**NR 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NR 1996. Aiken Scholars Seminar. 1 Credit.**

Seminar discussions on current environment issues. Guest speakers and field trips. Prerequisite: Open only to First-Year Aiken Scholars.

**NR 2020. Water as a Natural Resource. 3 Credits.**

Uses of water resources and impacts on aquatic systems and human society. Prerequisites: Minimum Sophomore standing. Catamount Core: SU.



**NR 2030. Ecology, Ecosystems & Environ. 3 Credits.**

Major ecological concepts and their application. Analysis of form, structure, and function of organisms, populations, communities, ecosystems, and landscapes. Prerequisites: Agroecology, Environmental Science, Environmental Studies, Forestry, Natural Resources, Parks, Recreation & Tourism, or Wildlife & Fisheries Biology major; minimum Sophomore standing. Catamount Core: N1.

**NR 2040. Social Proc & the Environment. 3 Credits.**

Social science theories and their application to environmental issues. Analysis of issues using theories of government, economics, and social movements. Emphasis on integrating frameworks to analyze environmental issues. Prerequisite: NR 1020 or NR 1090. Catamount Core: S1.

**NR 2070. Human Health & the Environmt. 3 Credits.**

Offers an introduction to environmental health. Topics include: methods (toxicology, epidemiology), environmental health hazards (physical, biological, chemical) and supports (nature contact), risk analysis, communication and management, health and climate change, food production and access, energy production, and water. Prerequisite: Sophomore standing. Cross-listed with: HLTH 2070. Catamount Core: SU.

**NR 2110. Kincentric Ecology. 3 Credits.**

'Kincentric ecology', as defined by Enrique Salmon, is when humans view themselves as part of an extended ecological family that shares ancestry and origins with other species. Explores how we relate to other species through engagement with a number of different fields, including ecology, evolution, ecofeminism, multispecies ethnography, and Indigenous Place-Thought. Prerequisite: ENVS 1500, ENVS 1510, NR 1010, or NR 1090. Catamount Core: AH2.

**NR 2210. Ecosystems' Nonmaterial Values. 3 Credits.**

Explores the nonmaterial ways ecosystems benefit people (that is, spiritually, psychologically), and how those benefits might be incorporated into decision-making. In addressing these Cultural Ecosystem Services, its approach is both appreciative and critical. Ethical implications figure prominently. Prerequisite: ENVS 1500, ENVS 1510, NR 1010, or NR 1090.

**NR 2400. Applied Environ Statistics. 0 or 4 Credits.**

Introduction to the biostatistical analyses for natural resource applications. Covers disciplinary software and analyses to prepare students to independently design, analyze, interpret and communicate environmental data. Includes parametric and non-parametric methods focused on real-world environmental data-sets. Prerequisite: Minimum Sophomore standing. Catamount Core: QD.

**NR 2410. Intro to Ecological Economics. 3 Credits.**

Introduction to the study of economics as dependent on social and environmental systems and to transdisciplinary problem-solving using ecological economics. Prerequisite: Minimum Sophomore standing.

**NR 2430. Intro to Geog Info Systems. 0 or 3 Credits.**

Understanding and application of computer-based, geographically-referenced information systems. Prerequisite: Minimum Sophomore standing.

**NR 2460. Remote Sensing. 3 Credits.**

Examinations of the earth's surface from aerial photographs and satellite imagery. Emphasis is on image interpretation, classification, change detection, multivariate analysis (e.g. principal components analysis). Prerequisite: Sophomore standing. Cross-listed with: GEOG 2520.

**NR 2530. Intro to Environmental Policy. 3 Credits.**

Introduction to policy aspects of environment and natural resources including policy processes, public governance, and citizen participation with applications to environmental issues. Prerequisite: NR 2040 or POLS 1300.

**NR 2650. Enviro Literature, Arts, Media. 3 Credits.**

Introduction to the environmental humanities exploring the role of the literary, visual, musical, performative, and media arts in shaping cultural attitudes and responses to nature and contemporary environmental problems. Prerequisite: ENVS 1500, ENVS 1510, NR 1010, or NR 1090. Catamount Core: AH2.

**NR 2730. Landscape Natural History. 3 Credits.**

Field-based; examines patterns and processes on local landscapes from an interdisciplinary perspective, with an emphasis on geology, soil science, plant ecology, and ecosystem geography. Prerequisite: ENVS 1500, NR 1010, or NR 1090.

**NR 2740. CR: Sustainability Theory&Prac. 4 Credits.**

In theory and practice, sustainability can be expressed differently depending on ideological, political, academic or normative commitments. Alongside local partners in Costa Rica, students will study and apply frameworks from traditional communities, and the biophysical and social sciences to understand how sustainability is interpreted and being operationalized in Central America and beyond. Prerequisite: Minimum Sophomore standing. Co-requisite: Enrollment in the Costa Rica Semester Abroad Program. Catamount Core: SU.

**NR 2750. Rural Lives in Global World. 3 Credits.**

Uses political economic development theory to explore the livelihoods of rural Costa Ricans on the Osa Peninsula, and the tension between external demands made by a global economy vs. their local capacity for self-determination and control of employment opportunities, cultural identity, and quality of life. Co-requisite: Enrollment in the Costa Rica Semester Abroad Program.

**NR 2760. Tropical Ecology in CR. 4 Credits.**

A field-based, travel study course where students will learn the major ecological patterns in tropical (and other) ecosystems and on the factors that generate, maintain, and threaten biodiversity. Students will also gain experience in critical thinking, research design, framing hypotheses, data collection techniques, basic statistics, science communication and collaborative research. Prerequisite: Minimum Sophomore standing. Catamount Core: N2.

**NR 2810. Environmental Justice. 3 Credits.**

Examines the historical trajectory of environmental justice; key lessons from EJ movements; the links between environmental justice, sustainability, decolonial movements, and just transitions; as well as how racism, classism, prejudice, and power are intimately intertwined with epistemic practices in science, technology, and environmental governance. Prerequisite: ENVS 1500 or ENVS 1510 or NR 1020. Catamount Core: D1.

**NR 2880. Sustainability Science. 3 Credits.**

The study of sustainability integrating natural and social science perspectives. Topics include theories of ecological adaptation and resilience, sustainability assessment methods, life cycle analysis, relational values, community science, emerging technologies and their applications to achieving a sustainability transformation. Prerequisites: ENVS 1500, ENVS 1510, NR 1010, NR 1020, or Instructor permission; minimum Sophomore standing. Catamount Core: SU.

**NR 2990. Special Topics. 1-18 Credits.**

Special topics in natural resources beyond the scope of existing formal courses.

**NR 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**NR 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NR 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**NR 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NR 2996. Honors Seminar. 1 Credit.**

A discussion and readings seminar that features guest speakers, and is part of the SNR Spring Seminar Series. Focus of the seminars change annually. Can be repeated. Prerequisite: Sophomore standing; open only to SNR Honors Students.

**NR 3010. Research Methods. 3 Credits.**

Provides a big-picture understanding of what research is, how to do it, and conceptually learn some methodological approaches to research in the environmental realm and helps effectively structure and write a literature review and thesis proposal. Prerequisite: Minimum Junior standing. Catamount Core: WIL2.

**NR 3050. Ecosys Mgt: Intg Sci, Soc & Pol. 3 Credits.**

Integration of natural and social science to formulate solutions and policies to address some of our biggest environmental challenges. Consideration of ecological, social, and economic approaches, as well as human needs and values for environmental decision-making. Prerequisites: NR 2030; NR 2040. Catamount Core: S1, SU.

**NR 3200. Landscape Ecology. 3 Credits.**

The course examines the critical role of landscape pattern in determining ecological process and dynamics, as well as human-ecological interactions. Includes field labs. Prerequisites: NR 2030 or BCOR 2100; Senior/Graduate standing.

**NR 3280. Ecosystems Ecology. 3 Credits.**

Examination of the structure and function of terrestrial ecosystems focusing on carbon and nutrient cycles. Laboratory sessions involve spatial modeling and data analysis. Prerequisites: NR 2030, BCOR 2100, PSS 2610, or Graduate student standing. Cross-listed with: FOR 4280.

**NR 3360. Women, Health and Environment. 3 Credits.**

Uses interdisciplinary approaches to analyze specific connections between human-environment interactions from the gender perspective, especially women's and children's health. Examines the tensions between science, politics, gender and nature. Explores historical and contemporary understandings of gender in science and society at large. Prerequisite: Minimum Junior standing.

**NR 3370. Human Ecology & Health-Arctic. 3 Credits.**

An unstable Arctic poses threats, not only to the future of the Arctic but to the world itself. Provides an interdisciplinary overview of histories and approaches to human-environment interactions in the circumpolar Arctic, with a focus on the contexts of sustainability and justice. Prerequisite: Minimum Junior standing.

**NR 3430. Adv Geospatial Techniques. 1-3 Credits.**

Advanced course encompassing a wide range of topics in GIS, remote sensing, GPS, modeling, and visualization designed to provide technical expertise in geospatial techniques. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: NR 2430, GEOG 2510, NR 6430, NR 2460, or GEOG 2520.

**NR 3880. Ecol Design & Living Technol. 0 or 3 Credits.**

The course explores the potential for ecological design to shape a sustainable future. It analyzes living technologies for food production, waste management and environmental restoration. Prerequisite: Junior standing.

**NR 3930. Environmental Law. 3 Credits.**

An introduction to the dynamic and interdisciplinary field of environmental law in the United States. Examines the history of federal and state involvement in environmental decision-making and the most critical environmental problems we face today, including issues related to air and water pollution, biodiversity protection, and climate change. Prerequisites: NR 2530; minimum Junior standing.

**NR 3940. Energy and Climate Law. 3 Credits.**

Focus at the intersection of energy law, environmental law, and climate law, including the regulations that empower government agencies to enforce the laws, and the policies that implement this enforcement. Partnership with Vermont Law School's Institute for Energy and the Environment provides an experiential learning opportunity for students. Prerequisite: Minimum Junior standing.

**NR 3950. Environmental Education. 3 Credits.**

Philosophy, concepts, and strategies of environmental education, emphasizing integration of environmental concerns into formal and non-formal educational programs for youth and adults. Prerequisite: Junior standing.

**NR 3990. Special Topics. 1-18 Credits.**

Advanced special topics in natural resource planning beyond the scope of existing formal courses.

**NR 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**NR 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NR 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline for which credit is awarded. Offered at department discretion.

**NR 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member for which credit is awarded. Offered at department discretion.

**NR 3996. Honors. 1-6 Credits.**

Honors project dealing with aquatic resources, terrestrial ecology, or integrated natural resources.

**NR 4060. Env Prob Sol & Impact Assessmt. 0 or 4 Credits.**

Group dynamics, impact assessment, risk assessment, and decision making. Emphasis on the process of solving complex environmental problems, interdisciplinary team work, and the National Environmental Policy Act. Prerequisites: NR 3050. Catamount Core: GC2.

**NR 4080. Birding to Change the World. 4 Credits.**

Place-based course and service learning lab that pairs UVM students as enviro-mentors with children in Burlington schools in an after-school birding and nature study club. Application and background check are required of enrolled students. Prerequisites: Minimum Junior standing; Instructor permission. Catamount Core: GC2.

**NR 4350. Legal Aspects Envir Planning. 3 Credits.**

Comparison of environmental planning law at local, state, and national levels. Case studies in environmental and natural resource planning and land use controls. Prerequisite: Senior standing.

**NR 4430. GIS Practicum. 3 Credits.**

An applied course in geospatial technology with a focus on ESRI's ArcGIS software suite. Prerequisite: NR 2430 or NR 6430.

**NR 4500. Limnology. 0 or 4 Credits.**

Ecology of lakes and reservoirs, including their origin, physics, chemistry and biology, and the effects of anthropogenic perturbations. Field and laboratory experience. Prerequisites: BIOL 1400 and BIOL 1450 or BCOR 1400 and BCOR 1450, and CHEM 1100 and CHEM 1150 or CHEM 1400 and CHEM 1450, and NR 2030 or BCOR 2100.

**NR 4640. C Ross Env Pb Srv Practicum. 4-5 Credits.**

Creating proposals for modification and implementation of natural resource and environmental policy in Vermont with emphasis on critical thinking, problem solving and leadership. Prerequisites: NR 2040 or POLS 1300.

**NR 4680. Soil Ecology. 0 or 4 Credits.**

Underlying concepts and theory of modern soil ecology will be reviewed including spatial and temporal distributions, sampling methods, biogeochemical cycles, and ecological functions of soil. Prerequisites: BCOR 2100 or NR 2030, Prerequisites: BCOR 2100 or NR 2030, and PSS 2610. Cross-listed with: PSS 3680.

**NR 4800. Stream Ecology. 0 or 4 Credits.**

Ecology of streams including hydrodynamics, morphology, sediment transport, chemistry, biology and human impacts. Field and laboratory experience. Prerequisites: BIOL 1400 and BIOL 1450 or BCOR 1400 and BCOR 1450, and CHEM 1100 and CHEM 1150 or CHEM 1400 and CHEM 1450, and NR 2030 or BCOR 2100.

**NR 4880. Advanced Ecological Design. 3 Credits.**

A problem-based, cross-disciplinary design course in which existing conditions are integrated with the redesign of place and system in alignment with ecological design principles. Prerequisite: NR 3880.

**NR 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**NEUROLOGY (NEUR)****Courses****NEUR 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**NEUR 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**NEUR 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

## NEUROSCIENCE (NSCI)

### Courses

#### **NSCI 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

#### **NSCI 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

#### **NSCI 1070. First-Year NSCI Seminar. 1 Credit.**

Introduces first-year neuroscience majors to the field of neuroscience by introducing students to different perspectives and subfields through researchers and students at UVM.

#### **NSCI 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **NSCI 2100. Exploring Neuroscience w/lab. 0 or 4 Credits.**

In-depth survey of neuroscience topics, including neuron function, the anatomical and functional organization of the nervous system, and diseases of the nervous system. With lab. Credit not given for both NSCI 2100 and NSCI 2105. Prerequisites: PSYS 1400; and one of the following: (BIOL 1400, BIOL 1450), (BCOR 1400, BCOR 1450), or BCOR 1425. Pre/Co-requisites: CHEM 1400. Catamount Core: N2.

#### **NSCI 2105. Exploring Neuroscience. 3 Credits.**

In-depth survey of neuroscience topics, including neuron function, the anatomical and functional organization of the nervous system, and diseases of the nervous system. No laboratory. Credit not given for both NSCI 2100 and NSCI 2105. Prerequisites: PSYS 1400; and one of the following: (BIOL 1400, BIOL 1450), (BCOR 1400, BCOR 1450), or BCOR 1425. Co-requisite: CHEM 1400. Catamount Core: N1.

#### **NSCI 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **NSCI 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **NSCI 3220. Cellular Neurophysiology. 3 Credits.**

Fundamentals of cellular neurophysiology through lecture, independent student reading and faculty-led group discussions of journal articles. Prerequisites: NSCI 2100 or NSCI 2105 or Instructor permission.

#### **NSCI 3230. Neurochemistry. 3 Credits.**

Using current primary papers on these topics, studies the current state of neuroscience research and examine the basis of neural disorders including neurodegeneration, psychiatric abnormalities such anxiety and related stress-associated disorders, and other neuropathologies, The papers will dissect methodologies, approaches and advances in these issues.

#### **NSCI 3250. Human Neuroanatomy. 0 or 3 Credits.**

Functional anatomy of the human nervous system on both the microscopic and macroscopic scales. Focuses on the structures of the peripheral nervous system, spinal cord, and brain, and how they work together to achieve behavior. Lectures and a required laboratory (gross and microscopic anatomy). Prerequisite: NSCI 2105.

#### **NSCI 3300. Comparative Neurobiology. 3 Credits.**

Examination of the cellular mechanisms that underlie selective motor and sensory abilities, and unique behaviors that have evolved in various species. Discussion and student presentations. Prerequisite: ASCI 2105 or NSCI 2105 or PSYS 2200 or Instructor permission.

#### **NSCI 3500. Neuroregeneration. 3 Credits.**

Clinical neuroscience of injury and healing in the human nervous system, factors leading to different outcomes, and the impact of successful and failed repair on functional recovery. Explores cutting-edge approaches to treating neurological disease. Prerequisite: NSCI 2100, NSCI 2105, or BIOL 3505.

#### **NSCI 3610. Neurobiology for Majors. 3 Credits.**

Exploration of the fundamental concepts in neurobiology. Topics include cell biology of the nervous system, electrical signaling/synaptic transmission, signal transduction, plasticity, and motor and sensory systems, and behavioral neuroscience. Credit not awarded for both BIOL 3505 and NSCI 3505. Prerequisites: BCOR 2300, NSCI 2105.

#### **NSCI 3800. Glia: Not Just Neuron Glue. 3 Credits.**

Interdisciplinary course in which students engage in a focused, in-depth exploration of how glial cells contribute to neurological and psychiatric disorders. Pre/Co-requisites: NSCI 2105; Course Director permission.

#### **NSCI 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **NSCI 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **NSCI 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **NSCI 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NSCI 4500. Diseases of the Nervous System. 3 Credits.**

Senior level, seminar-style capstone course in which students bring together information learned in other courses for an in-depth study of disease states of the nervous system. Prerequisites: NSCI 2100; Senior standing. Catamount Core: N1.

**NSCI 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**NSCI 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**NSCI 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**NURSING & HEALTH SCIENCES (NH)****Courses****NH 1500. App to Hlth: From Pers to Syst. 1 Credit.**

This course introduces students to a range of topics related to their chosen majors and future careers. Pre/co-requisite: First year College of Nursing and Health Sciences students.

**NH 1990. Special Topics. 1-18 Credits.**

Introductory courses on health topics beyond the scope of department or college offerings. See Schedule of Courses for specific titles.

**NH 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**NH 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NH 2200. Health Care Ethics. 3 Credits.**

A study of ethical principles and applications used to help resolve dilemmas in health care delivery. Introduction to ethical decision-making models used in the practice of modern health care.

**NH 2990. Special Topics. 1-18 Credits.**

Intermediate courses or seminars on topics beyond the scope of the normal departmental or college offerings. See Schedule of Courses for specific titles.

**NH 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**NH 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NH 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**NH 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NH 2996. Honors College Thesis Preparat. 1-3 Credits.**

Supports College of Nursing and Health Sciences' Honors College students begin planning their thesis and developing a research literature review on a specific thesis topic. Prerequisites: Junior standing, College of Nursing and Health Sciences' Honors College student.

**NH 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**NH 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**NH 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NH 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**NH 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NH 3996. HC: Honors Project and Seminar. 1-4 Credits.**

This course facilitates the Honors College project. All CNHS Honors College students must enroll.

**NH 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**NH 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## NURSING (NURS)

### Courses

#### **NURS 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

#### **NURS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **NURS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **NURS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **NURS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **NURS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **NURS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

#### **NURS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **NURS 3000. Health and Sustainability. 3 Credits.**

Designed to introduce students to the concept of sustainability via the integration of basic environmental health science, and the associated environmental and/or health effects of today's modern day production and manufacturing techniques and practices. Prerequisites: Junior standing. Catamount Core: SU.

#### **NURS 3220. Pathophysiology. 3 Credits.**

Provides a comprehensive foundation in pathophysiology. The phenomena that result in dysfunction in human physiologic response will be examined. Prerequisites: Minimum Junior or Graduate standing; ANPS 1190, ANPS 1200, MMG 1650. Co-requisite: PRNU 3228; Nursing students only.

#### **NURS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **NURS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

#### **NURS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

#### **NURS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

#### **NURS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## NUTRITION AND FOOD SCIENCES (NFS)

### Courses

#### **NFS 1033. What's Brewing in Food Science. 3 Credits.**

This course will explore food science via the production of beer and other fermented beverages. Students will also identify mechanisms to modify their drinking habits.

#### **NFS 1034. Servsafe Certification Course. 1 Credit.**

This course will prepare students for the ServSafe Certification Exam. The topics include food safety and proper food handling in a restaurant setting.

#### **NFS 1043. Fundamentals of Nutrition. 3 Credits.**

The study of standard guidelines to select foods that maximize human health and the functions of the essential nutrients needed to sustain human life. Prerequisites: High school chemistry and biology. Catamount Core: N1.

#### **NFS 1044. Survey of the Field. 1 Credit.**

Nutrition and Food Sciences introduction to the professional field and career opportunities in dietetics, nutrition and food science. Required of all First-Year and transfer students. Fall. Prerequisite: Nutrition and Food Science majors and Dietetics, Nutrition and Food Science majors only, or Instructor permission.

#### **NFS 1050. Cheese and Culture. 3 Credits.**

The history of cheesemaking is used as a lens through which to view current conflicts in European and American attitudes towards foods.

#### **NFS 1053. Basic Concepts of Foods. 0 or 3 Credits.**

Introduces the basic concepts of food central to the disciplines of nutrition, food science and food systems. Introduces these basic concepts in the same way as everyday Americans - through the process of meal preparation.

**NFS 1072. Kitchen Science. 3 Credits.**

Integrated lecture-lab course that explores the scientific concepts underlying why foods do what they do in the kitchen. Applications include topics such as ice cream, gluten, and molecular gastronomy. Labs and final project provide opportunities to design, conduct, and evaluate experiments investigating culinary phenomena. Catamount Core: N2.

**NFS 1073. Farm to Table: Food Sys. 3 Credits.**

This course provides an introduction to the contemporary food system, focusing on the interdependence of all components, from farm to table. Catamount Core: D2, SU.

**NFS 1990. Special Topics. 1-18 Credits.**

Introductory level special topics courses.

**NFS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**NFS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NFS 2113. U.S. Food Policy and Politics. 3 Credits.**

Provides a systems perspective on U.S. food policies and politics across the food system. Focuses on understanding the U.S. food policy process, policymakers, stakeholders, issues, goals and feedbacks between food policy and politics. Prerequisites: NFS 1073 or CDAE 1020 or CDAE 1040. Cross-listed with: FS 2010.

**NFS 2114. Human Health in the Food Syst. 3 Credits.**

Explores the multifaceted and evolving intersection of food systems, dietary quality, food availability and human health outcomes. Investigates how political, economic, social and cultural drivers in the food system influence human health outcomes. Prerequisites: NFS 1043 or NFS 1073. Cross-listed with: FS 2030.

**NFS 2143. Nutrition in the Life Cycle. 3 Credits.**

Nutritional needs of people throughout the life cycle. Physiological and environmental factors which affect nutritional status. Designed for Nutrition majors. Prerequisite: NFS 1043.

**NFS 2153. Principles of Food Technology. 3 Credits.**

Food processing technologies and underlying principles of changes in microbiological quality and safety, chemical composition and nutritional value, and interaction of functional additives and ingredients. Prerequisite: NFS 1043, NFS 1053; organic chemistry.

**NFS 2154. Principles Food Technology Lab. 1 Credit.**

Experiential learning of principles of major modern food processing and preservation technologies, essential skills of food quality and safety assurance, and new product development. Prerequisite: NFS 2153, or concurrent enrollment in NFS 2153, organic chemistry; Department majors only.

**NFS 2156. Deadly Food: Outbreak Investig. 3 Credits.**

Investigates how U.S. public health officials discover, investigate, and solve foodborne outbreaks. Introduces common pathogens and foods involved in outbreaks in the U.S., the laboratory and investigative methods officials use to solve the outbreaks, and the government agencies involved. The second half of the semester will focus on case studies. Pre/Co-requisites: NFS 2153 or MMG 2010 or ASCI 1000, or Instructor permission.

**NFS 2163. Sports Nutrition. 3 Credits.**

Timing and composition of meals for training and pre- and post-competition. Prerequisite: NFS 1043 or Instructor permission.

**NFS 2183. Introduction to Biochemistry. 3 Credits.**

Exploring biological processes at the molecular level and how they are controlled. Topics include enzymes, gene expression, and metabolism of carbohydrates and lipids. Restricted to Nutrition and Food Sciences and Dietetics, Nutrition and Food Sciences majors; others by Instructor permission. Prerequisites: CHEM 1580; or CHEM 2580 and CHEM 2585; or other acceptable coursework in organic chemistry.

**NFS 2990. Special Topics. 1-18 Credits.**

Lectures, laboratories, readings, or projects relating to contemporary areas of study. Credits negotiable. Enrollment may be more than once, maximum of 12 hours in NFS 2990 and NFS 3990 combined. Prerequisite: Department permission.

**NFS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Department permission.

**NFS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NFS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**NFS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Department permission.

**NFS 3203. Food Microbiology. 3 Credits.**

Desirable and undesirable activities of bacteria in foods. Mechanisms of food-borne infection and intoxication. Laboratory methods to enumerate and identify microorganisms associated with food. Prerequisite: NFS 2153 or Instructor permission. Co-requisite: NFS 3204.

**NFS 3204. Food Microbiology Lab. 1 Credit.**

Introduces microbiological techniques such as Gram Stain, Streak for Isolation, dilutions, aseptic technique as well as means of identifying the microbial content of food products. Prerequisites: NFS 2153, NFS 2154, or Instructor permission. Co-requisite: NFS 3203.

**NFS 3205. Functional Foods:Prncpl & Tech. 3 Credits.**

Examines the constituents that make food products functional and provides laboratory techniques needed to create a functional food. Prerequisites: NFS 2153, NFS 2154, or Instructor permission.

**NFS 3223. Nutrition Educ & Counseling. 3 Credits.**

Use of appropriate education theory, techniques, and media in nutrition education and counseling theories and negotiation, interviewing and counseling skills in individual and group counseling. Pre/Co-requisites: NFS 1043, NFS 1053, NFS 2143.

**NFS 3243. Advanced Nutrition. 3 Credits.**

Study of nutrients and their specific functions in metabolic process integrating cellular physiology, biochemistry, and nutrition. Prerequisites: NFS 1043, ANPS 1190, and NFS 2183; minimum Junior standing.

**NFS 3246. Weight Inclusive Nutrition. 3 Credits.**

Teaches an approach to nutrition through a weight-inclusive lens. Examines how diet culture influences our view of foods, eating choices, and our bodies. Discusses the principles of Health at Every Size and Intuitive Eating. Prerequisites: NFS 1043; minimum Junior standing.

**NFS 3250. Foodservice Systems. 4 Credits.**

Emphasis on the foodservice system model for understanding quality control; food procurement, production, and marketing; management and evaluation of foodservice facilities, human and financial resources. Prerequisites: BUS 2610 or CDAE 2580; BUS 2300; minimum Junior standing; Dietetics or Nutrition and Food Sciences, and Dietetics, Nutrition and Food Sciences majors only.

**NFS 3260. Clinical Nutrition 1. 3 Credits.**

Focuses on understanding various disease conditions and how different food patterns relate to the prevention and management of common diseases. The Nutrition Care Process will be used throughout, and the importance of interprofessional practice as well as the dietitian's role on the healthcare team will be emphasized. Prerequisites: NFS 2143, NFS 3243; Senior standing.

**NFS 3261. Clinical Nutrition 2. 3 Credits.**

Builds further understanding of various disease conditions and how different food patterns relate to the prevention and management of common diseases. For specific disease states students will examine how diet should be modified to prevent, treat, or manage the disease condition. Prerequisite: NFS 3260.

**NFS 3262. Community Nutrition. 3 Credits.**

Study of U.S. public health nutrition policies, programs and practices. Emphasis on community nutrition program planning including needs assessment, intervention development and evaluation. Prerequisite: Minimum Junior or Graduate standing.

**NFS 3283. HACCP: Theory & Application. 3 Credits.**

This course addresses the development of a HACCP plan. Requirements of both the USDA-FSIS and FDA are examined. A mock HACCP plan will be developed. Prerequisites: NFS 3203 and Instructor permission.

**NFS 3890. Community Practicum. 1-3 Credits.**

Professional field experience in a community nutrition organization. Credit negotiable but not to exceed three per semester. Enrollment may be more than once, maximum of six credits. Prerequisite: Instructor permission.

**NFS 3990. Special Topics. 1-18 Credits.**

Lectures, laboratories, readings, or projects relating to contemporary areas of study. Credits negotiable. Enrollment may be more than once, maximum of twelve hours in NFS 2990 and NFS 3990 combined. Prerequisite: Department permission.

**NFS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Departmental permission.

**NFS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NFS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**NFS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**NFS 4286. NFS Senior Seminar. 1 Credit.**

Designed to help students through the process of identifying what they'd like to do with their dietetics degree after graduating from UVM, as well as prepare students to complete the required materials for future opportunities. Prerequisites: Dietetics, Nutrition and Food Sciences major; Senior standing.

**NFS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**OBSTETRICS & GYNECOLOGY (OBGY)****Courses****OBGY 2995. Undergraduate Research. 1-10 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission required.



**OBGY 3000. Understanding Human Pregnancy. 3 Credits.**  
Healthy pregnancy outcome depends on a confluence of sexual, social and biological processes. Explores the female sexual response, how a child is conceived (or not), maternal gestational physiology and embryology, and medical management of common diseases. ANPS 1190 and ANPS 1200, or ASCI 2105, or BIOL 4405 recommended.

**OBGY 3990. Special Topics. 1-12 Credits.**  
Lectures, readings and discussion for advanced students within areas of expertise of faculty and staff. Prerequisite: Permission of the Instructor.

## ORIENTATION (ORNT)

### Courses

**ORNT 0990. Special Topics Orientation. 0 Credits.**  
See Schedule of Courses for specific titles.

## ORTHOPEDIC SURGERY (ORTH)

### Courses

**ORTH 3910. Rsch in Orth & Rehab. 3 Credits.**  
Work on research problem under the direction of a faculty member. Review of literature, preparation of manuscript. Prerequisite: Instructor Permission. In collaboration with clinical faculty of the Department.

**ORTH 3990. Special Topics. 3 Credits.**  
Work on research problem under the direction of a faculty member. Review of literature, preparation of manuscript. Prerequisite: Instructor Permission. In collaboration with clinical faculty of the Department.

**ORTH 3993. Independent Study. 1-18 Credits.**  
A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## OVERSEAS STUDY PROGRAM (OSSP)

### Courses

**OSSP 0001. External to UVM. 0-12 Credits.**

**OSSP 0010. ISEP/UVM Exchange. 12 Credits.**

**OSSP 0020. UVM Exchange. 12 Credits.**

**OSSP 0030. UVM Semester. 0 Credits.**

**OSSP 0040. UVM Exchange. 12 Credits.**

**OSSP 0050. UVM-AS Study Abroad. 3-16 Credits.**  
Unifies and enriches the educational experience in UVM semester-long study abroad programs at a partner institution. Prerequisites: Enrollment in a UVM semester-long study abroad program at a partner institution.

## PARKS, RECREATION AND TOURISM (PRT)

### Courses

**PRT 1100. Int Sustainable Rec&Tourism. 3 Credits.**  
Introduces students to the field of sustainable recreation and tourism that is economically viable, socially inclusive, and environmentally responsible. Explores how recreation and tourism provides positive leisure experiences that contribute to individual well-being, vibrant livable communities, and healthy natural environments. Catamount Core: SU.

**PRT 1500. Tourism Planning. 3 Credits.**  
Examination of tourism including its economic, environmental, and social effects. Emphasis on planning to maintain the integrity of tourist regions.

**PRT 1990. Special Topics. 1-18 Credits.**  
See Schedule of Courses for specific title.

**PRT 1993. Independent Study. 1-18 Credits.**  
A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PRT 2380. Landsc. Arch for Parks & Rec. 0-4 Credits.**  
Recreation design methodology applied to the design of public and private recreational facilities.

**PRT 2490. Wilderness Educ & Leadership. 3 Credits.**  
Provides an understanding of the history, global evolution, current issues, leadership skills, ethics and future trends in WEL; skill mastery in "hard skills"; and places these skills in a professional context. Prerequisite: ENVS 1500 or NR 1010.

**PRT 2560. Ski Area Management Immersion. 1 Credit.**  
Ski Area Management Immersion Experience, features a mix of online, classroom and on-site learning at local ski resorts providing experiential learning about the management and operations of ski and mountain resorts. Must be taken concurrently with PRT 2570. Prerequisites: Parks, Recreation & Tourism majors and minors, Sports Management minors; minimum Sophomore standing. Co-requisite: PRT 2570.

**PRT 2570. Ski Area Management. 3 Credits.**  
Focuses on the study of the management and operating functions of ski areas and mountain resorts in Vermont and New England, with applicability across the North American ski industry. Must be taken concurrently with PRT 2560. Prerequisites: Minimum Sophomore standing, Parks, Recreation and Tourism or Sports Management minor, or Instructor permission. Co-requisite: PRT 2560.

**PRT 2580. Resort Mgmt & Marketing. 3 Credits.**  
Study of the management of year-round resort facilities. Emphasis on resort marketing, internal support functions, and associated recreational facilities. Prerequisite: Junior standing.

**PRT 2990. Special Topics. 1-18 Credits.**  
See Schedule of Courses for specific title. Prerequisite: Junior standing, Instructor permission.

**PRT 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PRT 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PRT 3300. Ecotourism. 3 Credits.**

Study of nature-based travel emphasizing international destinations. Examination of ecotourism as a tool for preservation and economic development. Prerequisite: Minimum Junior standing.

**PRT 3580. Entrepreneurship Rec&Tourism. 3 Credits.**

Study of entrepreneurial theories, concepts, and practices and their application to recreation and tourism. Emphasis on preparation of individual business plans. Prerequisites: Junior standing; Parks, Recreation and Tourism major or minor.

**PRT 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific title.

**PRT 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PRT 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PRT 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline for which credit is awarded. Offered at department discretion.

**PRT 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PRT 3996. Parks, Rec and Tourism Honors. 1-6 Credits.**

Honors project dealing with management of outdoor recreation and tourism. See program chair.

**PRT 4350. Outdoor Recreation Planning. 3 Credits.**

Planning large land areas for outdoor recreation use. Emphasis on the planning process relative to the leisure time use of natural resources. Prerequisites: Junior standing; Parks, Recreation and Tourism major or minor.

**PRT 4550. Environmental Interpretation. 3 Credits.**

Philosophy, principles, and techniques of communicating environmental values, natural history processes, and cultural features to recreation visitors through the use of interpretive media. Prerequisites: Junior standing; Parks, Recreation and Tourism major or minor.

**PRT 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PATHOLOGY (PATH)****Courses****PATH 1990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**PATH 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PATH 1993. Independent Study. 1-18 Credits.****PATH 2010. Intro to Human Disease. 3 Credits.**

Elementary course in human pathology designed for Allied Health students. First portion deals with general mechanisms of disease, followed by disorders of specific organs. Prerequisites: ANPS 1190 and ANPS 1200.

**PATH 2990. Special Topics. 1-18 Credits.****PATH 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PATH 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PATH 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PATH 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PATH 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PATH 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PATH 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PATH 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PATH 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PEDIATRICS (PED)****Courses****PED 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PED 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PED 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PHARMACOLOGY (PHRM)****Courses****PHRM 1990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**PHRM 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PHRM 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PHRM 2990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**PHRM 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PHRM 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PHRM 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PHRM 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PHRM 3000. Medical Cannabis. 3 Credits.**

An introduction to the pharmacology underlying recreational and medicinal uses of Cannabis. Focuses on Cannabis taxonomy, chemistry of cannabinoids, physiological effects, and emerging therapeutic applications. Discusses historical, political and socio-economic influences on medical marijuana legislation. Prerequisite: BCOR 2500, NSCI 2100, NSCI 2105 or PHRM 3010, or Instructor permission.

**PHRM 3010. Pharmacology and Therapeutics. 3 Credits.**

This course will focus on biochemical and physiological actions of prototype drugs used in the treatment and prevention of human diseases. Prerequisite: Introductory courses in Biology and Organic Chemistry.

**PHRM 3720. Toxicology. 3 Credits.**

This course is intended to provide an understanding of the chemical, biochemical and physiological factors that determine the pathological effects of chemicals in living systems. Prerequisites: Organic chemistry, background in Biology, or Instructor permission.

**PHRM 3900. Topics Molecular&Cell Pharm. 3 Credits.**

Focuses on basic principles, drug interactions with receptors, membranes, synapses, neurotransmitters, macromoles, cytoskeleton, ion channels and pumps, and mechanisms of drug resistance. Prerequisite: Introductory course in organic chemistry, background in physiology or health sciences.

**PHRM 3990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**PHRM 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PHRM 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PHRM 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PHRM 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Prerequisite: PHRM 3010. Offered at department discretion.

## PHILOSOPHY (PHIL)

### Courses

#### **PHIL 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

#### **PHIL 1012. Topics in: FYS: Div Human Exp. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: D2, WIL1.

#### **PHIL 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

#### **PHIL 1110. God, Morality, Mind. 3 Credits.**

Explores three major topics in philosophy using the tools of philosophical argument and analysis. Content, readings, and assignments vary by section and instructor. Catamount Core: AH3, GC2.

#### **PHIL 1120. The Good Place. 3 Credits.**

An introduction to philosophy through The Good Place, Michael Schur's TV show about the afterlife. We will take up only a few of the many philosophical topics the show discusses, such as what a good life is and whether we can meet morality's demands. Catamount Core: AH3.

#### **PHIL 1400. Introduction to Logic. 3 Credits.**

Study of the basic principles of deductive inference. Catamount Core: MA, QR.

#### **PHIL 1520. Art & Aesthetics. 3 Credits.**

Explores issues concerning art, such as the meaning of artworks and their significance, using the tools of philosophical argument and analysis. Content, readings and assignments vary by section and instructor.

#### **PHIL 1548. Marginalized Ident & Priv. 3 Credits.**

Teaches students to harness the power of theoretical scholarship on social marginalization, oppression, and privilege in both understanding and challenging the intersecting systems of social hierarchy operative in contemporary American society. Catamount Core: AH3, D1, GC2.

#### **PHIL 1600. Ethics. 3 Credits.**

Explores central themes in ethics, such as what our most fundamental obligations are, using the tools of philosophical argument and analysis. Content, readings, and assignments vary by section and instructor. Catamount Core: AH3, GC2.

#### **PHIL 1630. Environmental Ethics. 3 Credits.**

Explores questions about the moral status of the environment, including our obligations regarding it, using the tools of philosophical argument and analysis. Content, readings, and assignments vary by section and instructor.

#### **PHIL 1635. Ethics of Eating. 3 Credits.**

Explores topics concerning the ethical dimensions of eating, such as the ethical status of contemporary food-production techniques, using the tools of philosophical argument and analysis. Content, readings, and assignments vary by section and instructor. Catamount Core: AH3, GC2, SU.

#### **PHIL 1675. Death and Dying. 3 Credits.**

Explores explores issues concerning death and dying, such as whether it makes sense to fear death, using the tools of philosophical argument and analysis. Content, readings, and assignments vary by section and instructor.

#### **PHIL 1750. Philosophy East & West. 3 Credits.**

Explores ways in which Eastern and Western philosophical traditions both differ and overlap. Uses the tools of philosophical argument and analysis. Content, readings, and assignments vary by section and instructor. Catamount Core: AH3, D2, GC2.

#### **PHIL 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **PHIL 2200. Topics in Metaphysics. 3 Credits.**

Exploration of topics in metaphysics, such as vagueness, the nature of time, persistence of objects and people through change, and whether numbers or properties exist. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy.

#### **PHIL 2220. Topics in Philosophy of Mind. 3 Credits.**

Exploration of topics in the philosophy of mind such as consciousness, the relation between the mental (beliefs, sensations, etc.) and the physical (chemicals, neurons, etc.), and how minds represent things. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy.

#### **PHIL 2300. Topics in Epistemology. 3 Credits.**

Exploration of topics in epistemology, such as the nature of knowledge and the justification for our beliefs. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy.

#### **PHIL 2400. Intermediate Logic. 3 Credits.**

Study of philosophically interesting systems of symbolic logic and their applications. Prerequisite: PHIL 1400.

**PHIL 2470. Topics in Phil of Language. 3 Credits.**

Exploration of central problems concerning the nature of language and linguistic representation. PHIL 1400 recommended. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy.

**PHIL 2545. Topics in Feminism. 3 Credits.**

Exploration of aspects of feminism, such as theories of libertarianism, liberalism, and egalitarianism; application to the analysis and evaluation of social issues of contemporary interest, such as abortion and affirmative action. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy.

**PHIL 2560. Topics in Philosophy of Law. 3 Credits.**

Exploration of topics in philosophy of law, such as analysis of the nature of law, the relation between law and morality, legal obligation, and the judicial decision. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy, POLS 1200, or POLS 1012.

**PHIL 2630. Topics in Environmental Ethics. 3 Credits.**

Exploration of topics in environmental ethics, such the ethical crisis of climate change and human obligations to non-human animals and ecosystems. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy or Environmental Studies.

**PHIL 2675. Killing Things. 3 Credits.**

It is sometimes morally permissible to kill things: you can kill a mosquito biting you, for example. What else is permissible to kill? When? Prerequisite: One course in Philosophy.

**PHIL 2705. History of Ancient Philosophy. 3 Credits.**

Study of the works of the Pre-Socratics, Plato, Aristotle, and their successors. Prerequisite: One course in Philosophy.

**PHIL 2715. History of Medieval Philosophy. 3 Credits.**

Study of works of such major philosophical figures as Augustine, Anselm, Abelard, Aquinas, Duns Scotus, and William of Ockham.

**PHIL 2725. History of Modern Philosophy. 3 Credits.**

Study of works of the major philosophers of the 17th and 18th centuries: Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, Kant, and others. Prerequisite: One course in Philosophy.

**PHIL 2760. Chinese Philosophy. 3 Credits.**

Study of the Classical Schools of Chinese thought, including Confucianism, Taoism, Mohism, and Legalism. Prerequisite: One course in Philosophy, Religion, or Asian Studies. Catamount Core: D2.

**PHIL 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PHIL 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PHIL 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PHIL 3200. Topics in Metaphysics. 3 Credits.**

In-depth study of such topics as vagueness, the nature of time, persistence of objects and people through change, and whether numbers or properties exist. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy at the 2000-level.

**PHIL 3220. Topics in Philosophy of Mind. 3 Credits.**

In-depth study of topics like consciousness, the relation between the mental (belief, sensations, etc.) and the physical (chemicals, neurons, etc.) and how minds represent things. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy at the 2000-level.

**PHIL 3230. Emotions. 3 Credits.**

Study of the nature of emotions and related philosophical issues. Prerequisite: One course in Philosophy at the 2000-level.

**PHIL 3260. Free Will. 3 Credits.**

Explore whether we have genuine free will, and, if not, how this should affect our views about morality, justice and the meaning of life. Prerequisite: One Philosophy course at the 2000-level.

**PHIL 3280. Topics in Phil of Religion. 3 Credits.**

Advanced study of such issues as the metaphysics of religion, the epistemology of religious belief, philosophy and faith, religion and science, and religion and ethics. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: PHIL 2705, PHIL 2725.

**PHIL 3300. Topics in Epistemology. 3 Credits.**

In-depth study of select topics concerning theories of knowledge and related concepts such as belief, truth, rationality, evidence, perception, and memory. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy at the 2000-level.

**PHIL 3470. Topics in Phil of Language. 3 Credits.**

In-depth philosophical study of the nature of language. PHIL 1400 recommended. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy at the 2000-level.

**PHIL 3605. Topics in Ethical Theory. 3 Credits.**

In-depth study of metaethics, emphasizing recent work. Representative topics: moral objectivity, moral language, moral epistemology, and the relationship between morality and reasons. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: One course in Philosophy at the 2000-level.

**PHIL 3730. Kant. 3 Credits.**

An examination of issues in the philosophy of Immanuel Kant.  
Prerequisite: One Philosophy course at the 2000-level.

**PHIL 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PHIL 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PHIL 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PHIL 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: an appropriate 3000-level course in Philosophy.

**PHIL 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PHIL 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**PHYSICAL EDUCATION (PEAC)****Courses****PEAC 1002. Introduction to Meditation. 1 Credit.**

Guides students through an exploration of a variety of meditation styles and techniques. Reflection on these practices to identify the best style for personal use.

**PEAC 1003. Introduction to Yoga 1-2. 1 Credit.**

Focus on teaching the foundational principles of yoga in a safe, fun, and non-competitive environment. The emphasis will be on building body awareness, connecting movement and breath, alignment and exploration.

**PEAC 1006. Yoga & Mindfulness. 1 Credit.**

This course introduces students to various yoga poses and techniques, delves into the history of yoga, and provides students with the understanding of how yoga improves one's overall wellness.

**PEAC 1008. Flow and Restore Yoga. 1 Credit.**

Includes both slow flow vinyasa followed by yin yoga. Yin is a gentle and relaxing practice that works deeply into the connective tissues and joints of the hips, pelvis and lower spine through extended holds of postures and is suitable for all levels of students.

**PEAC 1009. Restorative Yoga. 1 Credit.****PEAC 1010. Body Mapping. 1 Credit.**

Inner exploration as a way to understand individual histories and confront, release, and change the stories stored in individual's bodies. Safely journeys within using the support of art making, movement, reflection, and group work.

**PEAC 1011. Yoga: Stretch, Relax, Reflect. 1 Credit.**

Explores yoga as a way of life and other aspects of this path through posture, breathing exercises, self-reflective prompts/questions, guided relaxations and more. Class will include movement, journaling, and partner/group sharing.

**PEAC 1012. Dream Yoga. 1 Credit.**

Provides an opportunity to establish, or build upon, a relationship with dreams to better understand self. Explores the realities of the sleep and wake worlds, as well as deepens personal understanding of the power of speech and the senses.

**PEAC 1100. Yoga & the Chakras. 1 Credit.**

Explores the chakras, yogic anatomy, and a comprehensive yoga practice to increase awareness and foster overall health and well-being. Practice will include Hatha and Kundalini Yoga to include asanas, pranayama, bhandas, mantra, and meditation.

**PEAC 1112. Intro to Teaching Yoga. 1 Credit.**

Includes practicing yoga, teaching elements of yoga, and learning the basic foundations of yoga and its history. Provides a yoga teaching experience and clarity on whether teaching yoga is right for the student.

**PEAC 1113. Yoga Teacher Training. 1 Credit.**

Yoga teacher training.

**PEAC 1130. Group Fitness. 1 Credit.**

This course introduces students to a variety of different types of group fitness classes, such as yoga, Pilates, spinning, total body conditioning, and other aerobic classes.

**PEAC 1131. Personal Fitness. 1 Credit.**

Provides students with the opportunity to promote their personal health and wellness through participation in the Campus Recreation offerings. Self-paced and includes student reflection on establishing fitness goals, regular work routine, and identifying strategies to overcome challenges.

**PEAC 1140. Cycling & Heart Rate Training. 1 Credit.****PEAC 1150. Military Fitness. 1 Credit.**

Vigorous workout three days a week designed to build both upper body strength and aerobic ability. Classroom participation and a final Army Physical Fitness Test determine student grades. Open to all First-Year/ Sophomore students.

**PEAC 1152. Rock Climbing. 1 Credit.**

Basic climbing techniques and holds are taught. Additionally, students learn how to belay and become familiar with climbing etiquette and safety practices.

**PEAC 1160. Pickleball. 1 Credit.**

Covers pickleball rules, terminology, court layout, equipment, strategy, and game play. Teaches skills including strokes, serving, and volleying; students will also take part in game play.

**PEAC 1163. Boulderling 1-2. 1 Credit.**

Boulderling climbing takes place over gymnastics pads without a rope, and never higher than 12-15 feet. Teaches the skills to enter and progress in the sport, how to boulder to minimize the chance of injury, and routines to practice the sport.

**PEAC 1170. Kickboxing for Self-Defense. 1 Credit.****PEAC 1171. Adv Kickboxing Self-Defense. 1 Credit.**

Advanced techniques of competitive kickboxing and the development of a more specific set of skills while adding elements from a variety of martial arts. Attention will be focused on development of power and movement through repetition building a proficiency in self-defense.

**PEAC 1175. Martial Arts: Aikido. 1 Credit.**

Basic Aikido techniques, such as throws and immobilizing holds, are taught in this martial art that emphasizes leverage and circular movements as defensive techniques.

**PEAC 1177. Brazilian Jiu Jitsu 1-2. 1 Credit.**

Brazilian Jiu-Jitsu is a grappling-based martial art and sport. Teaches beginners the basic techniques and concepts of BJJ for use in both sport and self-defense scenarios. Designed for beginners with minimal grappling experience and exposure.

**PEAC 1188. Scuba. 1 Credit.****PEAC 1190. Learn to Sail. 0.5-1 Credits.****PEAC 1191. Intermediate Sailing. 0.5-1 Credits.****PEAC 1200. Physical Education Activities. 0.5-1 Credits.**

Physical Education Activities.

**PEAC 1888. Varsity Sports. 1 Credit.****PEAC 1889. Club Sports. 1 Credit.****PHYSICAL EDUCATION-PROF (EDPE)****Courses****EDPE 1230. Amer Red Cross Emergency Resp. 3 Credits.**

To meet the needs of individuals who are in a position to provide first aid and emergency care frequently. Red Cross certification for successful performance in Advanced First Aid Emergency Care. Prerequisite: PE, HDS, and Health majors; others by Instructor permission.

**EDPE 1240. Student Athlete Development. 1 Credit.**

This course provides students with skills training for academic and athletic success, leadership development, alcohol education and prevention, and moral reasoning and decision-making.

**EDPE 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDPE 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDPE 2010. Intro to Sports Management. 3 Credits.**

Examination and analysis of contemporary issues and trends in sports management, physical education and athletics. Prerequisite: Minimum Sophomore standing.

**EDPE 2040. Phys Ed Teaching Experience 1. 0 or 4 Credits.**

Experience-based course sequence emphasizing relationship of motor development to learning. Includes age level needs and appropriate physical education activity sequences. First semester: grades K-3; second semester (EDPE 2050); grades 4-6. Prerequisite: Physical Education major.

**EDPE 2050. Phys Ed Teaching Experience 2. 0 or 4 Credits.**

Experience-based course sequence emphasizing relationship of motor development to learning. Includes age level needs and appropriate physical education activity sequences. First semester: grades K-3; second semester (EDPE 2050); grades 4-6. Prerequisite: Physical Education major.

**EDPE 2190. Careers in College Athletics. 3 Credits.**

Provides an overview of how students can apply their experiences and skills in the professional world of collegiate athletics. Students will learn about different careers and have the opportunity to discover relative coursework, internship experiences, networking skills, and resume development.

**EDPE 2550. Phys Educ in Secondary Schl. 0 or 4 Credits.**

Theories of teaching which include unit plan development, classification and grouping of students for instruction, and a variety of teaching methods. Laboratory experience in teaching activity skills to youth aged 12-18. Prerequisites: Prerequisite: Physical Education major.

**EDPE 2660. Kinesiology. 3 Credits.**

Designed for the teacher/coach to analyze factors of peak physical performance. Muscle actions, mechanical principles, related factors enhancing movement are emphasized. Prerequisites: One year of biological science; PE majors; coaching minors; Sports Nutrition; others by Instructor permission.

**EDPE 2670. Exercise Physiology. 0 or 4 Credits.**

Investigates physiological responses during exercise. Laboratory, classroom experiences enable understanding of body responses during exercise. Content includes energy metabolism, muscular, cardiovascular, pulmonary responses, and temperature regulation. Prerequisites: PE majors, coaching minors, sports nutrition; others by Instructor permission.

**EDPE 2820. Student Teaching Seminar. 2 Credits.**

Provides students opportunities to discuss, process, give and receive input and to receive materials to support and enhance their experience, and develop licensure portfolio. Prerequisite: Concurrent with EDPE 2810.

**EDPE 2890. Practicum in Field Experience. 1-4 Credits.**

Individually prescribed teaching experience involving work with youth groups in activities related to physical education, health, or recreation. Responsibilities approximate those commonly associated with student teaching. Prerequisites: EDPE 2040, EDPE 2050, or EDPE 2550; Instructor permission.

**EDPE 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDPE 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDPE 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDPE 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDPE 3000. Contemporary Issues. 1-6 Credits.**

Designed so that its content and structure may accommodate special issues not especially appropriate within the boundaries of an existing course. Prerequisite: Twelve hours in education and related areas.

**EDPE 3200. Sport in Society. 3 Credits.**

Examines sport as a social institution, emphasizing interrelationships between sport and the social context in which it exists; analyzes functions and dysfunctions of sport in contemporary society.

**EDPE 3300. Philosophy of Coaching. 3 Credits.**

In-depth study of over 100 major philosophical coaching considerations. Lectures by visiting coaches. Study in areas of need and interest. Prerequisite: Junior standing. Undergraduate only.

**EDPE 3650. Exercise & Sport Science. 3 Credits.**

Discussion and integration of topics related to exercise physiology, kinesiology, motor learning, and sociocultural aspects of sport. Prerequisites: EDPE 2660, EDPE 2670, EDPE 3200; Senior standing; or Instructor permission.

**EDPE 3670. Sci Strength Training&Condtnng. 3 Credits.**

Course focuses on physiology of muscle adaptation following resistance or aerobic training. Particular attention is paid to specificity of metabolic adaptation for individual sports.

**EDPE 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDPE 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDPE 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDPE 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDPE 4991. Internship: Student Teaching. 1-18 Credits.**

Student teaching or some other on-site supervised experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team, for which academic credit is awarded.

**PHYSICS (PHYS)****Courses****PHYS 1100. The Physics of Music. 3 Credits.**

Basic physical principles underlying the production, transmission and perception of musical sound. Vibrations, waves, elementary acoustics with applications to a wide range of musical topics. Prerequisite: High school algebra. Catamount Core: N1, QD.

**PHYS 1200. Energy and the Environment. 3 Credits.**

Forms of energy as defined in physics; sources, uses, and transformations of energy: introductory seminar will place emphasis on environmental issues. Limited use of algebra and geometry. Catamount Core: N1, QD, SU.

**PHYS 1250. Conceptual Physics. 3 Credits.**

One-semester conceptual survey. Topics selected from mechanics, electricity, magnetism and modern physics.

**PHYS 1251. Conceptual Physics w/lab. 0 or 4 Credits.**

Conceptual survey. Topics selected from mechanics, electricity, magnetism and modern physics. Laboratory content is integrated with the lecture. Catamount Core: N2, QD.

**PHYS 1400. Elementary Physics I. 0 or 4 Credits.**

Algebra-based survey of mechanics, oscillations, waves and thermal physics. Appropriate for students in health and life sciences. Accompanying lab: PHYS 1410. Prerequisites: High school algebra and trigonometry. Catamount Core: N2, QD.

**PHYS 1410. Elem Physics Problem Solving I. 1 Credit.**

Accompanying lecture PHYS 1400. Co-requisite: Concurrent enrollment in PHYS 1400.

**PHYS 1450. Elementary Physics II. 0 or 4 Credits.**

Algebra-based survey of electricity, magnetism, optics and modern physics. Appropriate for students in health and life sciences. Accompanying lab: PHYS 1460. Prerequisites: PHYS 1400 or PHYS 1500 or PHYS 1600. Catamount Core: N2, QD.

**PHYS 1460. Elem Physic Problem Solving II. 1 Credit.**

Accompanying lecture PHYS 1450. Co-requisite: Concurrent enrollment in PHYS 1450.

**PHYS 1500. Physics for Engineers I. 0 or 4 Credits.**

Mechanics including oscillations and waves. With lab. Accompanying optional problem-solving session: PHYS 1510. Prerequisite: MATH 1234 or MATH 1242. Catamount Core: N2, QD.

**PHYS 1510. Physics Problem Solving I. 1 Credit.**

Problem-solving techniques for first semester Physics with calculus. Accompanying lecture PHYS 1500.



**PHYS 1550. Physics for Engineers II. 0 or 3 Credits.**

Electricity, magnetism, electromagnetic waves, optics. Without lab. Accompanying optional problem-solving session: PHYS 1560. Prerequisites: PHYS 1500; MATH 1248 or MATH 1242. Co-requisite: MATH 2248. Catamount Core: N1, QD.

**PHYS 1560. Physics Problem Solving II. 1 Credit.**

Problem-solving techniques for second semester Physics with calculus. Accompanying lecture PHYS 1550.

**PHYS 1600. Fundamentals of Physics I. 0 or 4 Credits.**

Calculus-based introduction to kinematics, dynamics, oscillations, thermal physics. For students in the natural sciences. With lab. Credit not awarded for both PHYS 1600 and PHYS 1500. Pre/co-requisite: Credit or concurrent enrollment in MATH 1234. Catamount Core: N2, QD.

**PHYS 1650. Fundamentals of Physics II. 0 or 4 Credits.**

Calculus-based introduction to electricity, magnetism and optics. For students in the natural sciences. Laboratory content is integrated with the lecture. Credit not awarded for both PHYS 1550 and PHYS 1650. Prerequisites: PHYS 1500 or PHYS 1600; credit or concurrent enrollment in MATH 1248. Catamount Core: N2, QD.

**PHYS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PHYS 2100. Experimental Physics I. 3 Credits.**

Classic physics experiments with a strong emphasis on experimental setup, data collection and analysis, error estimation, and writing/presentation of results. The laboratory work is centered around three experiments: Poisson statistics, Cavendish balance, and Kater pendulum. Prerequisite: PHYS 1650 or PHYS 1550.

**PHYS 2200. Classical Mechanics. 3 Credits.**

Newtonian dynamics of particles and systems of particles, with applications to problems of special importance, such as driven and coupled harmonic oscillators and central field trajectories. Prerequisites: PHYS 1650, MATH 2248.

**PHYS 2500. Waves and Quanta. 0-4 Credits.**

Classical and electromagnetic waves, relativity, wave-particle phenomenology, wave mechanics, and applications of the Schrodinger equation. With laboratory. Prerequisites: PHYS 1650 or PHYS 1550. Co-requisite: MATH 2248. Catamount Core: N2, QD.

**PHYS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: PHYS 2500; Department permission.

**PHYS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: PHYS 2500; Department permission.

**PHYS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: PHYS 2500; Department permission.

**PHYS 3150. Computational Physics I. 3 Credits.**

Introduction to modern computational techniques focusing on the simulation or solution of the behavior of physical systems. Examples will be drawn from classical, statistical, and quantum mechanics, electromagnetism, and chaos. Prerequisites: PHYS 1550 or PHYS 1650; MATH 2248.

**PHYS 3165. Integrated Circuit Fabrication. 0 or 4 Credits.**

Science and technology of integrated circuit fabrication. Interaction of processing with material properties, electrical performance, economy, and manufacturability. Study of unit processes used to make semiconductor chips. Prerequisite: PHYS 1550 or PHYS 1650. Cross-listed with: EE 3420.

**PHYS 3300. Electricity & Magnetism. 3 Credits.**

Fundamental principles of electricity and magnetism; electrostatic fields, and magnetic fields of steady currents. Electric and magnetic properties of matter and electromagnetic energy. Prerequisites: PHYS 1650 or PHYS 1550 and MATH 2248. Credit not given for more than one of PHYS 3300 or EE 3100.

**PHYS 3400. Thermal & Statistical Physics. 3 Credits.**

Thermodynamics, kinetic theory, statistical mechanics. Prerequisites: PHYS 1650 or PHYS 1550 and MATH 2248.

**PHYS 3500. Quantum Mechanics I. 3 Credits.**

Introduction to nonrelativistic quantum mechanics. Schrodinger equation and applications to simple systems. Prerequisite: PHYS 2500, PHYS 2200.

**PHYS 3550. Nuclear & Elem Particle Physic. 3 Credits.**

Introduction to theoretical and experimental aspects of nuclear and elementary particle physics. Prerequisite: PHYS 2500; Junior standing.

**PHYS 3650. Intro to Solid State Physics. 3 Credits.**

Introduction to crystal structures, reciprocal lattices, lattice vibrations. Thermal properties of solids and free electron theory of metals and semiconductors. Elementary band theory and introduction to electronic transport theory. Prerequisite: PHYS 2500.

**PHYS 3700. Intro Biological Physics. 3 Credits.**

General survey course in biological physics. Introduction to biological building blocks (proteins, lipids and nucleic acids) and macromolecular structure, thermostatics of biological systems and two-state models, random walks and polymers, elasticity and mechanics of filaments and membranes, physics of water and molecular solvation, brownian motion and diffusion. Prerequisites: PHYS 1450 or PHYS 1650, MATH 2248.

**PHYS 3800. Intro to Cosmology. 3 Credits.**

Topics related to the expanding Universe, including: Kinematics and Dynamics of expansion (space-time curvature, Friedmann equation, etc.), Black-body radiation and the early history of the Universe, the Cosmic Microwave Background, Dark Matter, Structure formation, the Cosmological constant problem, Cosmic Inflation and the early Universe, and basic elements of General Relativity. Prerequisites: PHYS 2500, MATH 2248.

**PHYS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PHYS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PHYS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PHYS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PHYS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PHYS 4100. Experimental Physics II. 3 Credits.**

Experiments in classical and modern physics. Prerequisites: PHYS 2500; MATH 2248; Junior standing.

**PHYS 4300. Electromagnetism. 3 Credits.**

Introduction to time dependent electromagnetic fields. Maxwell's equations in vacuum and in matter. Electromagnetic waves and radiation. Prerequisite: PHYS 3300. Credit not given for more than one of PHYS 4300 or EE 241.

**PHYS 4500. Applications of Quantum Mechanics. 3 Credits.**

Applications of Quantum Mechanics including Quantum Statistical Mechanics, Time-Independent and Time-Dependent Perturbation Theory, WKB Approximation, Variational Principle and Scattering. Prerequisite: PHYS 3500.

**PHYS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PHYS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PHYS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**PLANT BIOLOGY (PBIO)****Courses****PBIO 1040. Intro to Botany. 0 or 4 Credits.**

Structure, function, and reproduction of plants. Fundamental aspects of plant science with implications of botanical knowledge needed for applied plant sciences. Credit not given for both PBIO 1040 and BIOL 1400. Catamount Core: N2, SU.

**PBIO 1060. Plants, Food, and Culture. 3 Credits.**

Evaluation of the impact of plants on the aesthetic, cultural, social, medical, and religious lives of peoples of the world. Plant Biology and Biological Science majors will not receive credit for PBIO 1060 as part of program distribution requirements. Catamount Core: N1, SU.

**PBIO 1890. Ecuador: Natural History. 3 Credits.**

Provides a hands-on exploration of the unique biodiversity found in the tropical Andes and the Galapagos Islands, while studying ideas of how this great diversity came to be, and examining conservation efforts employed to protect it. Prerequisites: Instructor permission.

**PBIO 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PBIO 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PBIO 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PBIO 2040. Plant Physiology. 0 or 4 Credits.**

Study of the plant as a whole, growth and development, water and mineral relations, environmental factors, and regulatory processes. Prerequisites: BCOR 1400 and BCOR 1450, or BIOL 1400 and BIOL 1450, or BCOR 1425; and CHEM 1400 and CHEM 1450, or CHEM 1100 and CHEM 1150, or CHEM 1400 and CHEM 1150; or Instructor permission.

**PBIO 2080. Morph & Evo of Vascular Plants. 0 or 4 Credits.**

Evolutionary relationships of vascular plants as inferred from plant structure, ecology, geography, and reproductive biology. Synthesis includes both fossil and extant groups. Prerequisites: PBIO 1040, BIOL 1450, BCOR 1450, or BCOR 1425, or Instructor permission.

**PBIO 2090. Plant Systematics. 0 or 4 Credits.**

Collection and identification of ferns and flowering plants; survey of prominent Vermont plant families; plant nomenclature, classification, and phylogeny; species concepts and speciation; floral function. Prerequisites: PBIO 1040 or BIOL 1450 or BCOR 1450 or BCOR 1425 or Instructor permission.

**PBIO 2170. Plant Pathology. 0 or 4 Credits.**

Introduction to the causes of agricultural and forest plant diseases including examination of the relationship of the plant, pathogen, and environment in disease development and disease management. Prerequisites: PBIO 1040, or BIOL 1400 and BIOL 1450, or BCOR 1400 and BCOR 1450, or BCOR 1425, or Instructor permission. Cross-listed with: PSS 2170.

**PBIO 2330. How Plants Can Save World. 3 Credits.**

Explores how plants can be used to design sustainable solutions to problems resulting from existing, unsustainable practices in agriculture, energy, and health. Prerequisites: BIOL 1400 and BIOL 1450; or BCOR 1400 and BCOR 1450; or BCOR 1425, or PBIO 1040, or PBIO 1060. Catamount Core: SU.

**PBIO 2510. Plant Anatomy. 3 Credits.**

Introduction to the structural and developmental anatomy of roots, stems, and leaves, including basic tissue types, vascular anatomy, woody plant anatomy, and reproductive anatomy. Prerequisites: BIOL 1400 or BCOR 1400 or BCOR 1425.

**PBIO 2770. Biology of Fungi. 4 Credits.**

Collect, identify and study major fungal groups, especially basidiomycetes (mushrooms, rusts and smuts), ascomycetes (cup fungi, yeasts and mildews), and affiliated taxa. Extensive field and lab work, with thematic lectures. Prerequisite: PBIO 1040 or BIOL 1450 or BCOR 1450 or BCOR 1425 or Instructor permission.

**PBIO 2890. Ecuador: Natural History. 3 Credits.**

Provides a hands-on exploration of the unique biodiversity found in the tropical Andes and the Galapagos Islands, while studying ideas of how this great diversity came to be, and examining conservation efforts employed to protect it. Prerequisites: BCOR 1400 and BCOR 1450 or BIOL 1400 and BIOL 1450; Instructor permission.

**PBIO 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PBIO 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PBIO 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PBIO 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PBIO 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: Department permission.

**PBIO 3090. Biology of Ferns. 3 Credits.**

Evolutionary biology; a survey of New England ferns and discussion of their phylogenetic relationships; current research emphasizing morphological, biogeographical, genetic, and phytochemical aspects of speciation. Prerequisite: PBIO 2080 or PBIO 2090 (BCOR 2300 recommended).

**PBIO 3220. Ecological Invasions. 3 Credits.**

Focuses on reading, writing and discussing the primary scientific literature in the field of invasion biology. Invasion biology draws from many different scientific disciplines, including genetics, evolution, population, community and ecosystem ecology. Students will have the opportunity to pursue one of these areas in depth through the preparation of a research paper. Prerequisite: BCOR 2100 or NR 2030.

**PBIO 3320. Plant Systematics in Costa Rica. 2 Credits.**

Intensive field trip to Costa Rica with the goal of comparing the diversity of flowering plants and ferns in four distinct tropical American forests. Emphasis on field recognition of flowering-plant families, with an appreciation of the relationship between the Costa Rican people and their landscape. Prerequisites: PBIO 2090; Instructor permission.

**PBIO 3410. Tropical Plant Systematics. 3 Credits.**

Principles and methods of angiosperm phylogeny. Recent systematic and evolutionary research on flowering plants; survey of tropical flowering plant families. Student presentations on recent research. Prerequisite: PBIO 2090.

**PBIO 3610. Plant Growth & Development. 3 Credits.**

Concepts in plant structure and development. Biophysics of plant structure and pattern-formation. Introduction to methods of plant microscopy and microtechnique. Prerequisites: PBIO 2040, PBIO 2080, introductory Physics, or Instructor permission.

**PBIO 3750. Global Change Ecology. 3 Credits.**

Survey of global climate change including its causes, mechanisms, and ecological and societal impacts. Prerequisite: BCOR 2100 or Instructor permission.

**PBIO 3880. The Evolution of Development. 3 Credits.**

Highlights how the integration of key concepts from developmental biology has contributed to our understanding of the proximate causes of plant and animal diversification. Prerequisite: BCOR 2100 or equivalent, BCOR 2300 or equivalent.

**PBIO 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PBIO 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PBIO 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PBIO 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PBIO 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Department permission.

**PBIO 4899. Plant Biology Capstone. 1 Credit.**

Culmination of the Plant Biology major; draws together the disciplines of plant biology presented in previous coursework and other student experiences into a single over-arching perception of plant biology and its role in the world; prepares Plant Biology majors for post-graduate success. Prerequisites: Plant Biology major; Senior standing or Junior standing if graduating in December.

**PBIO 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PBIO 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**PLANT & SOIL SCIENCE (PSS)****Courses****PSS 1100. Home & Garden Horticulture. 3 Credits.**

Planning, selecting, and maintaining shrubs, trees, flowers, lawns, fruits, and vegetables around the home. Suitable for students in any major.

**PSS 1150. Home & Garden Horticulture Lab. 1 Credit.**

This lab provides practical, hands-on horticultural skills both in and around the home. Co-requisite: PSS 1100.

**PSS 1210. Intro to Agroecology. 3 Credits.**

Analyzes factors driving current agricultural production systems, the problems associated with the industrial agriculture model, and the variety of approaches and practices for producing food in an ecologically sound and socially just manner. Catamount Core: N1, SU.

**PSS 1280. A Bug's Life. 3 Credits.**

An introduction to the world of insects and their impact on our everyday lives, from the food we eat to solving murder crimes.

**PSS 1360. Illustrating Botanicals. 3 Credits.**

Training in the skills required to produce aesthetically pleasing visual representations of botanical subjects grounded in technically correct plant morphology and anatomy. Use of line, shading, and color explored in depth. Media include graphite, pen and ink, colored pencils and watercolor. Includes a final project.

**PSS 1370. Living Landscapes. 3 Credits.**

Explores conservation and design strategies for restoring healthy ecosystems and building healthy livable communities. Through lectures, guest speakers, case studies, book discussions, field trips, and real-world class projects, students are given hands-on opportunities to learn about living landscapes in Vermont and beyond. Catamount Core: N1, SU.

**PSS 1990. Special Topics. 1-18 Credits.**

Courses or seminars on topics beyond the scope of existing department offerings.

**PSS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PSS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PSS 2060. Entomology & Pest Mgmt. 0 or 4 Credits.**

Covers basic entomology, insect diversity and identification, and the basic principles of pest management. Prerequisites: BIOL 1400 and BIOL 1450, or BCOR 1400 and BCOR 1450, or BCOR 1425.

**PSS 2120. Weed Ecology & Management. 0 or 3 Credits.**

Identification, ecology, and management of weeds and other invasive plants in agriculture, urban/suburban landscapes, and natural areas. Prerequisites: PSS 1100 or PSS 1210, or PBIO 1040, or Instructor permission.

**PSS 2170. Plant Pathology. 4 Credits.**

Introduction to the causes of agricultural and forest plant diseases including examination of the relationship of the plant, pathogen, and environment in disease development and disease management. Prerequisites: PBIO 1040, or BIOL 1400 and BIOL 1450, or BCOR 1400 and BCOR 1450, or BCOR 1425, or Instructor permission. Cross-listed with: PBIO 2170.

**PSS 2200. Cold Climate Viticulture. 3 Credits.**

Students will learn principles and practices of commercial cold-climate grape production, including: site selection and preparation; cold hardiness development; varietal selection; vine training and trellising systems; nutrient, water and pest management; harvest and postharvest considerations, including basic winemaking principles. Prerequisites: PSS 1100 or PSS 1210 or Instructor permission.

**PSS 2210. Indoor Plants. 1 Credit.**

Indoor flowers, culture, related topics such as design. Prerequisite: PSS 1100 or PSS 1210, or one semester of Biology, or Instructor permission.

**PSS 2230. Garden Flowers. 2 Credits.**

Outdoor flowers, culture, related topics. Prerequisite: PSS 1100 or PSS 1210, or one semester of Biology, or Instructor permission.

**PSS 2240. Sust Veg Crops Production. 3 Credits.**

Introduces students to current practices in organic and conventional vegetable cropping systems and farm management. Prerequisite: PSS 1100 or PSS 1210 or Instructor permission.

**PSS 2250. Woody Landscape Plants. 0 or 4 Credits.**

Identification, climatic requirements, cultural management, and use of ornamental plant materials in landscape planting. Prerequisite: PSS 1100 or PSS 1210, or one semester of Biology, or Instructor permission.

**PSS 2270. Greenhouse Operations & Mgmt. 0 or 4 Credits.**

Principles and practices of commercial greenhouse management including construction, heating, cooling, container media, watering, fertilization, light and temperature, growth regulators, integrated pest management and disease control. Prerequisite: PSS 1100, PSS 1210, one semester Biology, or Instructor permission.

**PSS 2280. Intro to Hemp Production. 3 Credits.**

An introduction to the botany, agronomy, and end-use potential of industrial hemp; an authoritative introduction for those interested in knowing more about this renewable material that is an excellent source of food, fiber, building products, and therapeutic resins. Prerequisite: PSS 1100 or PSS 1210 or Instructor permission.

**PSS 2330. Agroterrorism and Biopiracy. 3 Credits.**

Examines examples of agroterrorism and biological warfare on food production systems, outbreaks of pests introduced by trade routes and migrations, history of collecting and introducing new valuable crops, and the legal framework used to regulate collections and protect societies from the introduction of new pests. Prerequisite: PSS 1100, PSS 1210, MMG 1020, ASCI 1070, CDAE 1320, BIOL 1400, or BCOR 1400.

**PSS 2370. Landscape Design Fundamentals. 3 Credits.**

Lecture course that introduces students to the history and principles of landscape design. Examines various aspects of built environments with consideration of natural and cultural phenomena, with topics to include: spatial scale, equity, land use, design precedent, soils, plants, water, recreation, transportation, and more. Prerequisites: PSS 1370, PSS 1100, PSS 1210, ENVS 1010, ENVS 1020, NR 1010, NR 1020, or CDAE 1010; minimum Sophomore standing; or instructor permission.

**PSS 2371. Landscape Design Studio. 3 Credits.**

Studio course that introduces students to the practice and profession of landscape design. Through a series of studio exercises, field trips, and a real-world final design project, explores the landscape design process from site inventories and analyses to conceptual plans and schematic planning, as well as other supporting design deliverables. Prerequisites: PSS 2370, PSS 2560, ARTS 1010, or CDAE 1160; minimum Sophomore standing; or instructor permission. Pre/Co-requisite: PSS 2370.

**PSS 2380. Commercial Plant Propagation. 0 or 4 Credits.**

Principles and practices involved in propagating herbaceous and woody plants by seeds, division, layering, cuttings, budding, grafting, and aseptic culture. Prerequisite: PSS 1100, PSS 1210, one semester Biology, or Instructor permission.

**PSS 2430. Forage and Pasture Mgmt. 4 Credits.**

Forage crops and grasslands play a central role in sustainable and diversified agriculture. Covers the scientific principles and practical applications of the production, management, and utilization of perennial and annual forage crops used by livestock and equine. Pre/co-requisites: BIOL 1400 or BIOL 1450 or BCOR 1400 or BCOR 1450 or PBIO 1040 or PBIO 1060 or Instructor permission. Cross-listed with: ASCI 2240.

**PSS 2450. Turfgrass Management. 3 Credits.**

Establishment, maintenance, and utilization of turf for aesthetic, athletic and utility functions. Pre/co-requisite: PSS 1100, PSS 1210, one semester of Biology, or Instructor permission.

**PSS 2540. Composting Ecology & Mgmt. 3 Credits.**

Examines ecological, physical and chemical principles, the practical management of the composting process, and benefits of using compost in plant and soil ecosystems. Prerequisite: Three credits in basic biological or ecological science or Instructor permission.

**PSS 2560. Permaculture. 0 or 3 Credits.**

Design of agriculturally productive environments that have the diversity, stability, and resilience of the natural biosphere to harmoniously integrate landscape and people. Prerequisite: PSS 1100 or PSS 1210 or BIOL 1450 or NR 2030 or BCOR 1450 or BCOR 2100 or other basic ecology course or Instructor permission.

**PSS 2610. Fundmntls of Soil Science. 0 or 4 Credits.**

Biological, chemical, and physical properties of the dynamic soil system as related to plant growth and environmental problems. Prerequisite: Inorganic chemistry or permission. Catamount Core: SU.

**PSS 2620. Soil Fertility & Conservation. 3 Credits.**

An ecological approach to soil management including nutrient supply and uptake, rhizosphere-microbial interactions, soil conservation, and nutrient management strategies. Prerequisite: PSS 2610 or Instructor permission.

**PSS 2720. Crop Breeding. 0 or 4 Credits.**

Service learning course; acquaints students with the primary objectives and tools of plant breeding theory, practice, and history through engagement in breeding activities with community partners. Builds understand of how crops are improved to meet farmer demands. Prerequisite: PSS 1210 or PSS 1100 or PBIO 1060 or BIOL 1400 or BCOR 1400.

**PSS 2810. Prof Dev:Eco Ag/Sust Lndsc Hrt. 1 Credit.**

Students will develop and articulate a professional philosophy and improve skills in career development including writing, resume preparation, effective interviewing and negotiation. Prerequisites: Ecological Agriculture, Sustainable Landscape Horticulture, or Agroecology & Landscape Design Major; minimum Sophomore standing; or Instructor permission.

**PSS 2990. Special Topics. 1-18 Credits.**

Courses or seminars on topics beyond the scope of existing department offerings. Prerequisite: Instructor permission.

**PSS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PSS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PSS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PSS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Permission. More than a total of six credits per semester requires the permission of the Department Chair.

**PSS 3080. Diversified Farm Planning. 3 Credits.**

Students study diverse farming systems to gain financial, management, and technical knowledge to plan a new or evaluate and existing farm enterprise. Prerequisites: PSS 1210 and one 2000-level PSS course, equivalent experience, or Instructor permission.

**PSS 3090. Diversified Farm Operations. 6 Credits.**

An experiential course in sustainable, diversified vegetable production that includes soil fertility, weed, insect and disease control, crop planning and farm management skills. Prerequisites: PSS 1210 and one 2000-level PSS course, equivalent experience, or Instructor permission.

**PSS 3120. Advanced Agroecology. 0 or 4 Credits.**

An in-depth overview of research and applications in the field of agroecology, including current ecological and social dynamics in agricultural landscapes in Vermont and abroad. Prerequisites: PSS 1210 or one semester ecology at the 2000-level or above or Instructor permission. Catamount Core: SU.

**PSS 3180. Agricultural Policy and Ethics. 3 Credits.**

An examination of American agriculture and policies from various perspectives - historical, political, ecological, technological, social, economic, and ethical. Emphasis on contemporary issues, policy options, and future development. Prerequisites: CDAE 2020 or PSS 3120 or equivalent. Cross-listed with: CDAE 3080.

**PSS 3210. Sustainable Orchard Management. 3 Credits.**

Principles and practices of commercial tree fruit production, including site considerations; cultivars; training; nutrient, water and pest management; harvest and postharvest considerations. Special emphasis on environmental and economic sustainability of the orchard system. Pre/Co-requisites: PSS 1100 or PSS 1210 or BIOL 1400 or BIOL 1450 or BCOR 1400 or BCOR 1450; and PSS 2610.

**PSS 3250. Eco Frontiers in Agroecology. 3 Credits.**

Examines recent peer-reviewed research that has the potential to transform the productivity or sustainability of agroecosystems. Students will be guided in developing, communicating, and justifying new questions that may potentially transform agroecology. Prerequisites: BIOL 1400, BIOL 1450 or BCOR 1400, BCOR 1450; and NR 2030 or BCOR 2100 or PSS 2060 or equivalent; or Instructor permission. Catamount Core: QD, WIL2.

**PSS 3320. Biological Control. 3 Credits.**

Describes theory and application of biological control of insects, disease, and weeds. Discuss ecological factors that contribute to the success of classical, augmentative, and conservation approaches to biological control. Approved for Graduate credit. Prerequisite: Course in entomology, ecology, or relevant experience. Catamount Core: QD, WIL2.

**PSS 3380. Ecological Landscape Design. 4 Credits.**

Studio course synthesizing work from fields of landscape ecology and landscape design, exploring ecological design alternatives at multiple scales, and developing multifunctional landscape solutions. Prerequisites: Junior standing; PSS 2370 or one course in ecology plus one course in design or drawing.

**PSS 3610. Soil Morph Class & Land Use. 0 or 3 Credits.**

Field techniques that describe soil properties, formation, and classification. The principles and processes of soil genesis, land use classification systems, and land use challenges. Prerequisite: PSS 2610 or Instructor permission.

**PSS 3640. Chemistry of Soil & Water. 0 or 4 Credits.**

An environmentally oriented study of the colloidal chemistry of soil and its interfaces with roots, water, and air. Prerequisites: PSS 2610, two semesters Chemistry or Instructor permission.

**PSS 3680. Soil Ecology. 0 or 4 Credits.**

Underlying concepts and theory of modern soil ecology will be reviewed including spatial and temporal distributions, sampling methods, biogeochemical cycles, and ecological functions of soil. Prerequisites: BCOR 2100 or NR 2030, and PSS 2610. Cross-listed with: NR 4680.

**PSS 3690. Soil/Water Pollution/Bioremed. 3 Credits.**

Examines key issues in pollution of soil and water. Topics include type of pollutants, their reactions in soil and water, pollution prevention and bioremediation. Prerequisites: PSS 2610 or Instructor permission.

**PSS 3990. Special Topics. 1-18 Credits.**

Lectures, laboratories, readings, field projects, surveys, or research designed to provide specialized experience in horticulture, agronomy, soils, entomology, and integrated pest management. Prerequisite: Instructor permission.

**PSS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PSS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PSS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PSS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission. More than a total of six credits per semester requires Chair permission.

**PSS 4990. Special Topics. 1-18 Credits.**

Courses or seminars on topics beyond the scope of existing department offerings.

**POLITICAL SCIENCE (POLS)****Courses****POLS 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**POLS 1012. FYS Intro to Political Theory. 3 Credits.**

Intensive first-year seminar focused on basic problems in political philosophy, e.g. morality and law; punishment; freedom; equality; obligation and disobedience. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. Catamount Core: AH3, GC2, WIL1.

**POLS 1013. FYS US Political System. 3 Credits.**

Intensive first-year seminar focused on institutions, processes, and problems of American government. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. Catamount Core: S1, WIL1.

**POLS 1015. FYS Intro Int'l Relations. 3 Credits.**

Intensive first-year seminar focused on the major theories of international relations, important concepts in the study of international relations, dilemmas leaders face when formulating foreign policies, and current international events. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. Catamount Core: S1, WIL1.

**POLS 1017. FYS Comparative World Politics. 3 Credits.**

Intensive first-year seminar focused on the study and comparison of domestic politics across countries, considering questions such as why some countries are democratic and others authoritarian or why some countries are poor and others wealthier. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. Catamount Core: S1, WIL1.

**POLS 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**POLS 1026. LASP: Global Gender Inequality. 4 Credits.**

Intensive course in the social sciences examining the causes of dramatic variations in the status of women in different countries. Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. Co-requisite: Enrollment in Liberal Arts Scholars Program for Social Science Scholars. Catamount Core: GC1, QD, WIL1.

**POLS 1200. Intro to Political Theory. 3 Credits.**

Examination of basic problems in political philosophy, e.g. morality and law; punishment; freedom; equality; obligation and disobedience. May not be taken for credit concurrently with, or following receipt of, credit for POLS 1012. Catamount Core: AH3, GC2.

**POLS 1300. US Political System. 3 Credits.**

Institutions, processes, and problems of American government. May not be taken for credit concurrently with, or following receipt of, credit for POLS 1013. Catamount Core: S1.

**POLS 1500. Intro International Relations. 3 Credits.**

Examines the major theories of international relations, important concepts in the study of international relations (such as the balance of power and democratic peace theory), dilemmas leaders face when formulating foreign policies, and current international events. May not be taken for credit concurrently with, or following receipt of, credit for POLS 1015. Catamount Core: GC1, S1.

**POLS 1700. Comparative World Politics. 3 Credits.**

An examination of questions such as why some countries are democratic and others authoritarian, and why some countries are poor and others wealthier, through the study and comparison of political institutions and patterns of interaction across countries. May not be taken for credit concurrently with, or following receipt of, credit for POLS 1017. Catamount Core: S1.

**POLS 1990. Special Topics. 1-18 Credits.**

Introductory courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**POLS 2200. Topics In Political Theory. 3 Credits.**

Intermediate courses on topics in political theory beyond the scope of existing departmental offerings. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: POLS 1012 or POLS 1200.

**POLS 2211. History of Political Thought 1. 3 Credits.**

Development of Western political thought from Plato to Aquinas. Prerequisite: POLS 1012 or POLS 1200.

**POLS 2212. History of Political Thought 2. 3 Credits.**

Modern political thought from Machiavelli to Nietzsche.  
Prerequisite: POLS 1012 or POLS 1200. Catamount Core: AH3.

**POLS 2215. 20th Cen Political Thought. 3 Credits.**

Examination of selected major works by the leading political thinkers of the twentieth century. Prerequisite: POLS 1012 or POLS 1200.

**POLS 2220. American Political Thought. 3 Credits.**

Introduction to the main currents of political thought in America today (including liberalism, conservatism, libertarianism, and more), considering their moral and philosophical foundations and investigating them in historical perspective. Prerequisite: POLS 1012 or POLS 1200. Catamount Core: AH3.

**POLS 2230. Democratic Theory. 3 Credits.**

Exploration of the nature of democracy and the growing crises confronting democratic institutions today. Students will examine both recent debates in democratic theory and classical sources of democratic ideas. Prerequisite: POLS 1012 or POLS 1200. Catamount Core: AH3, GC2.

**POLS 2240. Economic Justice. 3 Credits.**

Introduction to the most important ethical debates about our economy. To make questions of economic justice vivid and evocative, includes the application of principles learned to cases about access to higher education, meritocracy, workers' rights, complicity in sweatshops, the impact of economic inequality on democracy, a universal basic income, and other topics. Prerequisite: POLS 1200 or POLS 1012.

**POLS 2300. Topics in US Govt/Law. 3 Credits.**

Examines varied topics concerning the American political system, with special focus on institutional and legal issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: POLS 1300 or POLS 1013.

**POLS 2301. Congress. 3 Credits.**

Examination of the history of Congress and its current practices that can lead to landmark legislation or dysfunction. Considers the structure of both chambers, the motivations of individual members, and congressional interactions with the other branches, outside groups, and voters on matters of foreign and domestic policy. Prerequisite: POLS 1300 or POLS 1013.

**POLS 2315. Law & Politics. 3 Credits.**

Examination of the U.S. courts focusing on the legal and political factors that influence court action, and judicial action that affects public policy. Prerequisite: POLS 1300 or POLS 1013. Catamount Core: S1.

**POLS 2320. Const Law: Government Powers. 3 Credits.**

Emphasis on developing skills of legal analysis. Historical origins and general principles of constitutionalism. Prerequisite: POLS 1300 or POLS 1013. Catamount Core: S1.

**POLS 2329. Const Law: Civil Liberties. 3 Credits.**

Investigation of the Supreme Court's interpretation of the First Amendment, rights of the accused, and the right to privacy. Prerequisite: POLS 1300 or POLS 1013.

**POLS 2370. Const Law: Civil Rights Amer. 3 Credits.**

Critical examination of the role of the judiciary in enforcing the Fourteenth Amendment's Equal Protection Clause and other equality-related constitutional provisions. Prerequisite: POLS 1300 or POLS 1013. Catamount Core: D1, S1.

**POLS 2400. Topics in US Politics. 3 Credits.**

Examines varied topics concerning the American political system. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: POLS 1300 or POLS 1013.

**POLS 2430. Political Parties & Elections. 3 Credits.**

Analysis of U.S. political parties and elections, including partisan realignments throughout history, campaign technology, and voting for president and Congress. Prerequisite: POLS 1300 or POLS 1013. Catamount Core: S1.

**POLS 2440. Politics and Media. 3 Credits.**

Exploration of the role of media in democracy. Subjects include how media operate in the United States and how media presentation and interpretation of events affect democracy through shaping public opinion, affecting political institutions, and determining public policy. Prerequisite: POLS 1300 or POLS 1013. Catamount Core: S1.

**POLS 2450. LGBT Politics and History. 3 Credits.**

Explores the history, strategies, conflicts, and issues surrounding the various movements advancing the claims of LGBT rights, as well as the roles LGBTQ people play as participants in American politics and culture. Prerequisite: POLS 1300, POLS 1013, GSWS 1500, GSWS 1010, or Instructor permission. Cross-listed with: GSWS 2070. Catamount Core: D2.

**POLS 2455. The Politics of Sex. 3 Credits.**

The evolution of sexual politics within the United States. Includes examinations of shifting debates over marriage, reproduction, abortion, LGBT rights, sex education, and teen sexuality. Prerequisite: POLS 1300, POLS 1013, GSWS 1500, or GSWS 1010.

**POLS 2460. US Environmental Politics. 3 Credits.**

Environmental and natural resources politics in the American context. Analysis of the environmental movement and political theories, issues, processes, and institutions. Prerequisite: POLS 1300 or POLS 1013. Catamount Core: S1, SU.

**POLS 2470. Political Construction of Race. 3 Credits.**

Study of the ways political institutions and processes have built race in the United States by employing specific terminology, identifying and policing racial categories, and creating changing definitions of what race actually is. Readings include court cases, census documents, and congressional materials, in addition to secondary scholarship. Prerequisite: POLS 1300 or POLS 1013. Catamount Core: D1.

**POLS 2500. Topics in Int'l Relations. 3 Credits.**

Examines varied topics concerning international relations and the international system. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: POLS 1500 or POLS 1015.



**POLS 2510. International Security. 3 Credits.**

Theoretical and empirical examination of the security of the international system and the states within it, with particular emphasis on twenty-first century security challenges. Prerequisite: POLS 1500 or POLS 1015. Catamount Core: GC1.

**POLS 2525. Int'l Politics Middle East. 3 Credits.**

Survey of the politics of the Middle East since World War II. Includes sessions on specific countries, discussions of topics ranging from democratization to terrorism to social media use, and debate on current policy dilemmas in the region. Prerequisite: POLS 1500 or POLS 1015. Catamount Core: D2.

**POLS 2530. International Pol Economy. 3 Credits.**

Examination of the major theories in international political economy. Specific topics include trade, finance, development, foreign direct investment, and the multinational corporation. Prerequisite: POLS 1500, POLS 1015, or ECON 1400. Catamount Core: GC1, QD, S1.

**POLS 2560. Int'l Environmental Governance. 3 Credits.**

Examination of official and informal processes and institutions that have developed among, across, and beyond nation states for global environmental governance. Prerequisite: POLS 1500 or POLS 1015.

**POLS 2600. Topics in Global Politics. 3 Credits.**

Examines varied topics concerning the interaction between national and international politics. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: POLS 1500, POLS 1015, POLS 1700, or POLS 1017.

**POLS 2610. Global Politics of Food. 3 Credits.**

Investigation of food in the development of political hierarchy, the state system, industrial capitalism, economic development, environmental issues, health and diet, and the politics of identity and difference. Analyzes our food system and grapples with pressing questions about the future of food using comparative politics and international relations concepts and theories. Prerequisite: POLS 1500, POLS 1015, POLS 1700, or POLS 1017. Catamount Core: QD, SU.

**POLS 2615. Terrorism & Counterterrorism. 3 Credits.**

Overview of scholarly research on terrorism and counterterrorism efforts, engagement with debates on the appropriateness of the term terrorism, information on terrorist movements (both historical and contemporary), and a discussion of policy responses to terrorism. Prerequisite: POLS 1500, POLS 1015, POLS 1700, or POLS 1017. Catamount Core: D2, GC1.

**POLS 2650. Global Gender Inequality. 4 Credits.**

Examination of the causes of dramatic variations in the status of women in different countries. Exploration through individual research projects that use the scientific method. May not be taken for credit concurrently with, or following receipt of, credit for POLS 1026: Global Gender Inequality. Prerequisite: POLS 1500, POLS 1015, POLS 1700, or POLS 1017. Catamount Core: D2, GC1, QD.

**POLS 2700. Topics in Comparative Politics. 3 Credits.**

Examines varied topics in the field of comparative politics. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: POLS 1700 or POLS 1017.

**POLS 2710. Russian Politics. 3 Credits.**

Examines the nature of politics and the development of post-Soviet social and economic institutions in Russia. Prerequisite: POLS 1700 or POLS 1017. Catamount Core: D2, S1.

**POLS 2715. Japanese Politics. 3 Credits.**

Institutions, processes, and problems of government in Japan. Prerequisite: POLS 1700 or POLS 1017. Catamount Core: D2, S1.

**POLS 2720. Latin American Politics. 3 Credits.**

Comparative examination of selected Latin American political systems. Prerequisite: POLS 1700, POLS 1017, HST 1475, SPAN 3665, or SPAN 3670. Catamount Core: D2, GC1, S1.

**POLS 2725. African Politics. 3 Credits.**

Development of differing political systems in African countries located south of the Sahara and north of South Africa. Prerequisite: POLS 1700, POLS 1017, or one course in African Studies. Catamount Core: D2, GC1.

**POLS 2800. Social Research Methods. 4 Credits.**

Introduction to research methods in social science. Includes examination of research design, measurement, data collection, data analysis, and the presentation and theoretical interpretation of research findings. Prerequisites: STAT 1050, STAT 1110, STAT 1410, or higher; three hours of Sociology or Political Science; minimum Sophomore standing. Cross-listed with: SOC 2500. Catamount Core: QD.

**POLS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**POLS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**POLS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**POLS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**POLS 3200. Topics in Pol Theory Seminar. 3 Credits.**

Examines varied topics concerning political theory in a seminar format. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: POLS 1200 or POLS 1012; three hours of Political Science at the 2000-level.

**POLS 3230. Ethics and Public Policy. 3 Credits.**

Explores some of the most difficult moral questions that confront citizens and policymakers today. Topics include the ethics of war and torture, abortion and euthanasia, hate speech, immigration, and other related issues. Prerequisites: POLS 1200 or POLS 1012; three hours of Political Science at the 2000-level.

**POLS 3240. Justice & Equality. 3 Credits.**

Examination of contemporary normative theories of distributive justice and equality. Prerequisites: POLS 1200 or POLS 1012; three hours of Political Science at the 2000-level.

**POLS 3280. Global Justice. 3 Credits.**

Addresses normative political theory that asks what obligations, if any, citizens and their states have internationally. Topics include human rights, immigration, global poverty, humanitarian military intervention, and more. Prerequisite: POLS 1200 or POLS 1012; three hours of Political Science at the 2000-level.

**POLS 3300. Topics in US Govt/Law Seminar. 3 Credits.**

Examines varied topics concerning the American political system, with special focus on institutional and legal issues in a seminar format. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: POLS 1300 or POLS 1013; three hours of Political Science at the 2000-level.

**POLS 3350. Gender and Law. 3 Credits.**

Examination of the interaction between gender and law in American society. Topics covered include workplace law, family law, and personal autonomy. Prerequisites: POLS 1300 or POLS 1013; three hours of Political Science at the 2000-level.

**POLS 3400. Topics in US Politics Seminar. 3 Credits.**

Examines varied topics concerning the American political system in a seminar format. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: POLS 1300 or POLS 1013; three hours of Political Science at the 2000-level.

**POLS 3430. Topics in Public Opinion. 3 Credits.**

An examination of the quality and sophistication of public attitudes, as well as the motivations that underlie political participation and electoral choice. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: POLS 1300 or POLS 1013; three hours of Political Science at the 2000-level.

**POLS 3440. Pol Effects of Entertain Media. 3 Credits.**

Investigates the relationship between popular film, TV, books, and/or video games and people's perspectives on politics. Prerequisite: POLS 1300 or POLS 1013; three hours of Political Science at the 2000-level; minimum Junior standing. Catamount Core: QD, S1.

**POLS 3490. Health Politics and Policy. 3 Credits.**

Exploration of the paradoxes in the US health care system and how they shape the delivery of health care in America's unique federal system. Examines the motivations and behavior of voters, medical providers, and elected officials tasked with reforming a system that was not designed by a central planner. Prerequisites: POLS 1300 or POLS 1013; three hours in Political Science, HSOC 1600, or SOC 1300.

**POLS 3500. Topics in IR Seminar. 3 Credits.**

Examines varied topics concerning international relations and the international system in a seminar format. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: POLS 1500 or POLS 1015; three hours of Political Science at the 2000-level.

**POLS 3600. Topics in Global Pol Seminar. 3 Credits.**

Examines varied topics concerning the interaction between national and international politics in a seminar format. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: POLS 1015, POLS 1017, POLS 1500, or POLS 1700; three hours of Political Science at the 2000-level.

**POLS 3610. Ethnopolitical Conflict. 3 Credits.**

Examination of ethnic conflict in post-Soviet states, including Russia, Moldova, Georgia, Armenia, Azerbaijan, Latvia, Estonia, and Kyrgyzstan. Considers the consequences of Soviet federalism and nationalities policy and moves between theories of nationalism and ethnic conflict and case studies to apply theory to empirics. Prerequisites: POLS 1500 or POLS 1015; POLS 1700 or POLS 1017. Catamount Core: S1.

**POLS 3615. Religion, War, and Peace. 3 Credits.**

Religion is an inescapable part of world politics. Surveys theoretical concerns and case studies on religion's role in conflict. Includes a close reading of important works in the study of religion, war, and peace. Prerequisite: POLS 1500 or POLS 1015.

**POLS 3700. Topics in Comp Pol Seminar. 3 Credits.**

Examines varied topics concerning comparative politics in a seminar format. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: POLS 1700 or POLS 1017; three hours of Political Science at the 2000-level.

**POLS 3710. The Struggle for Democracy. 3 Credits.**

Both new and established democracies face challenges as strongmen and populist leaders chip away at civil liberties, the rule of law, and free and fair elections. An examination of the factors that drive this process and shape the susceptibility of societies to democratic decline, as well as how backsliding might be resisted. Prerequisites: POLS 1700 or POLS 1017; three hours of Political Science at the 2000-level.

**POLS 3730. Mexican Politics. 3 Credits.**

An in-depth examination of the Mexican political system. Topics will include an overview of Mexican history, one-party authoritarian rule, democratization, and political economy. Prerequisites: (POLS 1700 or POLS 1017) and three hours of Political Science at the 2000-level; or appropriate Global and Regional Studies background. Catamount Core: D2, GC1, WIL2.

**POLS 3990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**POLS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**POLS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**POLS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**POLS 4310. VT Legislative Research Srvc. 3 Credits.**

Involves students in policy research for the Vermont State Legislature on a wide range of topics, including the environment, health, and welfare. Prerequisite: Instructor permission. Catamount Core: S1, WIL2.

**POLS 4800. Senior Honors Seminar. 3 Credits.**

Examination of major contemporary research topics in political science. Admission by invitation only. Prerequisite: Instructor permission.

**POLS 4990. Special Topics. 1-18 Credits.**

Advanced courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**POLS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**PROFESSIONAL NURSING (PRNU)****Courses****PRNU 1099. Compassionate Care for Nurses. 2 Credits.**

Examines the impact stress has on disease process, mental health, well-being and professional burnout. Students will explore the science behind evidenced-based stress management strategies and learn easily applied practices that promote provider and patient wellness. Students will leave the course with a self-care toolkit to use with themselves and their patients. Prerequisites: PRNU major.

**PRNU 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PRNU 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PRNU 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PRNU 2110. Art & Science of Nursing. 3 Credits.**

Introduces foundational concepts and practices of the nursing profession. Emphasis is placed on the evolution of nursing as a profession, the variety of nursing roles, the legal and ethical aspects of practice, and the nurse's role in delivering quality care. Prerequisites: Nursing major; minimum Sophomore standing. Catamount Core: WIL2.

**PRNU 2111. Research in Nursing. 3 Credits.**

Provides an introduction to nursing research and its relationship to nursing theory and practice. Knowledge and skills essential for searching, obtaining, critiquing, and utilizing nursing research are addressed, and principles of data analysis using qualitative and quantitative approaches are explored. Prerequisites: PRNU 2110, STAT 1110 or STAT 1410. Catamount Core: QD.

**PRNU 2113. Health Assessment. 0 or 3 Credits.**

Through classroom and laboratory experiences, students learn to holistically assess and differentiate healthy from AT - risk or altered findings of clients in a variety of settings. Prerequisites: ANPS 1190, HDF 1050. Co-requisites: PRNU 2114, ANPS 1200.

**PRNU 2114. Intro to Clinical Practice. 0 or 3 Credits.**

Introduces the application of nursing knowledge to address health problems using a clinical reasoning approach. Foundational concepts and theories germane to nursing introduced to promote health and continuity of care. Emphasis placed on role development and essential nursing skills for clinical practice. Present foundational algebraic concepts that will be applied to future clinical application. Prerequisite: NFS 1043. Co-requisite: PRNU 2113. Catamount Core: MA.

**PRNU 2121. Gerontology. 0 or 3 Credits.**

Focuses on societal, cultural, political, economic, and human health implications of aging and provides a foundation for the care of older adults. Examines the nature of aging, introducing common challenges while advocating for health promotion to minimize morbidity and functional decline. Factors impacting the ability to maintain autonomy and independence are explored. Prerequisites: PRNU 2113, PRNU 2114. Pre/Co-requisites: PRNU 2113, PRNU 2114. Catamount Core: GC2.

**PRNU 2990. Special Topics. 0 or 3 Credits.**

See Schedule of Courses for specific title. Prerequisites: Senior standing; Majors only.

**PRNU 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PRNU 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Agreement from a faculty sponsor and approval by the Baccalaureate Education Committee.

**PRNU 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PRNU 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PRNU 3129. Fmly Ctrd Care Women/Newborn. 0 or 4 Credits.**

Focuses on human experiences of women and families. Pregnancy, childbirth, postpartum period as well as the life cycle of the female reproductive system explored. Preconception issues including family planning and infertility are examined. Role of the nurse in providing holistic care provided in class and clinical settings. Prerequisites: PRNU 2113, PRNU 2114. Co-requisites: NURS 3220, PRNU 3228.

**PRNU 3131. Health Alterations. 3 Credits.**

Focuses on the human experience of alterations in health for individuals and their families. Content addresses the individual and family response to disease processes from a holistic perspective by exploring how the social determinants of health impact the human experience of alterations in health and contribute to health inequities. Prerequisites: NURS 3220, PRNU 3228. Catamount Core: D2.

**PRNU 3134. Adult Health Nursing 1. 6 Credits.**

Focuses on the professional nurse's role in the delivery of holistic, family centered care to adults experiencing alterations in health. Common client responses and essential nursing interventions are examined. Evidence-based practice and research are used to guide nursing practice and promote restoration of health. Prerequisites: PRNU 3228, NURS 3220. Co-requisites: PRNU 3131.

**PRNU 3228. Pharmacology. 3 Credits.**

Examination and application of knowledge of pharmacotherapeutic principles to nursing practice. Prerequisites: Minimum Junior standing; MMG 1650, ANPS 1190, ANPS 1200. Co-requisite: NURS 3220. Pre/Co-requisite: PRNU 2114.

**PRNU 3231. Chronic & Palliative Care Nurs. 3 Credits.**

Nursing care of clients experiencing complex alterations in health related to the human experience of chronic illness and end of life issues. Prerequisite: PRNU 3131.

**PRNU 3232. Child & Adolescent Nursing. 0-5 Credits.**

Through classroom and practicum, covers essential nursing interventions for children/adolescents/ families experiencing health alterations. Prerequisites: PRNU 3228, NURS 3220. Pre/Co-requisites: PRNU 3131.

**PRNU 3234. Adlt Hlth Nurs II: Thry & Ptm. 0 or 6 Credits.**

Through classroom and practicum experiences covers essential nursing interventions for adults/elders/ families experiencing complex health alterations. Prerequisite: PRNU 3131, PRNU 3134.

**PRNU 3235. Psych/MH Nurs: Thry & Ptm. 0 or 5 Credits.**

Through classroom and practicum experience covers essential nursing interventions for clients with acute and chronic psychiatric disorders. Prerequisite: PSYS 2500, PRNU 3228, NURS 3220. Pre/Co-requisite: PRNU 3131.

**PRNU 3240. Iss & Ldrs Prf Nurs Thr & Ptm. 0 or 6 Credits.**

Focuses on issues in health care as they relate to the leadership and management roles of the professional nurse. Practicum focuses on caring for clients in an identified clinical specialty. Prerequisite: PRNU 3234. Catamount Core: D1.

**PRNU 3243. Transition to Prof Practice. 1 Credit.**

This seminar is designed to provide practical guidance and strategies for success in the transition from the student role to the professional nursing role. Pre/Co-requisites: PRNU 3234.

**PRNU 3245. Public Health Nursing. 3 Credits.**

Focuses on populations at risk and community partnerships. Various issues, models, and concepts that impact the health of populations will be explored. The role of the nurse in community and public health will be emphasized. Prerequisite: PRNU 3131.

**PRNU 3246. Practicum Pub Health Nursing. 3 Credits.**

Students will be engaged in a community-based project with a community partner (collaboration, coalition, network, and agency) and will work in collaboration with professionals in a variety of settings. Prerequisites: PRNU 3245.

**PRNU 3248. Applied Patho-pharmacology. 2 Credits.**

Integration and application of principles and knowledge gained through the study of pathophysiology and pharmacology. A holistic and lifespan approach will be used in examining the nursing care of clients within all nursing specialties. Prerequisite: PRNU 3228. Co-requisite: PRNU 3243.

**PRNU 3249. Nsg Care of Crit Ill Adults. 2 Credits.**

Focuses on the role of the professional nurse in the delivery of holistic nursing care for adults in the critical care setting. A variety of critical care concepts are explored and interprofessional practice is highlighted. Prerequisites: PRNU 3232, PRNU 3234, PRNU 3235, Instructor permission. Co-requisites: PRNU 3231, PRNU 3240.

**PRNU 3630. Prof Nursing Pract&Soc Justice. 3 Credits.**

Course will focus on social justice for individuals, families, and groups recognized as marginalized within our society. Prerequisite: Admission to Alternate Track - VT RN program.

**PRNU 3640. Public Health Nursing for RN. 3 Credits.**

Introduces the RN student to public health nursing concepts. Key elements are examined for their effect on the health of our society. Various issues, influences, and concepts that impact the health of populations are explored. Prerequisites: PRNU 2111; Nursing Alternative Track major.

**PRNU 3650. Intro Health Care Fin & Policy. 3 Credits.**

This survey course provides an overview of US health care organization, structure, policies, and financing, inclusive of selected international comparisons. Prerequisite: Matriculation in the RN to BS program.

**PRNU 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PRNU 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PRNU 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PRNU 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PRNU 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PSYCHIATRY (MDPS)****Courses****MDPS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MDPS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**MDPS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PSYCHOLOGICAL SCIENCE (PSYS)****Courses****PSYS 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**PSYS 1012. Topics in: FYS: Div Human Exp. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: D2, WIL1.

**PSYS 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**PSYS 1400. Intro to Psychological Science. 3 Credits.**

Introduction to the entire field, emphasizing the behavior of the normal adult human being. Catamount Core: S1.

**PSYS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PSYS 2000. Psych Research Methods w/lab. 0 or 4 Credits.**

Principles of research methodology, including design and reporting. Prepares students to understand and evaluate psychological research in a variety of areas of psychology. Includes laboratory component. May not be taken for credit concurrently with, or following receipt of, credit for PSYS 2002. Prerequisite: PSYS 1400.

**PSYS 2002. Psych Research Methods. 3 Credits.**

Principles of research methodology, including design and reporting. Prepares students to understand and evaluate psychological research in a variety of areas of psychology. May not be taken for credit concurrently with, or following receipt of, credit for PSYS 2000. Prerequisite: PSYS 1400.

**PSYS 2010. Statistics for Psych Sci. 0 or 4 Credits.**

Analysis of quantitative data in psychology. Calculation and interpretation of common statistical tests, including t-test, correlation, regression, chi-square, and ANOVA. Laboratory experiences. Prerequisite: PSYS 2000 or PSYS 2002. Catamount Core: QD.

**PSYS 2100. Learning, Cognition & Behavior. 3 Credits.**

Behavioral and cognitive principles underlying learning, memory, and action inside and outside the laboratory. Includes conditioning, motivation, biological constraints, and mechanism of remembering and forgetting. Prerequisite: PSYS 1400. Catamount Core: N1.

**PSYS 2200. Biopsychology. 3 Credits.**

Biological bases of behavior: classical and contemporary issues, including introduction to nervous system, behavioral effects of drugs, chemical bases of behavioral disorders. Prerequisites: PSYS 1400 or BIOL 1400 or BCOR 1400 or BCOR 1425. Catamount Core: N1.

**PSYS 2300. Social Psychology. 3 Credits.**

An introduction to theory and research on the science of how one's situation influences individual thoughts, feelings, and behavior. Prerequisite: PSYS 1400. Catamount Core: S1.

**PSYS 2400. Developmental Psych: Childhood. 3 Credits.**

Survey of research and theories on child development from conception to adolescence emphasizing experimental analyses of early social and cognitive development. Prerequisite: PSYS 1400. Catamount Core: S1.

**PSYS 2500. Psychopathology. 3 Credits.**

Describing and defining abnormal behavior; models of etiology; research evidence for biological and social models; methods of intervention and prevention. Prerequisite: PSYS 1400. Catamount Core: S1.

**PSYS 2990. Special Topics. 1-18 Credits.**

Intermediate courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Prerequisite: PSYS 1400.

**PSYS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

**PSYS 3100. Learning. 3 Credits.**

Analysis of theory and research on the basic learning process and behavior. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2100.

**PSYS 3105. Cognition. 3 Credits.**

Research and theories on the major areas within cognition: perception, attention, pattern recognition, memory, knowledge representations, mnemonic strategies, problem-solving and neurocognition. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2100.

**PSYS 3110. Motivation. 3 Credits.**

Theory and research on motives, including hunger, fear, sex drive, and addiction, their influence on behavior, relationship to other psychological processes, and biological correlates. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2100 or PSYS 2200.

**PSYS 3200. Physiological Psychology w/lab. 0 or 4 Credits.**

Students build on their foundational knowledge of neuroscience to learn the biological basis of learning and memory, emotion, motivated behaviors, and the dysregulation of those behaviors, such as that observed in neuropsychiatric disorders. With laboratory experience. May not be taken for credit concurrently with, or following receipt of, credit for PSYS 3202. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2200 or NSCI 2105.

**PSYS 3202. Physiological Psychology. 3 Credits.**

Students build on their foundational knowledge of neuroscience to learn the biological basis of learning and memory, emotion, motivated behaviors, and the dysregulation of those behaviors, such as that observed in neuropsychiatric disorders. May not be taken for credit concurrently with, or following receipt of, credit for PSYS 3200. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2200, NSCI 2100, or NSCI 2105.

**PSYS 3205. Hormones and Behavior. 3 Credits.**

A study of the involvement of hormones in cognition, emotion, the stress response, circadian and homeostatic mechanisms that affect mental state, psychopathology, and reproductive behavior. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2200, NSCI 2100, or NSCI 2105.

**PSYS 3210. Behavioral Genetics. 3 Credits.**

Students will gain conceptual understanding of the contributions of genes, environments, and the interplay of these and other factors, to various behaviors. Addresses variety of approaches to behavioral genetics research, including family and twin studies, animal studies, genome-wide association studies and the candidate gene approach. Prerequisite: (PSYS 2000 or PSYS 2002; PSYS 2200); or (NSCI 2105, BIOL 1400, BCOR 1400, or BCOR 1425).

**PSYS 3215. Adv Cognitive Neuroscience. 3 Credits.**

Cognitive Neuroscience studies thinking processes (e.g., attention, memory, problem solving) by investigating brain function. Focuses on dominant theories and relevant empirical data including a focus on non-invasive brain imaging of humans. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2100, PSYS 2200, or NSCI 2105.

**PSYS 3250. Psychopharmacology. 3 Credits.**

Effects of drugs (both medical and recreational) on behavior. Topics such as drug effects on learning, memory, motivation, perception, emotions, and aggression. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2200 or NSCI 2105.

**PSYS 3300. Advanced Social Psychology. 3 Credits.**

In-depth discussion of select topics centering on how situations influence individuals' thoughts, feelings, and behaviors. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2300.

**PSYS 3305. Self and Social Cognition. 3 Credits.**

An advanced course in social psychology that covers theory and research on the self and social cognition. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2300.

**PSYS 3350. Organizational Psychology. 3 Credits.**

Study of the psychological impact of macro and micro features of organizations upon leadership, decision making, workforce diversity, group process, conflict, and organizational performances. Prerequisites: PSYS or PSYS 2002; PSYS 2100, PSYS 2300, PSYS 2400, or PSYS 2500.

**PSYS 3400. Adolescence. 3 Credits.**

Analysis of current theory and research in adolescent development. Covers biological, cognitive, and social changes; family, peer, and school influences; and normative and problematic development. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2400.

**PSYS 3405. Race in American Youth. 3 Credits.**

An overview of how race and ethnicity relate to youth development, ranging from infancy to adolescence. Explores how youths' racial attitudes, beliefs, identity, and interactions develop, as well as ways that race and ethnicity influence the pathways youth take in American society. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2400. Catamount Core: D1.

**PSYS 3410. Emotional Devlmt & Temperament. 3 Credits.**

Development of emotion and temperament from infancy through middle childhood, including links between these topics and physiology, and context (e.g. attachment, parenting, family conflict). Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2400.

**PSYS 3415. Social Development. 3 Credits.**

Examination of theory and research concerning interpersonal development in humans from infancy through adulthood. Emphasizes relationships among language, cognition, and social development. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2400.

**PSYS 3420. Psychology of Gender. 3 Credits.**

Examines psychological theories, methods, and research about gender. Explores social, situational, individual, and biological explanations of gender similarities and differences and their development. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2300, PSYS 2400.

**PSYS 3425. Psychology of Families. 3 Credits.**

An introduction to the theory and research in the study of families. Topics include dating, mate selection, adult attachment, marriage, parenting, divorce, single parenting, remarriage, and issues pertaining to race, ethnicity, and culture. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2400 or PSYS 2500.

**PSYS 3450. Fit Kids Applied Research. 0 or 3 Credits.**

Covers the science and practice of using structured physical activity to promote better school readiness, performance, and adjustment in young children. Students will learn how to implement age-appropriate physical activity in the context of a combined service learning/research experience. Prerequisites: PSYS 1400 or EDSP 1050 or EDEC 1010; Junior Standing; Instructor Permission.

**PSYS 3455. Adv Fit Kids: Applied Research. 0 or 3 Credits.**

Mentorship and close supervision for advanced students serving as on-site supervisors for a structured physical activity curriculum in local schools. Also provides in-depth critical discussion of research on use of physical activity to promote school adaptation. Prerequisites: PSYS 3450 or PSYS 3520; Instructor permission.

**PSYS 3500. Intro to Clinical Psychology. 3 Credits.**

Study of basic principles of interviewing, testing, assessment from life situations, and report writing. Examination of the most common approaches to psychotherapy. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2500.

**PSYS 3505. Behav Disorders of Childhood. 3 Credits.**

An overview of theory, research, and practice in developmental psychopathology from infancy through adolescence. The major disorders of social and emotional development reviewed. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2400 or PSYS 2500.

**PSYS 3510. Intro to Health Psychology. 3 Credits.**

Psychology of the cause, treatment, and prevention of physical illness and disability. Topics include: stress, health behavior, medical compliance, patient-provider relationships, coping with illness. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2500.

**PSYS 3515. Science of Traumatic Stress. 3 Credits.**

More than 85 percent of adults in the US will experience a traumatic event, yet only a fraction of these individuals will develop conditions such as posttraumatic stress disorder. Explores why this outcome occurs and the clinical skills needed to treat this condition. Prerequisites: PSYS 2000 or PSYS 2002; PSYS 2500.

**PSYS 3520. Fit Kids: Special Populations. 0 or 3 Credits.**

Examines how physical activity (PA) may assist in managing symptoms of attention-deficit/hyperactivity disorder and other common conditions such as anxiety, depression, and autism. Students spend one hour/week in the UVM classroom with remaining time spent implementing PA in educational settings. Prerequisites: PSYS 1400 or EDSP 1050 or EDEC 1010; Instructor permission.

**PSYS 3525. Adv Fit Kids: Spec Populations. 0 or 3 Credits.**

Provides mentorship and close supervision to advanced students serving as on-site supervisors for a structured physical activity curriculum in early childhood classrooms. Also provides in-depth critical discussion of research on the effects of physical activity on symptoms of mental health disorders in children and adolescence. Prerequisite: PSYS 3450 or PSYS 3520.

**PSYS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: PSYS 2002; and PSYS 2100 or PSYS 2200 or PSYS 2300 or PSYS 2400 or PSYS 2500.

**PSYS 3991. Mentored Clinical Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Will include an in-class component.

**PSYS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PSYS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PSYS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: PSYS 2002; and PSYS 2100 or PSYS 2200 or PSYS 2300 or PSYS 2400 or PSYS 2500.

**PSYS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**PUBLIC ADMINISTRATION (PA)****Courses****PA 3060. Intro Cont Public Affairs. 3 Credits.**

Contemporary policy issues including government and the economy, the role of leadership, ethical and moral issues in public policy, and other contemporary issues impacting society. Prerequisites: CDAE 2000-level course.

**PA 3600. Smart Resilient Communities. 3 Credits.**

Focus on social ecological systems integration framework to determine community resilience, enable smart design processes at the nexus of food, energy and water systems and learn practical skills, such as early warning systems, ubiquitous computing and interactive scenario planning techniques. Prerequisites: CDAE 2020 or Graduate standing. Cross-listed with: CDAE 3600.

**PA 3990. Special Topics. 1-18 Credits.**

Current issues and new developments in public policy and public administration. Prerequisite: Permission.

**PUBLIC HEALTH (PH)****Courses****PH 1990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**PH 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PH 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PH 2000. Careers in Public Health. 1 Credit.**

Students learn the public health functions and services through the lens of the public health workforce. Careers in public health and related fields are explored.

**PH 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**PH 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PH 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PH 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PH 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PH 3990. Special Topics. 1-18 Credits.****PH 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**PH 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**PH 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**PH 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**RADIATION THERAPY (RADT)****Courses****RADT 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title. Offered at department discretion.

**RADT 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**RADT 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**RADT 2520. Prin of Radiation Therapy. 3 Credits.**

Introduction to the practice and theory of radiation therapy. Co-requisite: BHSC 2400 or Instructor permission for non-majors.

**RADT 2760. Clinical Radiation Oncology. 3 Credits.**

The various types of neoplasms, methods of diagnosis of treatment, and elementary pathology are presented. Prerequisites: ANPS 1190, ANPS 1200, PATH 2010, Radiation Therapy majors. Co-requisite: RADT 2870 or Instructor permission.

**RADT 2850. Intro to Clinical Practice. 3 Credits.**

Introduction to the clinical environment through activities which include patient care issues, treatment unit operations and manipulations and direct patient case. Includes a clinical practicum. Pre-requisite: RADT 2520.

**RADT 2870. Clinical Practicum II. 2 Credits.**

Students participate and observe in the University of Vermont Medical Center Radiation Therapy Department. Prerequisite: RADT 2850.

**RADT 2890. Clinical Practicum. 2 Credits.**

Radiation Therapy students actively participate in the delivery of radiation therapy at the department of Radiation Oncology at the University of Vermont Medical Center. Students will also rotate through other areas in the hospital pertinent to their profession. Prerequisite: RADT 2850.

**RADT 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title. Offered at department discretion.

**RADT 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**RADT 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.



**RADT 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**RADT 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**RADT 3150. CT Procedures. 3 Credits.**

Provides in-depth study of the concepts, use and practice of CT Procedures related to Nuclear Medicine Technology and Radiation Therapy. Prerequisites: ANPS 1190, ANPS 1200, BHSC 2750.

**RADT 3440. Essentials of Patient Care. 3 Credits.**

Presents all aspects of care associated with the treatment of cancer when patients receive Radiation Therapy. Prerequisites: RADT 2520, RADT 2850.

**RADT 3700. Dosimetry Concepts. 3 Credits.**

Introduces dosimetry, treatment planning and quality assurance concepts to prepare for clinical dosimetry rotations. Prerequisites: BHSC 2400; PHYS 1250 or PHYS 1400 and PHYS 1450.

**RADT 3710. Dosimetry. 3 Credits.**

Treatment plan verification using three-dimensional computer models, simulation data, and knowledge of treatment unit capabilities. Prerequisites: RADT 3700, Radiation Therapy major.

**RADT 3770. Techniques Radiation Therapy. 4 Credits.**

Advanced theory and clinical application of radiotherapeutic techniques. Co-requisites: RADT 3850, RADT 3780, Radiation Therapy major.

**RADT 3780. Senior Seminar in Rad Therapy. 2 Credits.**

Evaluate current trends in advanced treatment techniques with the premise of clinical research and modern technology used in oncology. Helps prepare students for the American Registry of Radiologic Technologists national certification exam. Prerequisites: RADT 3440, RADT 3710. Co-requisites: RADT 3850, RADT 3770.

**RADT 3850. Clinical Practicum III. 3 Credits.**

A continuation of RADT 2870 emphasizing increasing clinical capabilities. Prerequisite: RADT 2870.

**RADT 3870. Clinical Practicum IV. 11 Credits.**

RADT students are assigned to approved clinical education sites to observe and increase their participation in the clinical environment. Evaluations based on defined clinical objectives and competencies to be completed by the clinical and University faculty. Spring. Prerequisites: Successful completion of all previous required major courses and concurrent enrollment in RADT 3890.

**RADT 3880. Final Clinical Pract Overview. 1-4 Credits.**

To orient the student to a new radiation oncology department; understand basic patient flow and essential equipment. The student is also responsible for completing all necessary orientation requirements at the organization, department level, or both. This includes understanding relevant policies and procedures and SOP's. Prerequisites: RADT 3710, RADT 2760, RADT 2870, RADT 3440; Senior standing.

**RADT 3890. Qual Assurance&Treatment Plan. 2 Credits.**

The integration of clinical oncology, radiobiology, dosimetry, and treatment planning, and how they affect patient outcomes. Prerequisites: RADT 3850, RADT 3770, RADT 3780; Senior standing. Co-requisite: RADT 3870.

**RADT 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title. Offered at department discretion.

**RADT 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**RADT 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**RADT 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**RADT 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

## RADIOLOGY (RAD)

### Courses

**RAD 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

## REHABILITATION & MOVEMENT SCI (RMS)

### Courses

**RMS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**RMS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**RMS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**RMS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**RMS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**RMS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: RMS 220.

**RMS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**RMS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**RMS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**RMS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**RMS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**RELIGION (REL)****Courses****REL 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**REL 1011. Topics In: FYS: Race in US. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: D1, WIL1.

**REL 1012. Topics in: FYS: Div Human Exp. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: D2, WIL1.

**REL 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**REL 1050. Religion, Politics, & Power. 3 Credits.**

Introduction to major themes in the study of religion, tracing their development over time. Special emphasis is placed on material effects of the category of religion, including case law, current events, analysis of social constructs (gender, race, sexuality, time), and engagement with key theoretical texts in the study of religion. Catamount Core: AH3, GC1.

**REL 1210. Introducing Hinduism. 3 Credits.**

Introduction to some of the major topics and themes in Hindu religious traditions, tracing their development from Vedic times to the present day. Catamount Core: AH3, D2, GC1.

**REL 1230. Introducing Islam. 3 Credits.**

Introduces Islam in the context of the study of religion, focusing especially on its variation over time and location, as evidenced by texts, rituals, festivals, and competing interpretations. Catamount Core: AH3, D2, GC1.

**REL 1240. Jews and Judaisms. 3 Credits.**

An introduction to Jewish history, religious thought and practice, ethics, and law. Cross-listed with: JS 1500. Catamount Core: AH3, D2.

**REL 1250. What is the Bible?. 3 Credits.**

An introduction to the study of religion through an examination of the creation of biblical and related texts of ancient Babylon, Israel, and the early Christian movement. Investigate their diverse religious practices and our own assumptions about unfamiliar cultures. Catamount Core: AH3, D2.

**REL 1310. Religions in Asia. 3 Credits.**

Study of the Hindu, Buddhist, and East Asian religious traditions as expressed in their basic symbolisms, writings, practices, and cultural forms. Catamount Core: AH3, D2.

**REL 1355. Topics in Rel & Race in US. 3 Credits.**

Exploration of themes in religion in the United States, with an emphasis on race. Representative topic: African American Religion. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH3, D1.

**REL 1605. Comparing Religions. 3 Credits.**

Comparison of diverse practices and beliefs from selected religious traditions and cultures. Catamount Core: AH3, D2.

**REL 1620. Religion and Globalization. 3 Credits.**

Study of the global dimensions of religion, including the impact of globalization on religious communities, and the effect of religious movements on global processes. Catamount Core: AH3, D2.

**REL 1650. Religion, Health, & Healing. 3 Credits.**

Comparative and cross-cultural exploration of the relationships between religion, health, and healing. Catamount Core: AH3, D2, GC1.

**REL 1700. Topics in Rel & Environment. 3 Credits.**

Exploration of themes involving religion and the natural environment. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**REL 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**REL 2050. Interpretation of Religion. 3 Credits.**

Examination of major theories and methods used in studying and interpreting religious phenomena. Prerequisite: Three hours in Religion. Catamount Core: AH3, GC1.

**REL 2060. Religious Literacy. 3 Credits.**

Religious literacy entails understanding the history and contemporary manifestations of religion, including the central texts, beliefs and practices as they are shaped within specific contexts. Introduces ways of thinking about the public expression of religion and profession-specific engagements with religion. Prerequisite: Three hours in Religion.

**REL 2065. Religious Literacy Practicum. 1 Credit.**

Students pursuing the Religious Literacy in Professions certificate will develop research and reflection projects integrating theories of religious literacy with research methods specific to their disciplines. Pre/Co-requisites: REL 2060.

**REL 2220. Buddhist Traditions. 3 Credits.**

A survey of Buddhist beliefs and practices in a diversity of cultures, including some modern developments. Prerequisite: Three hours in Religion. Catamount Core: AH3, D2.

**REL 2235. Islam and Modernity. 3 Credits.**

An exploration of Muslims' responses to various challenges in the modern era. Examines the ways in which religious actors shaped and altered religious ideals, identities, and ideologies via theoretical texts and case studies. Prerequisites: Three hours in Religion. Catamount Core: AH3, D2, GC1.

**REL 2238. Islam and Race. 3 Credits.**

Islam is not a race (religions are not races) but Islam and religions are racialized. Examines how Islam and Muslims come to be seen as a race and the effects thereof in the North American context. Prerequisite: Three hours in Religion. Catamount Core: AH3, D1.

**REL 2245. Topics in Jewish Traditions. 3 Credits.**

Focus on the diversity of Jewish Traditions in the US and elsewhere, exploring subjects such as lived Jewish traditions, stories told in Jewish communities, and the diversity of Jewish experiences. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours in Religion or Jewish Studies. Catamount Core: AH3.

**REL 2310. Religion & Modernity in E Asia. 3 Credits.**

Examination of the role religions played in the emergence of the modern nation-states of China and Japan over the course of the last two centuries. It examines how religion shaped responses to imperialism, as well as the effort to establish a modern nation-state. Prerequisite: Three hours in Religion. Catamount Core: AH3.

**REL 2350. Religion in America. 3 Credits.**

Study of the relationship between religion, the cultural ethos, and identity in America. Prerequisite: Three hours in Religion. Catamount Core: AH3, D1.

**REL 2355. Topics In Rel & Race in US. 3 Credits.**

Exploration of aspects of the relationship between race and religion in the United States. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours in Religion.

**REL 2550. Christianity. 3 Credits.**

Historical study of the Christian tradition examining major religious movements of early, medieval, and Reformation Christianity, and the spirituality of Christians during these periods. Prerequisite: Three hours in Religion.

**REL 2600. Topics in Problems in Religion. 3 Credits.**

Exploration of questions and debates in the field of religion. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours in Religion. Catamount Core: AH3.

**REL 2625. Religion, Law, & Discipline. 3 Credits.**

While it is common for people in the United States to understand legal spheres as distinct from religious ones, they are in fact deeply entangled with one another. An examination of these entanglements by examining dynamics of freedom of religion and comparing secular and religious legal regimes. Prerequisite: Three hours in Religion.

**REL 2630. Religion & Pop Culture in US. 3 Credits.**

Introduces concepts and theories developed in Religion about the intersection of religion and popular culture in contemporary America. Prerequisite: Three hours in Religion.

**REL 2652. Mysticism & Shamanism. 3 Credits.**

Comparative study of ways in which the inward dimension of religious life finds expression. Prerequisite: Three hours in Religion.

**REL 2654. Sacred Sounds. 3 Credits.**

Examines the sonic aspects of religious life, paying particular attention to musical phenomena. Prerequisite: Three hours of Religion.

**REL 2700. Topics in Rel & Environment. 3 Credits.**

Exploration of themes involving religion and the natural environment. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: Three hours of Religion.

**REL 2990. Special Topics. 1-18 Credits.**

Intermediate courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**REL 3620. Religion and Empire. 3 Credits.**

An exploration of the definitions of religion as they relate to, were impacted by, and fostered the expansion of empires and imperialism. Topics include: history & definitions of religion; race & racialization; gender; colonialism; imperialism. Prerequisite: Nine hours in Religion.

**REL 3625. Religion, Nation, and State. 3 Credits.**

Exploration of religion in the public life of the modern nation-state. Focusing on the relationship of nationalism and religion, examines how religion is both a source of mobilization by the state and a means of resistance to it. Prerequisite: 9 credit hours in Religion.

**REL 3630. Religion and Secular Culture. 3 Credits.**

Comparison of religious and secular systems of meaning, value, and practice. Prerequisite: Nine hours in Religion, with three hours at the intermediate level.

**REL 3990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**REL 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**REL 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**REL 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**REL 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**REL 4050. Senior Colloquium. 1 Credit.**

Capstone course for Religion majors. Prerequisites: Religion major; Senior standing.

**REL 4990. Special Topics. 1-18 Credits.**

Intermediate courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles. Prerequisite: Three hours in Religion.

**REL 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**RUSSIAN (RUSS)****Courses****RUSS 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**RUSS 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**RUSS 1050. Experience Russian. 1 Credit.**

Students will engage in a variety of events that will enhance their understanding and appreciation of Russian language and culture. Provides opportunities to experience Russian through a variety of interactive contexts.

**RUSS 1100. Elementary Russian I. 4 Credits.**

An introduction to all aspects of contemporary standard Russian: speaking, listening, reading, writing. Cultural components include topics such as music, art, literature, and current events. No previous knowledge of Russian needed for RUSS 1100. Catamount Core: GC2, OC.

**RUSS 1200. Elementary Russian II. 4 Credits.**

An introduction to all aspects of contemporary standard Russian: speaking, listening, reading, writing. Cultural components include topics such as music, art, literature, and current events. Prerequisite: RUSS 1100 or equivalent. Catamount Core: GC2, OC.

**RUSS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**RUSS 2100. Intermediate Russian I. 4 Credits.**

Continued practical work in all language skills (speaking, listening, reading, writing), with more analysis of the structure of Russian. Continuation of cultural components. Prerequisite: RUSS 1200. Catamount Core: GC2, OC.

**RUSS 2200. Intermediate Russian II. 4 Credits.**

Continued practical work in all language skills (speaking, listening, reading, writing), with more analysis of the structure of Russian. Continuation of cultural components. Prerequisite: RUSS 2100.

**RUSS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**RUSS 3010. Performing Russian. 3 Credits.**

Practical work on Russian intonation and the development of lexicon and fluency (vocabulary building, communicative strategies) using primarily Russian materials. Prerequisite: RUSS 2100. Pre/Co-requisite: RUSS 2200.

**RUSS 3030. Composition & Conversation. 3 Credits.**

Continued practical work on all four language skills. Emphasis on oral and written self-expression. Presentations and compositions based on Russian-language media and literature. Prerequisite: RUSS 2200.

**RUSS 3990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**RUSS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**RUSS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**RUSS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**RUSS 4420. Culture/Civ to 1905 Revolution. 3 Credits.**

Social, cultural, and political institutions from the time of Peter the Great to the 1905 revolution. Particular attention to Russian music, art, and literature. Prerequisite: RUSS 2200.

**RUSS 4440. Culture/Civ 20/21st Centuries. 3 Credits.**

Social, cultural, and political institutions from the 1905 revolution to the present. Particular attention to tensions between official and unofficial culture during the Soviet period. Prerequisite: RUSS 2200.

**RUSS 4605. Survey of Russian Literature. 3 Credits.**

Readings and discussions about Russian literature to the rise of modernism. Particular attention to the social and historical context of the 19th century novel. Prerequisite: RUSS 2200. WLIT 2250 recommended.

**RUSS 4645. Survey 20th Century Russ Lit. 3 Credits.**

Readings and discussions about Russian literature from the rise of modernism to present. Particular attention to function of literature in Soviet society. Prerequisite: RUSS 2200. WLIT 2250 recommended.

**RUSS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**RUSS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**RUSS 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**SECONDARY EDUCATION (EDSC)****Courses****EDSC 1110. Ed Tech in Sec Ed Classroom. 3 Credits.**

Students are introduced to a variety of uses for information technology in education with particular applications to stimulate and manage a student-centered classroom.

**EDSC 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDSC 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSC 2070. Development: Theory & App. 3 or 4 Credits.**

Examines a variety of adolescent developmental and theories about how students learn. On-going participation in Service-Learning experiences allows for the application of course content in the context of instructional settings, with an emphasis on supporting students identified as dealing with barriers to learning. Prerequisite: EDTE 1010, EDSP 1050, ECLD 1560, EDFS 1020, EDSC 1110.

**EDSC 2090. Practicum in Teaching. 4 Credits.**

Immerses students in the school environment. Coursework, readings and experiences are intentionally aligned with those of EDSC 216. Allows students to engage in fieldwork in a variety of instructional settings that include students with special needs and ELLs. A seminar component brings together fieldwork and professional practice experiences. Prerequisite: EDSC 2070. Co-requisite: EDSC 2016.

**EDSC 2150. Reading in Secondary Schools. 3-4 Credits.**

Theory and methods of reading/writing explored in the context of literacy. Focus on reading, writing, speaking and critical thinking across disciplines. Cultural contexts explored. Pre/Co-requisites: EDSC 2070, EDSC 2090.

**EDSC 2160. Curriculum, Inst, & Assessment. 3 Credits.**

Covers key concepts within education such as Understanding by Design ('backwards planning'), formative and summative assessment, differentiated instruction, and equity in the secondary content-area curriculum. Course readings, discussions, projects, and activities will illustrate how these concepts fit together to support student learning in secondary schools. Prerequisites: EDSC 1110; EDSC 2070. Co-requisite: EDSC 2090.

**EDSC 2570. Intro to Teaching Math. 3 Credits.**

Provides an introduction to the field of mathematics education. Explores the knowledge and skills required to teach middle and secondary mathematics, investigate how people learn mathematics, and study current issues and research in mathematics education. Catamount Core: MA, QR.

**EDSC 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDSC 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSC 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDSC 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSC 3240. Teach English:Secondary School. 3 Credits.**

Approaches to teaching composition, literature, and the English language in secondary school. Prerequisite: Acceptance into licensure program.

**EDSC 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDSC 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSC 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDSC 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSC 4300. Teaching for Results. 3 Credits.**

Analysis of planning, curriculum design, teaching, evaluation and classroom management from the perspective of research and practice. Individual tasks culminate in production of a licensure portfolio. Co-requisite: EDSC 4991.

**EDSC 4991. Internship: Student Teaching. 1-18 Credits.**

Student teaching or some other on-site supervised experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team, for which academic credit is awarded.

**SOCIAL WORK (SWSS)****Courses****SWSS 1010. Ldrship for Racial Justice. 3 Credits.**

Seminar on creating racial justice through leadership. The 7 C's of leadership development are explored: consciousness of self, congruence, commitment, collaboration, common purpose, controversy with civility, and citizenship. These concepts are applied to explorations of racism and racial justice. Catamount Core: D1, S1.

**SWSS 1020. Foundations of Social Work. 3 Credits.**

An introduction to the profession of social work, its functions, values, knowledge, and the problems it addresses. Methods include: speakers from human service organizations, case examples, a field trip and unique final exam using a community experience and reflection. Catamount Core: S1.

**SWSS 1040. Working with Refugees. 3 Credits.**

Provides students an interdisciplinary, entry-level opportunity to learn about the social construction of refugees, the experiences and circumstances of people who become refugees and the apparatus set up to support them using social work/social justice approach. Catamount Core: D2, GC2.

**SWSS 1050. Biosociopolitical Issues SW. 3 Credits.**

Outlines human body organ systems and extrapolates from the biological into the socio-political. Bioethical dilemmas, environmental racism, and multiple chemical sensitivity studied from a social work perspective. Prerequisite: Social Work major or Instructor permission.

**SWSS 1090. Soc Just, Pov, & Inequ in Amer. 3 Credits.**

Designed to provide an exploration of the social construction of poverty and the discourses and practices that surround it, in both popular and academic work, and the impact of that construction on the lives of those who experience poverty, as well.

**SWSS 1600. Racism & Contemporary Issue. 3 Credits.**

Study of perception, conceptualization, and comprehension of racism. Strategies, techniques, and procedures to identify and decrease many facets of racism. Catamount Core: D1, S1.

**SWSS 1990. Special Topics. 1-18 Credits.**

Designed so that its content and structure may accommodate special issues not offered within the boundaries of an existing course. Open to First-Year and Sophomore students.

**SWSS 1991. Internship. 2-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**SWSS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SWSS 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**SWSS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Pre/co-requisite: Social Work major; Instructor permission; pre-arrangement.

**SWSS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SWSS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**SWSS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SWSS 3470. Theories in Social Work I. 3 Credits.**

Critical examination of traditional and contemporary theories of social work and human behavior and their application in generalist direct practice social work. Prerequisite: SWSS 1020.

**SWSS 3480. Theories in Social Work II. 3 Credits.**

Critical examination of traditional and contemporary theories of social work and human behavior and their application in generalist group and macro practice contexts.

**SWSS 3630. Theory & Integration Prep Sem. 3 Credits.**

This course is a bridge between theories studied in pre- and co-requisite courses and senior year. It prepares the student for their field practicum. Prerequisites: SWSS 1020, SWSS 2470, SWSS 2640, SWSS 2650. Co-requisites: SWSS 2480, SWSS 2660. Pre/Co-requisites: SWSS 1040, SWSS 1600.

**SWSS 3650. Iss & Pol in Social Welfare I. 3 Credits.**

An introduction to economic, political, historical, and social forces that influence the development and implementation of social welfare policy. Prerequisite: SWSS 1020.

**SWSS 3660. Iss & Pol in Social Welfare II. 3 Credits.**

In-depth examination of social welfare policy and accompanying social services in the U.S.; major policy analysis models presented and used. Prerequisite: SWSS 2650.

**SWSS 3670. Intro Social Work Research. 3 Credits.**

Introduction to models and methods of social research from a social work perspective. Prerequisite: SWSS 1020.

**SWSS 3800. Perspectives on Social Work. 4 Credits.**

Taking a social constructionist stance, students explore guiding concepts of the MSW curriculum and their application to social work practice, policy, human behavior and research. Pre/co-requisite: MSW standing.

**SWSS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**SWSS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**SWSS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SWSS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**SWSS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SWSS 4680. Social Work Practice I. 3 Credits.**

Social work theory and practice methods employed by social workers in providing services to individuals, families, and small groups. Prerequisite: Senior Standing. Co-requisites: SWSS 3710, SWSS 3730.

**SWSS 4690. Social Work Practice II. 3 Credits.**

Social work theory and practice methods employed by social workers in providing services to groups, organizations, and communities. Prerequisites: SWSS 3680; Senior standing. Co-requisites: SWSS 3720, SWSS 3740.

**SWSS 4710. Field Experience Seminar I. 3 Credits.**

Weekly integrative seminar; discussion of practice within field agency. Co-requisites: SWSS 3680, SWSS 3730.

**SWSS 4720. Field Experience Seminar II. 3 Credits.**

Weekly integrative seminar; discussion of practice within field agency. Prerequisites: SWSS 3710, SWSS 3730. Co-requisites: SWSS 3690, SWSS 3740.

**SWSS 4730. Field Experience I. 6 Credits.**

Supervised field-based learning of 15-20 hours per week. Students are placed in human service agencies and organizations and learn the application of social work, theory, ethics and skills. Prerequisite: Senior standing. Co-requisites: SWSS 3680, SWSS 3710.

**SWSS 4740. Field Experience II. 6 Credits.**

Supervised field-based learning of 15-20 hours per week. Students are placed in human service agencies and organizations and learn the application of social work, theory, ethics and skills. Prerequisites: SWSS 3710, SWSS 3730; Senior standing. Co-requisites: SWSS 3690, SWSS 3720.

**SWSS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

## SOCIOLOGY (SOC)

### Courses

#### **SOC 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

#### **SOC 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: D1, S1, WIL1.

#### **SOC 1100. Social Problems. 3 Credits.**

Sociological analysis of social problems as they occur in American society and around the globe, and how they are defined as problems in the first place. Focus on issues such as migration, the opioid epidemic, climate change, and social inequality. Catamount Core: S1.

#### **SOC 1210. Deviance & Social Control. 3 Credits.**

Analysis of the causes and consequences of social behavior that violates norms. Examines patterns of deviant socialization and social organization and forms of deviance control. Catamount Core: S1.

#### **SOC 1260. Drugs & Society. 3 Credits.**

Patterns of illicit drug distribution, use, abuse, and control in contemporary society. Examines the interaction of cultural, social, psychological, and physiological factors in prohibited drug-taking. Catamount Core: S1.

#### **SOC 1300. Health Care in America. 3 Credits.**

Examination of the organization and financing of the U.S. health care system. Focus on health disparities, health care policy, and cross-national comparisons. Cross-listed with: HSOC 1600. Catamount Core: S1.

#### **SOC 1320. Aging: Change & Adaptation. 3 Credits.**

Individual and social meanings of aging and old age; physical, physiological, psychological, and sociological changes accompanying aging; individual, family, community, and societal adaptations to aging. Cross-listed with: HDF 1200.

#### **SOC 1330. Sociology of Sexualities. 3 Credits.**

Examination of the social construction of sexuality with emphasis on theories, concepts, and cultural ramifications of a range of sexual practices and identities. Catamount Core: S1.

#### **SOC 1350. Sociology of the Family. 3 Credits.**

Description and analysis of contemporary patterns in American sexual, marital, and familial behavior; their historical development, variants, and the evolving alternatives to traditional normative forms.

#### **SOC 1370. Race Relations in the US. 3 Credits.**

Analysis of racial prejudice, discrimination, and other dominant group practices directed toward Native, Asian-, and African-Americans and their social movements for integration, accommodation, and separatism. May not be taken for credit concurrently with, or following receipt of, credit for SOC 1372. Catamount Core: D1, S1.

#### **SOC 1372. Topics in Sociology of Race. 3 Credits.**

Overview of diverse institutional, cultural, and socio-historical issues relating to U.S. ethn racial minority groups. May not be taken for credit concurrently with, or following receipt of, credit for SOC 1370. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: D1.

#### **SOC 1375. Asian-American Experiences. 3 Credits.**

An overview of the socio-historical conditions of people of Asian descent in the United States, along with an examination of contemporary issues. Catamount Core: D1.

#### **SOC 1400. Social Inequality. 3 Credits.**

Introduction to structured class inequality in the United States, causes and consequences. Focus on wealth, prestige, and power. Inequalities of age, gender, and ethnicity also examined.

#### **SOC 1500. Introduction to Sociology. 3 Credits.**

Fundamental principles and problems in the sociological analysis of the structure and dynamics of modern society. Catamount Core: S1, SU.

#### **SOC 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

#### **SOC 2100. Self and Society. 3 Credits.**

Analysis of the roles of sociocultural and situational factors in individual behavior and experience and the social genesis, development, and functioning of human personality. Prerequisite: Three hours of Sociology.

#### **SOC 2102. Sociology of Religion & Ideology. 3 Credits.**

Beliefs and value systems and their institutional arrangements, focusing on relationships between these systems and the larger social structure, in cross-cultural and historical perspective. Prerequisite: Three hours of Sociology. Catamount Core: S1.

#### **SOC 2210. Global Deviance. 3 Credits.**

Studies different theoretical approaches to deviance and social control, empirical patterns of deviant behaviors, and temporal, spatial, and cultural variations in these patterns, in a global context. Prerequisite: Three hours of Sociology or Global and Regional Studies. Catamount Core: D2, GC1, S1.

#### **SOC 2220. Sociology of the Holocaust. 3 Credits.**

Examination of the Holocaust using a sociological lens and discussion of its relevance for current social developments and events. Prerequisites: Three hours of Sociology or three hours of Jewish Studies or HST 1715 or HST 2760 or HST 2790. Catamount Core: S1.



**SOC 2230. Crime. 3 Credits.**

Analysis of the nature and types of behavior that violates law, the mechanisms for defining such behaviors as criminal, and their causes and consequences. Prerequisite: Three hours of Sociology.

**SOC 2260. Crim Justice & Public Health. 3 Credits.**

Examination of the public health consequences and interventions in the criminal justice system, starting with problems that occur within policing, courts (including treatment courts), and corrections' systems. In the process, analyzes the social determinants of health within the justice system, and how such systems manage and approach health (including behavioral health). Prerequisites: SOC 1500 and 3 additional hours in Sociology; minimum Sophomore standing.

**SOC 2300. Population Health Research. 3 Credits.**

Overview of research methods used to examine population health dynamics. Topics include measuring health outcomes such as life expectancy and morbidity and examining the impact of sociological variables such as race and gender on health using domestic and international data. Prerequisite: Three hours of Sociology. Catamount Core: QR.

**SOC 2320. Sociology of Death & Dying. 3 Credits.**

Comparative examination of sociocultural adaptations to mortality with special attention to family, medical, legal, religious, and economic responses to fatal illness and death in contemporary society. Prerequisite: Three hours of Sociology.

**SOC 2335. Gender, Sexualities & Medicine. 3 Credits.**

Examines medicine through a sociocultural lens, drawing on sociological, historical, anthropological, philosophical, feminist, queer, and critical race studies perspectives in order to explore the intersections of sex, gender, sexuality, and medicine. Prerequisites: Three hours of Sociology; or GSWS 1500 or GSWS 1010; or Health & Society major or minor.

**SOC 2355. Sociology of Childhood. 3 Credits.**

Examination of socio-historical changes in the construction of childhood and experiences of children; applications of interpretive approaches in contemporary sociology to analyze children's peer cultures. Prerequisite: Three hours of Sociology.

**SOC 2370. Race & Ethnicity. 3 Credits.**

Description and analysis of ethnic, racial, and religious groups in the United States. Examination of social/cultural patterns in the larger society and in these groups themselves. Prerequisite: Three hours of Sociology. Catamount Core: D1, S1.

**SOC 2400. Affluence & Poverty in Mod Soc. 3 Credits.**

Examination of structured social inequality in contemporary American society with special attention to the distribution of wealth and its relationship to power, prestige, and opportunity. Prerequisite: Three hours of Sociology.

**SOC 2405. Our Consuming Society. 3 Credits.**

A critical look at the things we buy and our motivations for buying them, and a consideration of collective action solutions to over-consumption. Prerequisite: Three hours of Sociology.

**SOC 2450. Population, Environment & Soc. 3 Credits.**

Analysis of the causes and consequences of varying relationships among population size, distribution and composition, social organization, technology, and resource base. Prerequisite: Three hours of Sociology.

**SOC 2460. Sociology of Disaster. 3 Credits.**

Examination of disasters using a sociological, critical lens. Analysis of research, theories, and current debates in the field of disaster sociology. Prerequisite: Three hours of Sociology. Catamount Core: S1, SU.

**SOC 2500. Social Research Methods. 4 Credits.**

Introduction to research methods in social science. Includes examination of research design, measurement, data collection, data analysis, and the presentation and theoretical interpretation of research findings. Prerequisites: STAT 1050, STAT 1110, STAT 1410, or higher; three hours of Sociology or Political Science; minimum Sophomore standing. Cross-listed with: POLS 2800. Catamount Core: QD.

**SOC 2550. Social Theory. 3 Credits.**

Classical sociological theory including Marx, Weber, Durkheim, and Mead, as well as DuBois and early female theorists such as Martineau. Reading and writing intensive. Prerequisites: SOC 1500; three additional hours of Sociology; minimum Sophomore standing. Catamount Core: S1.

**SOC 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Three hours of Sociology.

**SOC 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion. Prerequisites: Three hours of Sociology; Instructor permission.

**SOC 3100. Sociology of Culture. 3 Credits.**

The relations of cultural forms and subjective experience to social structure and power; in-depth applications of interpretive approaches in contemporary sociology. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3105. Social Movements. 3 Credits.**

Introduction to the sociology of social movements, including examination of central topics such as movement emergence and formation, mobilization and participation, and tactical repertoires, in conjunction with explorations of specific movements both in the past and the present. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3140. Sociology of African Societies. 3 Credits.**

Current social, cultural, political, and economic changes occurring in African societies, including issues of development, the state and civil society, social class, ethnonationalism, and democratization. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing. Catamount Core: D2.

**SOC 3210. Disability as Deviance. 3 Credits.**

Analyzes constructions of disability as deviance in current and historical contexts such as American eugenics, Nazi sterilization and medical crimes, and present national policies. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3230. Criminal Justice. 3 Credits.**

Analysis of social structures and processes in criminal justice arenas, the labeling of criminal offenders, and other issues related to crime, punishment, and justice. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing. Declared Law & Society minors may substitute SOC 1210 for other prerequisite coursework in Sociology.

**SOC 3235. Corrections. 3 Credits.**

Analysis of the social structures and processes involved with individuals designated as offenders of criminal law: probation, prison, parole, and programs of prevention and rehabilitation. Declared Law & Society minors may substitute SOC 1210 for other prerequisite coursework in Sociology. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3240. Sociology of Law. 3 Credits.**

Analysis of sociocultural structure of the legal institution and its relationships to other institutions: the social organization of the legal profession, lawmaking, and the courts. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing. Declared Law & Society minors may substitute SOC 1210 for other prerequisite coursework in Sociology.

**SOC 3300. Health: Race, Class, & Gender. 3 Credits.**

Rarely considered simultaneously in health research, intersections of race, class, and gender are crucial in health. This course examines political and historical conceptions of race, class, and gender and their intersections in relation to health, learning from key scholars in sociology, science studies, political philosophy, and population health. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3332. Transgender Studies. 3 Credits.**

Introduction to the interdisciplinary field of transgender studies. Exploration of trans studies in the social sciences and gender and queer studies and examination of the field's contributions to shifting understandings of sex, gender, identity, and the body. Prerequisites: SOC 1500, GSWS 1010, or GSWS 1500; SOC 2500, SOC 2550, GSWS 2050, or GSWS 2070; minimum Junior standing.

**SOC 3335. Sociology of Reproduction. 3 Credits.**

Examines reproduction of cultural values in relation to social conduct of reproduction of human life (childbearing) under advanced capitalism. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3350. Family as Social Institution. 3 Credits.**

Examination of the institution of the American family in cross-cultural and historical perspective. Theories and research on family continuity, change, and institutional relationships explored. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3370. Race Relations. 3 Credits.**

Examination of American racial subordination in social and historical perspective. Analysis of interracial contacts, racial subcultures and social structures, and responses to racial prejudice and discrimination. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing. Catamount Core: D1.

**SOC 3375. Topics in Race. 3 Credits.**

Covers topics related to racial identity, racial justice, or racial inequity, through an intersectional lens. The primary geographic focus is on the United States. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3380. Int'l Migration & US Society. 3 Credits.**

A comparative approach to the migration of people from the rest of the world to the United States with an emphasis on Mexican immigration. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing. Catamount Core: D2.

**SOC 3400. Social Class & Mobility. 3 Credits.**

Comparative and historical analysis of causes, forms, and consequences of structured social inequality in societies. Examination of selected problems in contemporary stratification theory and research. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3450. Adv Environmental Sociology. 3 Credits.**

Examination of theoretical interpretations of environmental problems, sources, and solutions, focusing on the social conditions under which problems arise. Emphasis on writing and individual research projects. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3460. Disaster & Vulnerability. 3 Credits.**

In-depth exploration of disaster events, paying particular attention to how differential vulnerability affects impacts and recovery. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3500. Qualitative Research Methods. 3 Credits.**

Principles of qualitative research design and ethics and data collection, analysis, and presentation. Students will complete a research project over the course of the semester. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3510. Quantitative Data Analysis. 3 Credits.**

Quantitative analysis of sociological data; includes table, regression, and path analysis, scaling and factor analysis, and the analysis of variance emphasizing multivariate techniques. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3550. Topics in Social Theory. 3 Credits.**

Exploration of topics in social theory. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 3991. Internship Seminar in SOC. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; Junior standing.

**SOC 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing; Instructor permission.

**SOC 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing; Instructor permission.

**SOC 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisites: SOC 1500; SOC 2500 or SOC 2550; minimum Junior standing.

**SOC 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**SPANISH (SPAN)****Courses****SPAN 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**SPAN 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**SPAN 1100. Elementary Spanish I. 4 Credits.**

Fundamentals of Spanish composition, comprehension, pronunciation, speaking, reading, and writing in a cultural context. Classes are conducted in Spanish and students engage in active use of the language. No prior knowledge expected. Cannot be taken for credit after SPAN 1200. Catamount Core: GC2.

**SPAN 1200. Elementary Spanish II. 4 Credits.**

Continuation of SPAN 1100. Fundamentals of Spanish composition, comprehension, pronunciation, speaking, reading, and writing in a cultural context. Classes are conducted in Spanish and students engage in active use of the language. Cannot be taken for credit after SPAN 2100. Prerequisite: SPAN 1100 or equivalent. Catamount Core: GC2, OC.

**SPAN 1210. Elem Span for Special Purposes. 1-3 Credits.**

Elementary language study targeted to specialized vocabulary needs, such as health, ecology, community development, etc.. Prerequisite: SPAN 1200 or Instructor permission.

**SPAN 1990. Special Topics. 1-18 Credits.**

Introductory courses or seminars on topics beyond the scope of existing departmental offerings. See Schedule of Courses for specific titles.

**SPAN 2100. Intermediate Spanish I. 3 Credits.**

Significant review of grammar, moving toward increased proficiency in composition, listening comprehension, pronunciation, speaking, reading, and writing. Emphasis on cultural context. Compositions, oral practice, reading. Students may take 1 Spanish course numbered between 2100 and 2109 for credit. Cannot be taken for credit after SPAN 2200. Prerequisites: SPAN 1200 or equivalent. Catamount Core: GC2.

**SPAN 2108. TR Intermediate Spanish I. 3 Credits.**

Credit for the equivalent of Intermediate Spanish I taken at another institution and accepted for transfer credit at UVM. May count for the track 2 minor with approval of a minor advisor in Spanish. Students may take 1 SPAN course numbered between 2100 and 2109 for credit. Cannot be taken for credit after SPAN 2200. Prerequisite: SPAN 1200 or equivalent. Catamount Core: GC2.

**SPAN 2109. AP Intermediate Spanish I. 3 Credits.**

Credit awarded for achieving a certain score on the Spanish Language Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Students may take 1 SPAN course numbered between 2100 and 2109 for credit. Prerequisite: SPAN 1200 or equivalent. Catamount Core: GC2.

**SPAN 2200. Intermediate Spanish II. 3 Credits.**

Continuation of Intermediate Spanish I. Grammar review, moving toward increased proficiency in composition, listening comprehension, pronunciation, speaking, reading, and writing. Emphasis on cultural context. Students may take 1 Spanish course numbered between 2200 and 2209 for credit. May not be taken for credit after SPAN 3110. Prerequisite: SPAN 2100 or equivalent. Catamount Core: GC2, OC.

**SPAN 2202. Intern Span II: Sustainability. 3 Credits.**

Continuation of SPAN 2100. Students improve grammar, proficiency and their knowledge of the Hispanic world, while acquiring a Global South perspective surrounding sustainability. Students may take 1 Spanish course numbered between 2200 and 2209 for credit. May not be taken for credit after SPAN 3110. Prerequisite: SPAN 2100 or equivalent. Catamount Core: GC2, OC, SU.

**SPAN 2208. TR Intermediate Spanish II. 3 Credits.**

Credit for the equivalent of Intermediate Spanish II taken at another institution and accepted for transfer credit at UVM. May count for the track 2 minor with approval of a minor advisor in Spanish. Students may take 1 SPAN course numbered between 2100 and 2109 for credit. Cannot be taken for credit after SPAN 3110. Prerequisite: SPAN 2100 or equivalent. Catamount Core: GC2, OC.

**SPAN 2209. AP Intermediate Spanish II. 3 Credits.**

Credit awarded for achieving a certain score on the Spanish Language Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics. Students may take 1 SPAN course numbered between 2100 and 2109 for credit. Prerequisite: SPAN 2100 or equivalent. Catamount Core: GC2, OC.

**SPAN 2609. AP Literature & Culture I. 3 Credits.**

Credit awarded for achieving a certain score on the Spanish Literature and Culture Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics.

**SPAN 2610. AP Literature & Culture II. 3 Credits.**

Credit awarded for achieving a certain score on the Spanish Literature and Culture Advanced Placement (AP) Examination. The necessary score may vary from year to year; consult Transfer Affairs for appropriate specifics.

**SPAN 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: SPAN 3610.

**SPAN 3102. Race, Identity & Migrant Labor. 3 Credits.**

Spanish composition and conversation course that explores the Mexican and Mexican-American experience in the United States during the nineteenth, twentieth, and twenty-first centuries and focuses on issues of sustainability, food sovereignty and institutionalized racism in service-learning and global contexts. Prerequisites: SPAN 2200 or equivalent; GRS 1500 recommended. Catamount Core: D1, SU.

**SPAN 3110. Topics in Composition & Convsr. 3 Credits.**

Writing practice, sentence structure, correct expression, and guided discussions in Spanish of cultural topics. A good command of basic grammar expected. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: SPAN 2200 or equivalent; or Instructor permission. Catamount Core: GC2, WIL2.

**SPAN 3115. Phonetics & Phonology. 3 Credits.**

The sound system of Spanish: Spanish/English pronunciation contrasted; vowels, consonants, rhythms, intonation. Prerequisite: SPAN 2200 or equivalent; or Instructor permission.

**SPAN 3120. Spanish Grammar. 3 Credits.**

An intensive study of Spanish grammar. Topical approach. Prerequisite: SPAN 2200 or equivalent; or Instructor permission.

**SPAN 3610. Analyzing Hispanic Literatures. 3 Credits.**

Introduction to basic genres of Hispanic literatures (narrative, poetry, drama, essay); development of analytical and critical reading/discussion skills. Short analytical papers and ample class discussion. Prerequisite: SPAN 3110 or concurrent enrollment with Instructor permission. Catamount Core: AH2.

**SPAN 3615. Spain: Diversity & Expansion. 3 Credits.**

An introductory literature course; students will read and analyze texts associated with the diverse cultures of Spain as it began the period of colonial expansion. Prerequisite: SPAN 3610. Catamount Core: AH2.

**SPAN 3620. Spain: Monarchy to Democracy. 3 Credits.**

An introductory literature course; students read and analyze literature and film written and produced in Spain from the neoclassical period until the present day. Prerequisite: SPAN 3610. Catamount Core: AH2.

**SPAN 3665. LatAm: Colonialism&Resistance. 3 Credits.**

An introductory literature course; students read and analyze Latin American texts from the period before the conquest to the 1898 Spanish American War. Prerequisite: SPAN 3610. Catamount Core: AH2, D2.

**SPAN 3670. LatAm: Revolutn&Globalizatn. 3 Credits.**

An introductory literature course; students read and analyze Latin American literature and film produced in the tumultuous 20th and 21st centuries. Prerequisite: SPAN 3610. Catamount Core: AH2, D2.

**SPAN 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: SPAN 3610.

**SPAN 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**SPAN 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Permission of Chair required. Prerequisite: SPAN 3610.

**SPAN 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**SPAN 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Permission of Chair required. Prerequisite: SPAN 3610.

**SPAN 4100. Topics in Language. 3 Credits.**

Varied topics devoted to a special area such as translation, creative writing, or Spanish for the professions (medicine, business, journalism, law). May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: SPAN 3110 or Instructor permission.

**SPAN 4110. Adv Composition & Conversation. 3 Credits.**

To improve both written and oral proficiency. Textbook supplemented by panel discussions, debates, translation, and a weekly composition. Prerequisite: SPAN 3110 or Instructor permission.

**SPAN 4410. Early Cultures of Spain. 3 Credits.**

A study of the Spanish cultures from earliest times through 1700, emphasizing major intellectual, political, and artistic developments. Prerequisite: One course from SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670 or Instructor permission.

**SPAN 4440. Hispanic Folklore. 3 Credits.**

Explores the folklore of Spain and Latin America with emphasis on literary and artistic traditions. Prerequisites: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670, or Instructor permission.

**SPAN 4460. Modern Latin American Cultures. 3 Credits.**

An overview of the cultures of Latin America with a multidisciplinary approach to understanding cultural constructions. Themes included: the city, nationhood, subjectivity, marginality. Prerequisites: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670, or Instructor permission. Catamount Core: D2.

**SPAN 4500. Topics in Cinema. 3 Credits.**

Advanced study in Spanish cinema. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670; or Instructor permission.

**SPAN 4520. Hispanic Films in Context. 3 Credits.**

Approaching film as reflection and shaper of Hispanic cultures through comparison with texts relevant to cultural context. Includes study of film terminology and analysis. Prerequisite: One course from SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670 or Instructor permission.

**SPAN 4550. Topics in Culture & Literature. 3 Credits.**

Focus on a particular cultural topic in the Hispanic world such as regional studies, or current conflicts on ecology, ethnicity, or gender. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670; or Instructor permission.

**SPAN 4555. Early Span Narratives Americas. 3 Credits.**

Readings and analysis of late fifteenth- and sixteenth-century narratives. Discussion of European and Native American perspectives, religious disputes, and the so-called Leyenda Negra or Black Legend. Prerequisite: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670; or Instructor permission.

**SPAN 4560. Cuban Cinema and Revolution. 3 Credits.**

Explores Cuban cinema in the context of the revolution and how Cuban films portrayed the dialectical struggle necessary to continue political and social change. Prerequisites: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670, or Instructor permission.

**SPAN 4570. Latin Amer City in Lit/Film. 3 Credits.**

A cultural studies approach to the representation of major Latin American cities in literature, film, and cultural critique. Topics may include: marginality, minorities, globalization, and social constructions of space. Prerequisite: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670, or Instructor permission. Catamount Core: D2.

**SPAN 4575. Performance and Politics. 3 Credits.**

A study of the relationship between Latin-American performance and its political contexts. Emphasis is placed on works particularly concerned with reshaping culture, politics, and aesthetics. Prerequisites: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670, or Instructor permission.

**SPAN 4600. Topics in Literature. 3 Credits.**

Advanced study in Spanish literature. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Prerequisite: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670; or Instructor permission.

**SPAN 4610. Issues in Early Spanish Lit. 3 Credits.**

An exploration of topics on Spain's richly diverse literature written before 1700. Prose and/or theatre texts from this highpoint of cultural development are the focus. Prerequisites: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670, or Instructor permission.

**SPAN 4660. Hispanic Writing from Margins. 3 Credits.**

Exploration of writers and communities at the margins of mainstream Latin-America and/or Spanish culture. Topics may include indigenous, Afro-Hispanic, regionalist authors; testimonial literatures; censorship. Prerequisite: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670; or Instructor permission.

**SPAN 4665. Border Literatures. 3 Credits.**

Introduction to border literatures of the Hispanic worlds. These texts partake of two or more cultural spheres, challenging traditional notions of linguistic, literary, cultural hegemony. Prerequisites: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670, or Instructor permission. Catamount Core: D1.

**SPAN 4670. Narco Culture. 3 Credits.**

Studies the culture that has arisen as a result of the drug trade in Latin America. Seeks to answer the following questions: 1) What is the relationship between the drug trade and the global world system and; 2) What role does art play in the episteme created by the drug trade. Prerequisites: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670, or Instructor permission.

**SPAN 4675. Petroculture. 3 Credits.**

Studies the theme of petroleum in Latin American culture. A principle theme is the analysis of the importance of petroleum in the creation of the modern, globalized world as well as the formation of global capitalism. Prerequisites: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670, or Instructor permission.

**SPAN 4680. Contemp Latin Amer Fiction. 3 Credits.**

A study of representative works by major authors tracing the development of narrative forms from their roots in the last century to the present. Prerequisite: SPAN 3615, SPAN 3620, SPAN 3665, or SPAN 3670; or Instructor permission.

**SPAN 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: SPAN 3610.

**SPAN 4991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**SPAN 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Permission of chair required. Prerequisite: SPAN 3610.

**SPAN 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**SPAN 4995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Permission of Chair required. Prerequisite: SPAN 3610.

**SPAN 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**SPECIAL EDUCATION (EDSP)****Courses****EDSP 1050. Iss Aff Persons W/Disabil. 3 Credits.**

Students study the effects of discrimination, advocacy, litigation and sociological perspectives on disabilities. History, current legislation, and family issues for children and adults are emphasized. Catamount Core: D2.

**EDSP 1990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDSP 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSP 2170. Behavior Management. 3 Credits.**

Discussion of theories and models developed for behavior management, and the translation of those theories into practical intervention techniques, both for the individual student and classroom groups. Emphasis on the use of interpersonal relationships as a means of changing child and youth behavior. Emphasizes culturally responsive practice in relationship to behavioral intervention. Prerequisite: EDSP 1050. Catamount Core: D2.

**EDSP 2520. Race, Bullying & Discrim. 3 Credits.**

Critically examines youth bullying, violence, discrimination, and harassment as they primarily occur in educational contexts. Cross-listed with: EDHE 2520. Catamount Core: D1.

**EDSP 2990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDSP 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSP 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDSP 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSP 3000. Contemporary Issues. 1-3 Credits.**

Designed so that its content and structure may accommodate special issues outside the boundaries of an existing course. Prerequisite: Twelve hours in education and related areas.

**EDSP 3040. Rlating/Rspnding To Cmnty Nds. 3 Credits.**

Students engage directly with community organizations or schools to provide services identified through conversations with community partners. In addition to field work, students engage in modules and course meetings to guide their learning, critical reflection, and the creation of a semester-long project in service to their host. Prerequisites: EDSP 1050 or ECLD 1560. Cross-listed with: ECLD 3040.

**EDSP 3110. Mtg Instrctl Needs All Stdnts. 3 Credits.**

The design and implementation of research-based practices supporting student achievement in inclusive settings. Explores research-based practices related to inclusion of students with disabilities in general education classrooms. Primary focus is on students with moderate to severe disabilities. Prerequisites: EDSP 1050; Special Education minor; or Instructor permission.

**EDSP 3120. Assessment in Special Ed. 3 Credits.**

Emphasizes professional, legal, and ethical practices related to assessment. Simulations, case study activities, and test administration activities are used to allow participants to gain an entry level proficiency in selecting, administering, scoring & interpreting results for the purposes of determining special education eligibility, informing decisions related to instruction and intervention within an MTSS. Prerequisites: EDSP 1050; Special Education minor licensure track; or Instructor permission.

**EDSP 3200. Preventing School Shootings. 3 Credits.**

Issues to be explored include historical perspectives on school safety, theories of sources of violence in schools and their merit, relationship building as an antecedent intervention, the intersection of social justice and the second amendment, and action steps to be taken to help prevent further school tragedies.

**EDSP 3220. Restorative Approaches Schools. 3 Credits.**

Examines the principles of restorative practices (RP) and contextual factors driving RP implementation in schools. Students will authentically engage with restorative approaches and explore the application of RP in school settings as part of a multi-tiered system of support, along with specific considerations for RP implementation with students with disabilities. Prerequisite: EDSP 2170.

**EDSP 3230. Collaboration & Communication in Sch & Com. 3 Credits.**

Focuses on the science of collaboration and communication and provide students the opportunities to learn about and apply collaborative theory to home, school and community settings. Prerequisite: EDSP 1050.

**EDSP 3250. Culture of Disability. 3 Credits.**

Examines the social and cultural experience of disability in different times and cultures. As an introduction to Disability Studies, topics covered will include foundational concepts/vocabulary, the influence of cultural beliefs, personal narratives, education, healthcare, social services, self-advocacy and the disability rights movement. Pre/Co-requisites: EDSP 1050, ASL 1990; or Instructor permission. Cross-listed with: CSD 3200. Catamount Core: D2.

**EDSP 3899. Global Resilience Fam-Schl-Com. 3 Credits.**

Students travel outside of the continental US to gain a global perspective culturally diverse strategies for building resilience, enhancing equity, and responding to trauma and adversity. Prerequisites: EDSP 1050, EDSP 2170, minimum Junior standing, and Instructor permission.

**EDSP 3900. Early Lit and Math Curriculum. 3 Credits.**

Study of curriculum and technology areas related to development, adaptation, and assessment of early literacy and mathematics instruction for elementary age students with disabilities. Prerequisite: Instructor Permission.

**EDSP 3980. Laboratory Exp in Education. 1-6 Credits.**

Credit as arranged.

**EDSP 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDSP 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**EDSP 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDSP 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDSP 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SPEECH (SPCH)****Courses****SPCH 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**SPCH 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**SPCH 1400. Effective Speaking. 3 Credits.**

Fundamentals course in effective, informative, and persuasive public speaking and critical listening. Includes theory and practice. Catamount Core: OC.

**SPCH 1410. Argument & Advocacy. 3 Credits.**

Introduces argumentation theory and develops advocacy and critical reasoning skills through writing and oral argument. Students will recognize and craft organized, well-supported, and ethical arguments in the context of controversial social issues. Catamount Core: OC.

**SPCH 1610. Social Justice Debates. 3 Credits.**

Grapple with complex issues affecting communities by engaging in dialogic learning through organized debates on social justice topics. Provides skills in research and informational literacy, written and oral communication, perspective taking and stakeholder analysis, and listening in addition to engagement with contemporary social justice theories, perspectives, and topics. Catamount Core: D1, OC.

**SPCH 1615. Debating Global Issues. 3 Credits.**

Exploration of citizen advocacy through the vehicle of debating. Students will engage in: preparatory research, in-class debating and discussion, debate adjudication, and public debate.

**SPCH 1620. Debate Team. 1-3 Credits.**

Participation in the Lawrence Debate Union's intercollegiate competitive debate team. Students gain competency in oral communication, teamwork, critical thinking, problem/solving, argumentation and analysis, and advocacy by learning the fundamentals of debate through practice and skill-building; research and case-building; debate competition; public debates; and civic engagement. Prerequisite: Instructor permission.

**SPCH 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**SPCH 2415. Presidential Campaign Rhetoric. 3 Credits.**

Students learn about theories, style, construction, strategies, and the criticism and evaluation of rhetoric as applied to the presidential campaign. Prerequisites: SPCH 1400 or SPCH 1410.

**SPCH 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**SPCH 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**SPCH 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**SPCH 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SPCH 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SPCH 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**SPCH 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**STATISTICS (STAT)****Courses****STAT 1050. Stat & Social Justice. 3 Credits.**

Introduction to probabilistic and statistical reasoning, including applications to current scientific/social issues, with special focus on issues of poverty, criminal justice, environmental justice, and voting, and impact on diverse and disadvantaged populations. Prerequisites: Two years High School algebra; no credit for Sophomores, Juniors, or Seniors in the mathematical and engineering sciences; credit for only one of STAT 051 and STAT 1050. Catamount Core: D2, QD, QR.

**STAT 1110. Elements of Statistics. 3 Credits.**

Basic statistical concepts, methods, and applications, including correlation, regression, confidence intervals, and hypothesis tests. Prerequisites: Two years of high school algebra. Catamount Core: QD, QR.

**STAT 1410. Basic Statistical Methods 1. 3 Credits.**

Foundational course for students taking further quantitative courses. Exploratory data analysis, probability distributions, estimation, hypothesis testing. Introductory regression, experimentation, contingency tables, and nonparametrics. Computer software used. Credit not awarded for more than one of STAT 1410 or STAT 2430. Catamount Core: QD, QR.

**STAT 1870. Intro to Data Science. 3 Credits.**

Basic techniques of data harvesting and cleaning; association rules, classification, clustering; analyze, manipulate, visualize data using programming languages. Basic principles of probability and statistical modeling/inference to make meaning out of large datasets. No credit given after STAT 3000 or greater. Cross-listed with: CS 1870. Catamount Core: QD, QR.

**STAT 1990. Special Topics. 1-18 Credits.**

Lectures, reports, and directed readings at an introductory level. Prerequisite: As listed in schedule of courses.

**STAT 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**STAT 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**STAT 2430. Statistics for Engineering. 3 Credits.**

Data analysis, probability models, parameter estimation, hypothesis testing. Multi-factor experimental design and regression analysis. Quality control, SPC, reliability. Engineering cases and project. Statistical analysis software. Credit not awarded for both STAT 1410 and STAT 2430. Prerequisites: MATH 1224 or MATH 1234. Catamount Core: QD, QR.

**STAT 2510. Applied Probability. 3 Credits.**

Foundations of probability, conditioning, and independence. Business, computing, biological, engineering reliability, and quality control applications. Classical discrete and continuous models. Pseudo-random number generation. Prerequisites: MATH 1224 or MATH 1248 or MATH 1242. Catamount Core: QR.

**STAT 2830. Basic Statistical Methods 2. 3 Credits.**

Quantitative statistical methodologies useful across disciplines. Analysis of variance, multiple and logistic regression, time series analysis, non-parametric methods, Bayesian statistics and decision analysis. Prerequisite: A grade of C or better in STAT 1410, STAT 2430, or STAT 3210. Catamount Core: QR.

**STAT 2870. Basics of Data Science. 3 Credits.**

Basic data science techniques, from import to cleaning to visualizing and modeling, using the R language. Machine learning methods include regression, classification and clustering algorithms. Programming methods include user-defined functions. Prerequisites: STAT 1110, STAT 1410, STAT 2430, or STAT 3210. Cross-listed with: CS 2870. Catamount Core: QR.

**STAT 2990. Special Topics. 1-18 Credits.**

Lectures, reports, and directed readings. Prerequisite: As listed in schedule of courses.



**STAT 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**STAT 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisites: Junior standing; permission of Program Director.

**STAT 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**STAT 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**STAT 3000. Med Biostat&Epidemiology. 3 Credits.**

Introductory design and analysis of medical studies. Epidemiological concepts, case-control and cohort studies. Clinical trials. Students evaluate statistical aspects of published health science studies. Prerequisite: STAT 1110, STAT 1410, STAT 2430, or STAT 3210. Catamount Core: QR.

**STAT 3010. Stat Computing&Data Anlysis. 3 Credits.**

Fundamental data processing, code development, graphing and analysis using statistical software packages, including SAS and R. Analysis of data and interpretation of results. Project-based. Prerequisite: STAT 1410, STAT 2430, or STAT 3210; or STAT 1110 with Instructor permission. Catamount Core: QR.

**STAT 3210. Advanced Statistical Methods. 3 Credits.**

Multiple regression and correlation. Basic experimental design. Analysis of variance (fixed, random, and mixed models). Analysis of covariance. Statistical Software usage. Prerequisite: STAT 2830 with a grade of C or better; STAT 3010 recommended. Catamount Core: QR.

**STAT 3240. Stats for Quality&Productvty. 3 Credits.**

Statistical process control; Shewhart, cusum and other control charts; process capability studies. Total Quality Management. Acceptance, continuous, sequential sampling. Process design and improvement. Case studies. Prerequisite: STAT 1410, STAT 2430, or STAT 3210. Catamount Core: QR.

**STAT 3410. Statistical Inference. 3 Credits.**

Introduction to statistical theory: related probability fundamentals, derivation of statistical principles, and methodology for parameter estimation and hypothesis testing. Prerequisites: A grade of C or better in STAT 2510 or STAT 5510; STAT 1410 or equivalent; MATH 2248. Catamount Core: QR.

**STAT 3870. Data Science I - Pinnacle. 3 Credits.**

Data harvesting, cleaning, and summarizing; working with non-traditional, non-numeric data (social network, natural language textual data, etc.); scientific visualization; advanced data pipelines; Project-based. Prerequisites: CS 1210; STAT 1410 or STAT 2430; CS 2100 and MATH 2522 or MATH 2544 recommended. Cross-listed with: CS 3870. Catamount Core: QR.

**STAT 3880. Statistical Learning. 3 Credits.**

Statistical learning methods and applications to modern problems in science, industry, and society. Topics include: linear model selection, cross-validation, lasso and ridge regression, tree-based methods, bagging and boosting, support vector machines, and unsupervised learning. Prerequisites: STAT 3210 or equivalent. Cross-listed with: CS 3880. Catamount Core: QR.

**STAT 3990. Special Topics. 1-18 Credits.**

For advanced students. Lectures, reports, and directed readings on advanced topics. Prerequisite: As listed in schedule of courses.

**STAT 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**STAT 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**STAT 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**STAT 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**STAT 3996. Undergrad Honors Thesis. 1-8 Credits.**

A program of reading, research, design, and analysis culminating in a written thesis and oral defense. Honors notation appears on transcript and Commencement Program. Contact Statistics Program Director for procedures.

**STAT 4810. Capstone Experience. 1-3 Credits.**

Intensive experience in carrying out a complete statistical analysis for a research project in substantive area with close consultation with a project investigator. Project-based. Prerequisites: CS 1210; STAT 3210 or STAT 5210; STAT 3010 or STAT 5010; Instructor permission.

## SURGERY (SURG)

### Courses

**SURG 1990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**SURG 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**SURG 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SURG 2990. Special Topics. 1-18 Credits.**

See schedule of courses for specific titles.

**SURG 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**SURG 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SURG 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**SURG 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**SURG 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Instructor permission.

**SURG 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**SURG 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**TEACHER EDUCATION (EDTE)****Courses****EDTE 1010. Teaching to Make a Difference. 3 Credits.**

This course serves as an introduction to the field of education and how teaching can foster a more just and humane world.

**EDTE 1610. Foundations of PBE. 4 Credits.**

Introduces the principles and practices of place-based education. Students learn to design place-based curriculum and educative materials from an interdisciplinary analysis of specific places. Cross-listed with: NR 1610. Catamount Core: SU.

**EDTE 1740. Science of Sustainability. 3 Credits.**

Students become familiar with conversations and issues surrounding sustainability, while gaining a deeper understanding of how it applies to elementary and middle level science education. Catamount Core: SU.

**EDTE 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EDTE 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDTE 2889. Resilience-based Outdoor Educa. 4 Credits.**

Builds on theories of experiential education and social-ecological systems resilience to provides students with knowledge and skills related to outdoor education. Students will learn resilience-based approaches to leading groups in outdoor settings. Includes core DEI content (both principles and practices) related to critical, indigenous, and decolonizing perspectives on outdoor education.

**EDTE 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**EDTE 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDTE 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDTE 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDTE 3510. Place-Based Education Capstone. 3 Credits.**

The capstone experience for undergraduate students participating in the Place-Based Education Certificate Program; provides a structured opportunity for students to engage in dialogue and critical reflection, and to design a robust PBE experience in collaboration with a community partner. Prerequisites: EDTE 1610 or NR 1610; one of CDAE 2020, EDEC 2810, EDEL 3570, EDML 3890, PRT 2490. Pre/Co-requisites: Minimum Junior standing or Instructor permission.

**EDTE 3990. Special Topics. 1-18 Credits.**

See Schedule of Course for specific title.

**EDTE 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**EDTE 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**EDTE 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**THEATRE (THE)****Courses****THE 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**THE 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**THE 1030. Introduction to Theatre. 3 Credits.**

Overview of general theatre practices and theories, emphasizing history, script analysis, character development, and communicative skills directed toward a modern audience. Catamount Core: AH1.

**THE 1100. Intro to Acting. 3 Credits.**

Exercises to increase self-awareness and heighten perceptions of human behavior. Basics of script analysis and development of vocal and physical skills through practice and performance. Catamount Core: OC.

**THE 1150. Improvisation Workshop. 3 Credits.**

Instruction on methods and theories of improvisation as a means of developing character and authenticity for the stage as well as for social and professional contexts that require creative problem solving and collaboration. Catamount Core: OC.

**THE 1300. Fundamentals of Design. 3 Credits.**

Introduction to the basic techniques, concepts, and skills of theatrical design. Through analysis, research, writing, and design assignments, students will gain a deeper understanding of how designers contribute to the success of a performance and learn more about communication and collaboration within a creative team.

**THE 1310. Stagecraft: Lighting. 1 Credit.**

Lighting lab experience that provides the opportunity to learn and practice the technical aspects of lighting through hands-on production work. This course may be repeated for credit. Catamount Core: AH1.

**THE 1319. Fundamentals of Lighting. 0 or 4 Credits.**

Primary course in the area of stage lighting design and execution. Includes Lab.

**THE 1320. Stagecraft: Scenery. 1 Credit.**

A scene shop lab experience that provides the opportunity to learn and practice the technical aspects of scenery construction through hands-on production work. This course may be repeated for credit. Catamount Core: AH1.

**THE 1329. Fundamentals of Scenery. 0 or 4 Credits.**

A hands-on introduction to the theory and practical application of the scenic elements involved in play production (drawing, building, and painting techniques). Includes Lab.

**THE 1330. Stagecraft: Costumes. 1 Credit.**

A costume shop lab experience that provides the opportunity to learn and practice costume construction techniques through projects and hands-on production work. This course may be repeated for credit. Catamount Core: AH1.

**THE 1339. Fundamentals of Costuming. 0 or 4 Credits.**

Primary course in area of costume design and construction. Includes Lab.

**THE 1500. Dramatic Analysis. 3 Credits.**

Examination of structural characteristics of the basic forms and styles of drama and the manner in which they affect theatrical representation. Prerequisite: Sophomore standing and Instructor permission. Catamount Core: AH2.

**THE 1510. Diversity in US Theatre. 3 Credits.**

An exploration of plays, playwrights, performance artists, and creative production companies whose work explores topics, themes, and content centering the narratives and experiences of historically marginalized and presently underrepresented communities in U.S. theatre. Exact topics vary. Previous content has included works addressing race, ethnicity, gender, sexuality, disability, neurodivergence, body diversity, intersectionality among these, and more. Catamount Core: D1.

**THE 1520. Asian Performance Traditions. 3 Credits.**

Survey of traditional dance/theatre forms in Asia, including performance traditions from China, Korea, Japan, India, Indonesia and other locations, focusing on the religious, historical, and cultural backgrounds and their influences on contemporary performance. Cross-listed with: DNCE 1520. Catamount Core: D2.

**THE 1530. Performance and Society. 3 Credits.**

Study of the many facets of live performance. Application of critical theory and social frameworks to determine relevance and meaning in our historical moment. Investigation into how production translated from page to live performance and the complexities of artistic choices.

**THE 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific topics.

**THE 2110. Contemporary Scene Study. 3 Credits.**

Continuation of Intro to Acting. Development of acting techniques through intensive scene work: refining script analysis and performance skills using contemporary scenes. Prerequisites: THE 1100; minimum Sophomore standing.

**THE 2120. Speech & Voice for Actors. 3 Credits.**

Study of the basics of voice production and Standard American Speech; exercises and practice focusing on freeing the voice and developing good vocal habits. Prerequisite: THE 1100.

**THE 2130. Movement for Actors. 3 Credits.**

Development of physical freedom and articulate physical expression through techniques promoting relaxation, flexibility, strength, creative spontaneity, and purposeful movement. Techniques applied to short movement performances. Prerequisite: THE 1100 and Instructor permission.

**THE 2140. Topics in Monologue Studies. 3 Credits.**

Supports students in the craft of workshopping and presenting monologues for use in entire plays as well as extracted for use in audition environments. They will engage with various practices to help build the vocal, physical, and emotional life of a character, character analysis, object/space awareness toward fictional world-building, and other techniques. Prerequisite: THE 1100.

**THE 2160. Performing Musical Theatre. 3 Credits.**

Provides students with a sound foundation in the craft of musical theatre performance. Instruction guides students to connect vocally, emotionally, and physically to musical materials that reflect various historical periods and styles of musical theatre. Prerequisite: THE 1100.

**THE 2300. Stage Management. 3 Credits.**

Theory and practice for stage managing in the non-commercial theatre. Prerequisites: THE 1100; (THE 1300; THE 1310, THE 1320, or THE 1330) or (THE 1319, THE 1329, or THE 1339).

**THE 2310. Lighting Design. 3 Credits.**

Explores, through classroom instruction and projects, the development of lighting designs for a variety of live performance situations. Prerequisite: THE 1300.

**THE 2320. Scene Design. 3 Credits.**

A practical application of the elements, principles, and styles of theatrical stage design through research, sketching, and rendering techniques. Prerequisite: THE 1300.

**THE 2330. Costume Design. 3 Credits.**

Elements, principles, and styles of design applied to the visual creation of a dramatic character. Prerequisite: THE 1300.

**THE 2500. Issues in Theatre History. 3 Credits.**

Examination of a wide range of primary materials and debates in theater history. Allows students to explore cultural, political, and historical discussions in the field by putting past and present performance traditions and aesthetic theories in conversation. Prerequisite: THE 1500.

**THE 2519. Hist I:Class/Med/Ren Thtr. 3 Credits.**

A study of the theatrical rituals of Greece, Rome, and the Middle Ages leading to the reinvention of theatre in Renaissance Italy, England, and Spain. Prerequisite: THE 1500.

**THE 2600. Playwriting and Dramatic Forms. 3 Credits.**

Studies models of dramatic structure and contemporary concepts of writing for the stage and apply principles to the creation of original works. May be repeated once for credit. Prerequisite: THE 1500 or ENGL 1730; minimum Sophomore standing. Cross-listed with: ENGL 2750.

**THE 2700. Theatre Production Practicum. 1-3 Credits.**

Production-based experiential course that provides students the opportunity to learn and practice hands-on production work for theatre performances produced by the Theatre and Dance Program in the School of the Arts. May be repeated for credit. Prerequisite: Instructor permission. Catamount Core: AH1.

**THE 2710. Theatre Performance Practicum. 0.5-3 Credits.**

Performance-based experiential course for theatre performances produced by the Theatre and Dance Program in the School of the Arts. May be repeated for credit. Prerequisite: Instructor permission. Catamount Core: AH1.

**THE 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Instructor permission.

**THE 3109. Mask: Transformational Acting. 3 Credits.**

Mask is used to provoke actor's imagination through improvisation, physical gesture, creation of original works, and storytelling. Prerequisites: THE 1100, THE 2110, or Instructor permission.

**THE 3400. Directing. 3 Credits.**

Theory of theatrical directing, including script analysis; approaches to audition, rehearsal, and performance; coaching actors. Prerequisites: THE 1100, THE 1300, THE 1500, and 3 credits total of THE 2700 and THE 2710; and two of the following: THE 2110, THE 2300, THE 2310, THE 2320, THE 2330; minimum Junior standing; or Instructor permission.

**THE 3500. Theories of Performance. 3 Credits.**

Coverage of a range of analytical tools and performance frames, using one to explore, enliven, and challenge the other. The concept of performance is intended to be applied widely, covering modern and contemporary dance & dance-theatre, theatrical performance, Live Art, historical re-enactments, secular and sacred rituals, mediated performance, and performances of everyday life. Prerequisites: THE 2500; or DNCE 1500, DNCE 2600. Cross-listed with: DNCE 3500.

**THE 3519. History II:17th - 21st Century. 3 Credits.**

A study of historical context, theatrical conventions, and dramas representative of the restoration, sentimental neo classicism, romanticism, realism, and anti-realism to the contemporary. Prerequisite: THE 2519.

**THE 3700. Professional Preparation. 1-3 Credits.**

Topics include preparing for auditions, portfolio reviews, interviews, and research papers for entrance into graduate schools or professional theatre venues. Prerequisites: Minimum Junior standing, Instructor permission.

**THE 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Pre/co-requisite: Instructor permission only.

**THE 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**THE 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**THE 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**THE 4500. Theatre Senior Capstone. 3 Credits.**

Senior Theatre projects for students in the areas of acting, directing, playwriting, and stage management. Additional preparation: for Actors: THE 2110; for Stage Managers: THE 2300; for Playwrights: THE 2600; for Directors, THE 3400. Prerequisites: THE 1100, THE 1300, THE 1500, THE 2500; Senior standing; Instructor permission.

**THE 4509. Seminar - Design. 3 Credits.**

Senior Theatre projects for students in areas of design. Prerequisites: Senior standing; THE 1100, THE 1319, THE 1329, THE 1339, THE 1500, THE 2519, THE 3519; and THE 2310, THE 2320, or THE 2330; and by Instructor permission only.

**THE 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Pre/co-requisite: Instructor permission only.

**THE 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**THE 4996. Honors. 1-6 Credits.**

College honors thesis or other department/program honors, under the supervision of a faculty member. Offered at department discretion.

**VERMONT STUDIES (VS)****Courses****VS 1500. Sustainable Vermont. 3 Credits.**

Survey of the state's history, environment, energy use, politics, small towns, landscape, food systems, and culture. Includes field trips to Vermont landmarks and meeting some key Vermonters.

**VS 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**VS 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**VS 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**VS 1994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**VS 1995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**VS 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**VS 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion. Prerequisite: Nine hours of Vermont Studies; Junior/Senior standing.

**VS 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Declared minor in Vermont Studies.

**VS 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**VS 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Declared minor in Vermont Studies.

**VS 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Junior/Senior/Graduate standing.

**VS 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**VS 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Declared minor in Vermont Studies.

**VS 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**VS 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Declared minor in Vermont Studies.

**VS 4990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles. Prerequisite: Junior/Senior/Graduate standing.

**VS 4991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**VS 4993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**VS 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded.

**VS 4995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**WILDLIFE & FISHERIES BIOLOGY (WFB)****Courses****WFB 1740. Wildlife Conservation. 3 Credits.**

Historical and contemporary values of wildlife; impacts on habitats and populations; strategies for conservation, allocation, and use. Nonmajors only. Catamount Core: SU.

**WFB 1990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific title.

**WFB 1991. Internship. 1-3 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**WFB 1993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**WFB 2010. Methods Fisheries and Wildlife. 4 Credits.**

Familiarizes students with early-stage wildlife and fisheries biology techniques that are commonly used for both data collection and analysis; takes a multi-taxa approach to highlight key similarities and differences in habitat and life history that may influence how research and management studies are designed and conducted. Prerequisites: Wildlife and Fisheries Biology major; minimum Sophomore standing.

**WFB 2170. Scientific Writing and Interpr. 4 Credits.**

Focus on effective communication within the genre of scientific research by focusing on technical writing, revising and editing, interpreting data, creating figures and tables, critically reading and data mining the literature, and producing an original scientific research manuscript. Prerequisites: BIOL 1400 or BCOR 1400; Wildlife and Fisheries Biology majors; Minimum Sophomore standing. Catamount Core: WIL2.

**WFB 2300. Ornithology. 3 Credits.**

Taxonomy, classification, identification, morphology, physiology, behavior, and ecology of birds. Prerequisites: BIOL 1400 or BCOR 1400; BIOL 1450 or BCOR 1450.

**WFB 2310. Field Ornithology. 2 Credits.**

Identification and field studies of birds, emphasizing resident species. Two weeks in summer. Prerequisite: WFB 2300 Prerequisite: WFB 2300.

**WFB 2410. Field Herpetology. 4 Credits.**

Introduction to the identification, life histories, habitats, conservation, and field study of Vermont's reptiles and amphibians.

**WFB 2740. Prin of Wildlife Management. 3 Credits.**

Application of ecology and sociology to the management of wildlife populations and habitat; integration of wildlife management with demands for other resources; consideration of game species, endangered species, and biological diversity. Prerequisite: NR 2030 or BCOR 2100.

**WFB 2990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**WFB 2991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**WFB 2993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**WFB 2994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, Offered at department discretion.

**WFB 2995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small research projects under the supervision of a faculty member for which credit is awarded. Formal report required. Offered at department discretion.

**WFB 3240. Conservation Biology. 0 or 4 Credits.**

Conservation of biological diversity at genetic, species, ecosystem, and landscape levels. Emphasis on genetic diversity, population viability, endangered species, critical habitats, international implications. Discussion section covers basic genetic principles, population genetics, and population modeling. Prerequisites: NR 2030 or BCOR 2100; BIOL 1400 and BIOL 1450, or P BIO 1040, or BCOR 1400 and BCOR 1450.

**WFB 3610. Fisheries Biology & Techniques. 0 or 4 Credits.**

Introduction to freshwater fish, habitats, and life histories. Overview of fishery techniques, including sampling and assessment methods, stocking, harvest regulations, population and habitat evaluation. Prerequisites: BIOL 1400 or BCOR 1400 and BIOL 1450 or BCOR 1450.

**WFB 3710. Wetlands Wildlife Ecology. 4 Credits.**

Ecology, behavior, and population dynamics of wetland wildlife with emphasis on policy and management for waterfowl in North America.

**WFB 3990. Special Topics. 1-18 Credits.**

See Schedule of Courses for specific titles.

**WFB 3991. Internship. 1-18 Credits.**

On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**WFB 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**WFB 3994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded. Offered at department discretion.

**WFB 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**WFB 3996. Wildlife & Fisheries Honors. 1-6 Credits.**

Honors project dealing with wildlife or fisheries biology.

**WFB 4320. Ichthyology. 3 Credits.**

Biology of fishes. Focus is on form and function, morphology, physiology, behavior, life history, and ecology of modern fishes. Prerequisites: BIOL 1400 and BIOL 1450, or BCOR 1400 and BCOR 1450; Junior standing. Alternate years.

**WFB 4610. Fisheries Management. 3 Credits.**

Principles of fisheries management, including population assessment, analytical methods, harvest allocation models, human dimensions, policy and emerging issues. Prerequisites: BIOL 1400 or BCOR 1400; BIOL 1450 or BCOR 1450; WFB 3610.

**WFB 4750. Wildlife Behavior. 3 Credits.**

Behavior and social organization of game and nongame species as they pertain to population management. Prerequisites: BIOL 1400 or BCOR 1400, BIOL 1450 or BCOR 1450, NR 2030 or BCOR 2100.

**WFB 4830. Terrestrial Wildlife Ecology. 4 Credits.**

Wildlife ecology with an emphasis on the management and conservation of species, populations, and ecosystems. Prerequisite: WFB 2740, and NR 2030 or BCOR 1450.

**WFB 4990. Special Topics. 0-6 Credits.**

See Schedule of Courses for specific titles.

**WORLD LITERATURE (WLIT)****Courses****WLIT 1010. Topics In: First-Year Seminar. 3 Credits.**

Intensive first-year seminar focused on specific themes and/or disciplinary perspectives. Emphasis on developing critical reading and writing skills, substantive revision, information literacy, and analytical thinking. First-year seminars are frequently organized to meet one of the disciplinary Catamount Core requirements. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: WIL1.

**WLIT 1020. Topics In: LASP Seminar. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Co-requisite: Enrollment in the appropriate Liberal Arts Scholars Program. Catamount Core: WIL1.

**WLIT 1022. Topics In: LASP: Div Human Exp. 3 Credits.**

Intensive course in a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Part of an integrated first-year experience in which students take 2-4 classes exploring aesthetic, humanistic, social, linguistic, environmental, or scientific issues. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: D2, WIL1.

**WLIT 1100. Literatures of Globalization. 3 Credits.**

How writers imagine themselves and their relationship with others in a globalizing world. Catamount Core: AH2, D2.

**WLIT 1150. Topics in Holocaust Lit in Tr. 3 Credits.**

Exploration of literature related to the Holocaust produced in a variety of genres and contexts. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**WLIT 1155. Italians and the Holocaust. 3 Credits.**

Investigation of Italian literary and filmic representations of the Holocaust and the historical climate that led to it through the analysis of works by authors and directors such as Bassani, Levi, De Sica, and Wertmueller, among others. Italian Jewish identity and Italy's responsibilities in the Holocaust will be addressed considering the most recent scholarship. Catamount Core: AH2.

**WLIT 1200. Topics in German Lit in Tr. 3 Credits.**

Selected topics in German literature. Individual courses might focus on particular genres (e.g. the German film, Proverbs), literary movements (e.g. German Romanticism), or periods (e.g. Enlightenment, Holocaust). May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**WLIT 1250. Topics in Russian Lit in Tr. 3 Credits.**

Topics such as Russian author(s) (e.g. Dostoevsky, Tolstoy), genre (e.g. the Russian novel), literary school (e.g. Russian Formalism), or period (19th or 20th century literature). May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Catamount Core: AH2.

**WLIT 1350. Topics in Japanese Lit in Tr. 3 Credits.**

Selected topics in Japanese literature. Readings and discussion of representative works in English translation. No knowledge of Japanese required. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**WLIT 1400. Topics in French Lit in Tr. 3 Credits.**

Selected topics in French literature. Readings and discussion of representative works in English translation. No knowledge of French required. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**WLIT 1450. Topics in Italian Lit in Tr. 3 Credits.**

Selected topics in the literature of Italy. Readings and discussion of representational work in English translation. No knowledge of Italian is necessary. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**WLIT 1500. Topics in Spanish Lit in Tr. 3 Credits.**

Selected topics in Spanish literature. Readings and discussion of representative works in English translation. No knowledge of Spanish required. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years.

**WLIT 1990. Special Topics. 1-18 Credits.**

Special topics in literary studies. Individual courses might include comparative study of particular literary genres, periods, authors or works from varied international literatures.

**WLIT 2200. Topics in German Lit in Tr. 3 Credits.**

Topics such as German author(s), genre, literary movement, or theme such as Goethe, proverbs, Expressionism, Faust, Holocaust, or the German film. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Pre/Co-requisites: A course that meets the WIL1 General Education requirement.

**WLIT 2250. Topics in Russian Lit in Tr. 3 Credits.**

Topics such as Russian author(s) (e.g. Dostoevsky, Tolstoy), genre (e.g. the Russian novel), literary school (e.g. Russian Formalism), or period (19th or 20th century literature). May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Pre/Co-requisite: A course that meets the WIL1 General Education requirement.

**WLIT 2310. Classical Chinese Lit in Tr. 3 Credits.**

A survey course on classical Chinese literature. Knowledge of Chinese language is preferred but not required. Pre/Co-requisite: A course that meets the WIL1 General Education requirement. Catamount Core: D2.

**WLIT 2350. Topics in Japanese Lit in Tr. 3 Credits.**

Selected topics in Japanese literature at the intermediate level. Readings and discussion of representative works in English translation. No knowledge of Japanese required. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Pre/Co-requisite: A course that meets the WIL1 General Education requirement.

**WLIT 2360. Japanese Lit in Tr: Premodern. 3 Credits.**

Exploration of premodern Japanese literary works in translation, including poetry, prose, and drama, from the eighth to the mid-nineteenth century. Pre/Co-requisite: A course that meets the WIL1 General Education requirement. Catamount Core: D2.

**WLIT 2370. Japanese Lit in Tr: Modern. 3 Credits.**

Exploration of modern and contemporary Japanese literary works in translation from the late nineteenth to early twenty-first century. Pre/Co-requisite: A course that meets the WIL1 General Education requirement. Catamount Core: D2.

**WLIT 2375. Japanese Contemporary Fiction. 3 Credits.**

Exploration of Japanese writing in translation in a variety of genres and style, mainly novels and short stories, published since the 1980s. Pre/Co-requisite: A course that meets the WIL1 General Education requirement. Catamount Core: D2.

**WLIT 2400. Topics in French Lit in Tr. 3 Credits.**

Studies of English translations of literature originally published in French. May be repeated for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Pre/Co-requisite: A course that meets the WIL1 General Education requirement.

**WLIT 2450. Topics in Italian Lit in Tr. 3 Credits.**

Readings and discussion of representational work in English translation. No knowledge of Italian is necessary. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Pre/Co-requisite: A course that meets the WIL1 General Education requirement.

**WLIT 2500. Topics in Spanish Lit in Tr. 3 Credits.**

Selected topics in Spanish literature. Readings and discussion of representative works in English translation. No knowledge of Spanish required. May repeat for credit with different content. Topics vary by offering; periodic offering at intervals that may exceed four years. Pre/Co-requisite: A course that meets the WIL1 General Education requirement.

**WLIT 2990. Special Topics. 1-18 Credits.**

Special topics in literary studies. Individual courses might include comparative study of particular literary genres, periods, authors or works from varied international literatures. Prerequisite: Sophomore standing.

**WLIT 3990. Special Topics. 1-18 Credits.**

Special topics in literary studies. Individual courses might include comparative study of particular literary genres, periods, authors, or works from varied international literatures. Prerequisite: Sophomore standing.



**WLIT 3991. Internship. 1-18 Credits.**

An on-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

**WLIT 3993. Independent Study. 1-18 Credits.**

A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting? under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**WLIT 3995. Undergraduate Research. 1-18 Credits.**

Undergraduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

**WLIT 4990. Special Topics. 1-18 Credits.**

Special topics in literary studies. Individual courses might include comparative study of particular literary genres, periods, authors, or works from varied international literatures. Prerequisite: Sophomore standing.

**WLIT 4994. Teaching Assistantship. 1-3 Credits.**

Undergraduate student service as a teaching assistant, usually in an introductory level course in the discipline, for which credit is awarded.

**CATAMOUNT CORE CURRICULUM**

**TO VIEW THE CATAMOUNT CORE CURRICULUM (CCC) COURSES, SELECT "MENU" AND THE APPROPRIATE CCC CATEGORY**

All undergraduate degree students matriculating in Fall 2023 or later are required to successfully complete the Catamount Core Curriculum Requirements.

The Catamount Core Curriculum is designed to expose students to the intellectual breadth of the liberal arts, develop the skills needed to integrate and apply diverse areas of knowledge, and build the foundations for lifelong learning and active participation in local and global communities.

The Catamount Core Curriculum is made up of 42 credits in courses distributed across three main areas: LIBERAL ARTS (21 credits); CORE SKILLS (9 credits); and COMMON GROUND VALUES (12 credits).

Students will be able to take courses that fulfill more than one category BUT they MUST still take at least 40 unique credits of courses that have been approved to fulfill Catamount Core Curriculum requirements.

**CATAMOUNT CORE CURRICULUM REQUIREMENTS**

<b>LIBERAL ARTS (21 CREDITS)</b>	
Arts & Humanities: 6 credits from any of the following: AH1-Arts; AH2-Literature; AH3-Humanities <sup>1</sup>	

Social Sciences: 6 credits from S1 courses	
Natural Sciences: 6 credits from N1 (no lab) or N2 (lab) courses <sup>1</sup>	
Mathematics: 3 credits from MA courses	

<b>CORE SKILLS (9 CREDITS)</b>	
Quantitative & Data Literacy: 3 credits from QD courses	
Writing & Information Literacy I: 3 credits from WIL1 courses	
Writing & Information Literacy Tier 2: 3 credits from WIL2 -or- OC courses	

<b>COMMON GROUND VALUES (12 CREDITS)</b>	
Diversity: 6 credits from D1 or D2 courses, including at least 3 D1 credits	
Sustainability: 3 credits from SU courses	
Global Citizenship: 3 credits from GC1 or GC2 courses	

<sup>1</sup> The General Education requirement is 6 credits overall; individual school or college curricula may specify that the requirements should be distributed across the subcategories in particular ways.

**CCC: LIBERAL ARTS**

**ARTS & HUMANITIES**

Students will take 6 credits for the Arts and Humanities requirement. Individual school or college curricula may specify that the requirements should be distributed across three subcategories in particular ways.

**Arts (AH1)**

Arts focus on the understanding, analysis, and production of creative works in a variety of forms, including dance, multimedia, music, theater, visual arts, and creative writing, among others. (The analysis and interpretation of literary works is covered in the separate AH2: Literature requirement.) While some classes focus on the development of artistic practices within specific forms and genres, others use critical theories to examine the meanings, cultural contexts, and historical development of artistic works. Together they enable students to recognize different artistic traditions, examine individual art works closely using appropriate methods, express their creativity through the rigorous practice of a particular artistic mode, and think critically about artistic works as they relate to different aspects of society and history, including the examination of practices and problems.

Arts (AH1) (p. 202)

**LITERATURE (AH2)**

Literature focuses on the understanding and analysis of creative literary works. Classes use critical theories to examine the meanings, cultural contexts, and historical development of literary works. They enable students to recognize different literary traditions, examine

individual literary works closely using appropriate methods, and think critically about literary works as they relate to different aspects of society and history, including the examination of practices and problems.

Literature (AH2) (p. 204)

### HUMANITIES (AH3)

The humanities involve the study of past and present human thought about the way the world works and how people should behave, exploring big questions with which human cultures have grappled for centuries. The study of the humanities helps students to understand what it means to be human and how the past has shaped the present, building skills in using primary source evidence to construct rational arguments, and expanding capacity to empathize with other people.

Humanities (AH3) (p. 205)

### SOCIAL SCIENCES

Students will take 6 credits for the Social Science requirement, to be fulfilled by taking approved courses with the Social Science (S1) designation.

The social sciences focus on how individuals, groups, and institutions affect and interact with each other. Through systematic investigation, social scientists generate explanatory frameworks for understanding human behavior, action, and social practices. Studying social science prepares students to examine past and present social problems; to think critically about individual, local, regional, and global contexts; and to improve societal well-being.

Social Sciences (S1) (p. 208)

### NATURAL SCIENCES

Students will take 6 credits for the Natural Science requirement, to be fulfilled by taking either N1 or N2 approved courses. Colleges and Schools may implement specific requirements or pathways to fulfilling these requirements.

In natural sciences courses, students become familiar with scientific thought, observation, experimentation, and formal hypothesis testing. They develop the skills necessary to make informed judgments about scientific information and arguments related to the natural world. Students also gain the ability to assess the impacts of our expanding scientific knowledge and technology on the diversity of life on Earth, and the quality of life for our own species. All courses provide experiences with the methods of scientific inquiry used to develop new knowledge about the natural world.

N1 courses do not include a lab. N2 courses have a laboratory component.

Natural Science without Lab (N1) (p. 206)

Natural Science with Lab (N2) (p. 207)

### PURE MATHEMATICS

Students will take 3 credits to fulfill the Pure Mathematics Requirement, in courses approved as MA courses.

Familiarity with the language and concepts of mathematics fosters a full appreciation of our world, and is an integral component of the Liberal Arts; the phrase “Math is Everywhere” is true only to the extent that one knows where and how to look. The courses fulfilling this requirement help guide students in developing conceptual understanding of mathematics through engagement with the language of mathematics and processes of mathematical operations. In addition to illustrating the universality and beauty of mathematics, these courses will give student practice in constructing and critiquing arguments through mathematics.

Pure Mathematics (MA) (p. 206)

### ARTS (AH1)

Arts focus on the understanding, analysis, and production of creative works in a variety of forms, including dance, multimedia, music, theater, visual arts, and creative writing, among others. (The analysis and interpretation of literary works is covered in the separate AH2: Literature requirement.) While some classes focus on the development of artistic practices within specific forms and genres, others use critical theories to examine the meanings, cultural contexts, and historical development of artistic works. Together they enable students to recognize different artistic traditions, examine individual art works closely using appropriate methods, express their creativity through the rigorous practice of a particular artistic mode, and think critically about artistic works as they relate to different aspects of society and history, including the examination of practices and problems.

Code	Title	Hours
ARTH 1410	Art History I	3
ARTH 1420	Art History II	3
ARTS 1100	Drawing	4
ARTS 1400	Perspectives on Art Making	4
ARTS 1600	4D: Sound, Video, Performance	3
CAS 1701	Topics In: The Arts	3
DNCE 1110	Yoga for Performance	1
DNCE 1120	Pilates	1
DNCE 1200	Movement & Improvisation	3
DNCE 1400	Ballet: Foundations	2
DNCE 1410	Hip Hop: Foundations	2
DNCE 1500	Dance History & Legends	3
DNCE 2200	Contact Improvisation	2

DNCE 2700	Dance Production Practicum	1-3	MU 1770	Intro to Music Technology	3
DNCE 2710	Dance Performance Practicum	1-3	MU 2310	Harmony and Form I	3
DNCE 2720	Site Performance Practicum	1-3	MU 2313	Harmony and Form II	3
DNCE 2730	Dance Repertory	1	MU 2320	Jazz Harmony	3
DNCE 3710	Supplemental Studio Practice	1	MU 2770	Creating Music for Video	3
EDEC 2130	Creative Arts and Movement	3	MU 3310	Chromatic Harmony, Large Forms	3
ENGL 1017	Topics In: FYS: Writing	3	MU 3313	Post-19c Theory and Practice	3
ENGL 1702	Topics in Intro Writing: Arts	3	MU 3320	Arranging for Jazz Orchestra	3
ENGL 1705	Topics in Intro Writing: Sust	3	MU 3325	Jazz Small Group Composition	3
ENGL 1730	Intro to Creative Writing	3	MUE 2111	Small Ensembles	1
ENGL 1740	The Art of the Essay	3	MUE 2125	Jazz Vocal Ensemble	1
ENGL 2702	Topics in Writing: Arts	3	MUE 2200	University Concert Band	1-2
FTS 1022	Topics In: LASP: Div Human Exp	3	MUE 2300	University Concert Choir	1-2
FTS 1300	Topics in The TV Series	0,3	MUE 2400	University Symphony Orchestra	1-2
FTS 1320	Topics in Film Genres	0,3	MUE 2500	University Jazz Ensemble	1-2
FTS 1400	History of Television	0,3	MUE 3111	Advanced Small Ensembles	1
FTS 1420	Classical Cinema	0,3	MUE 3200	Vermont Wind Ensemble	1
FTS 1430	Contemporary Cinema	0,3	MUE 3300	Catamount Singers	1
GERM 3510	Screening Berlin	3	MUL 1111	Beginning Group Lessons: Piano	1
GERM 4500	History of German Cinema	3	MUL 1113	Beginning Grp Lessons: Guitar	1
MU 1110	Intro to Western Music	3	MUL 1115	Beg Grp Less: Taiko Japan Drum	1
MU 1120	Intro to Jazz History	3	MUL 1200	Basic Private Lessons	1
MU 1140	Blues & Related Traditions	3	MUL 1300	Private Lessons: Non-Majors	1-2
MU 1143	US Popular Music Since 1989	3	MUL 1500	Required Secondary Lessons	1,2
MU 1145	History of Rock and Roll	3	MUL 1600	Elective Secondary Lessons	1,2
MU 1147	Music & Culture: New Orleans	3	MUL 1700	Basic Private Lessons: MTB	1-2
MU 1170	Intro World Music Cultures	3	MUL 2111	Piano Proficiency I	1
MU 1175	Music of Latin Am & Carib	3	MUL 2112	Piano Proficiency II	1
MU 1310	Music Theory Fundamentals	3	MUL 2113	Piano Proficiency III	1
			MUL 2121	Group Jazz Piano I	1
			MUL 2122	Group Jazz Piano II	1
			MUL 2300	Accompanying	1-2

MUL 2400	Private Lessons: MU Minors	1-2
MUL 2500	Private Lessons: MU Majors	1,2
MUL 4500	Adv Private Lessons: MU Majors	1,2
THE 1030	Introduction to Theatre	3
THE 1310	Stagecraft: Lighting	1
THE 1320	Stagecraft: Scenery	1
THE 1330	Stagecraft: Costumes	1
THE 2700	Theatre Production Practicum	1-3
THE 2710	Theatre Performance Practicum	0.5-3

## LITERATURE (AH2)

Literature focuses on the understanding and analysis of creative literary works. Classes use critical theories to examine the meanings, cultural contexts, and historical development of literary works. They enable students to recognize different literary traditions, examine individual literary works closely using appropriate methods, and think critically about literary works as they relate to different aspects of society and history, including the examination of practices and problems.

Code	Title	Hours
CLAS 1620	Mythology	3
CLAS 1640	Myths/Legends Trojan War	3
CLAS 2610	Comparative Epic	3
CLAS 2640	The Classics Now and Then	3
ENGL 1102	AP English Lit & Comp	3
ENGL 1110	Topics in British Literature	3
ENGL 1112	British Literature I	3
ENGL 1114	British Literature II	3
ENGL 1120	Topics in Amer Lit & Culture	3
ENGL 1122	American Literature I	3
ENGL 1124	American Literature II	3
ENGL 1160	Introduction to Poetry	3
ENGL 1180	Topics in Sci Fict & Fantasy	3
ENGL 1205	Topics in Sustainability & Lit	3
ENGL 1210	Topics in Race & Ethnic in Lit	3

ENGL 1215	Topics in Native American Lit	3
ENGL 1220	Topics in Afr Am Lit & Culture	3
ENGL 1240	Topics in Post-Colonial Lit	3
ENGL 1270	Topics in Gender/Sexuality Lit	3
ENGL 1280	Women in Literature	3
ENGL 1500	Intro to Literary Studies	3
ENGL 2000	Literary Theory	3
ENGL 2216	US Latino Writers	3
FREN 3610	French Lit in Context I	3
FREN 3620	French Lit in Context II	3
GERM 3605	Im/Mobility in German Lit	3
GERM 3643	Guilt & Shame in German Lit	3
GERM 3646	Exile and Migration	3
GERM 3649	POC in Germany and Austria	3
GERM 3655	German Graphic Novel	3
GERM 4605	Fatal Attractions	3
ITAL 3520	Early Italian Lit in Context	3
ITAL 3565	Italian Fairy Tales	3
NR 2110	Kincentric Ecology	3
NR 2650	Enviro Literature, Arts, Media	3
SPAN 3610	Analyzing Hispanic Literatures	3
SPAN 3615	Spain: Diversity & Expansion	3
SPAN 3620	Spain: Monarchy to Democracy	3
SPAN 3665	LatAm: Colonialism&Resistance	3
SPAN 3670	LatAm: Revolutn&Globalizatn	3
THE 1500	Dramatic Analysis	3
WLIT 1100	Literatures of Globalization	3
WLIT 1155	Italians and the Holocaust	3
WLIT 1250	Topics in Russian Lit in Tr	3

**HUMANITIES (AH3)**

The humanities involve the study of past and present human thought about the way the world works and how people should behave, exploring big questions with which human cultures have grappled for centuries. The study of the humanities helps students to understand what it means to be human and how the past has shaped the present, building skills in using primary source evidence to construct rational arguments, and expanding capacity to empathize with other people.

Code	Title	Hours
ANTH 1140	Food and Culture	3
CAS 1710	Drugs, Demons, & Dancing	3
CLAS 1300	Topics in Ancient History	3
CLAS 1320	Greek History/ Civilization I	3
CLAS 1360	Roman History/ Civilization I	3
CLAS 1520	Etymology	3
CLAS 2320	Greek History/ Civilization II	3
CLAS 2360	Roman History/ Civilization II	3
CLAS 2581	Sustainability Cultural Hst	3
CLAS 3300	Topics in Ancient History	3
CLAS 3505	Classics and Racism in US	3
CLAS 3540	Topics in Gender & Sexuality	3
CLAS 3550	Topics in Ancient Philosophy	3
HST 1130	AP World History	3
HST 1160	AP US History	3
HST 1170	AP European History	3
HST 1310	Global History to 1500	3
HST 1315	Global History since 1500	3
HST 1370	Global Environmental History	3
HST 1410	Colonialism and Africa	3
HST 1422	Hst Islam&Mid East to 1258	3
HST 1425	Hst Islam&Mid East since 1258	3
HST 1440	History of China and Japan	3

HST 1475	Modern Latin American History	3
HST 1525	North American Indian History	3
HST 1610	US History to 1865	3
HST 1615	US History since 1865	3
HST 1700	Topics in European History	3
HST 1710	Early Europe	3
HST 1715	Modern Europe	3
HST 2685	Topics in Diplomatic History	3
JS 1500	Jews and Judaisms	3
MU 2110	Hist Western Classical Music	3
PHIL 1110	God, Morality, Mind	3
PHIL 1120	The Good Place	3
PHIL 1548	Marginalized Ident & Priv	3
PHIL 1600	Ethics	3
PHIL 1635	Ethics of Eating	3
PHIL 1750	Philosophy East & West	3
POLS 1012	FYS Intro to Political Theory	3
POLS 1200	Intro to Political Theory	3
POLS 2212	History of Political Thought 2	3
POLS 2220	American Political Thought	3
POLS 2230	Democratic Theory	3
REL 1050	Religion, Politics, & Power	3
REL 1210	Introducing Hinduism	3
REL 1230	Introducing Islam	3
REL 1240	Jews and Judaisms	3
REL 1250	What is the Bible?	3
REL 1310	Religions in Asia	3
REL 1355	Topics in Rel & Race in US	3
REL 1605	Comparing Religions	3
REL 1620	Religion and Globalization	3
REL 1650	Religion, Health, & Healing	3
REL 2050	Interpretation of Religion	3
REL 2220	Buddhist Traditions	3
REL 2235	Islam and Modernity	3
REL 2238	Islam and Race	3

REL 2245	Topics in Jewish Traditions	3
REL 2310	Religion & Modernity in E Asia	3
REL 2350	Religion in America	3
REL 2600	Topics in Problems in Religion	3

## PURE MATHEMATICS (MA)

Familiarity with the language and concepts of mathematics fosters a full appreciation of our world, and is an integral component of the Liberal Arts; the phrase “Math is Everywhere” is true only to the extent that one knows where and how to look. The courses fulfilling this requirement help guide students in developing conceptual understanding of mathematics through engagement with the language of mathematics and processes of mathematical operations. In addition to illustrating the universality and beauty of mathematics, these courses will give student practice in constructing and critiquing arguments through mathematics.

Students will take 3 credits to fulfill the Pure Mathematics Requirement, in courses approved as MA courses.

Code	Title	Hours
EDSC 2570	Intro to Teaching Math	3
LING 2630	Semantics	3
MATH 1077	Exploring Modern Mathematics	3
MATH 1088	Numbers for Naturalists	3
MATH 1111	Elementary School Math	3
MATH 1212	Fundamentals of Calculus I	3
MATH 1224	Fundamentals of Calculus II	3
MATH 1234	Calculus I	4
MATH 1242	Transitional Calculus	5
MATH 1248	Calculus II	4
MATH 2055	Fundamentals of Mathematics	3
MATH 2248	Calculus III	4
MATH 2468	Real Anlys in One Variable	3
MATH 2522	Applied Linear Algebra	3
MATH 2544	Linear Algebra	3
MATH 2551	Groups and Rings	3
MATH 2678	Basic Combinatorial Theory	3
PHIL 1400	Introduction to Logic	3

PRNU 2114	Intro to Clinical Practice	0,3
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## NATURAL SCIENCE WITHOUT LAB (N1)

In natural sciences courses, students become familiar with scientific thought, observation, experimentation, and formal hypothesis testing. They develop the skills necessary to make informed judgments about scientific information and arguments related to the natural world. Students also gain the ability to assess the impacts of our expanding scientific knowledge and technology on the diversity of life on Earth, and the quality of life for our own species. All courses provide experiences with the methods of scientific inquiry used to develop new knowledge about the natural world. N1 courses do not include a lab; N2 courses have a laboratory component.

Students will take 6 credits for the Natural Science requirement, to be fulfilled by taking either N1 or N2 approved courses. (Colleges and Schools may implement specific requirements or pathways to fulfilling these requirements.)

Code	Title	Hours
ANTH 1400	Biological Anthropology	3
ASCI 1400	Intro to the Horse	3
ASTR 1405	Exploring the Cosmos	3
BCOR 2300	Genetics	0,3
BCOR 2505	Molecular & Cell Biology	3
BIOL 1008	Transfer Bio: Non-Lab Science	3-6
BIOL 1105	Human Biology	3
BIOL 1155	The Human Body	3
BIOL 1200	Intro to Forensic Biology	3
BIOL 1205	Climate Change Genetics	3
BIOL 1305	Evolutionary Biology	3
BIOL 2100	Soundscapes and Behavior Rsch	4
BIOL 2105	Introduction to Marine Science	3
BIOL 3100	Plant-Animal Interactions	3
BIOL 3105	Community Ecology	3
BIOL 3130	Behavioral Ecology	3
BIOL 3160	Sociobiology	3
BIOL 3500	Neurodevelopment	3
BIOL 3505	Neurobiology	3
BIOL 3530	Cell Biology and Disease	3
BIOL 3560	Developmental Biology	3

CHEM 1102	Outline: General Chem	3
CHEM 1152	Outline: Organic & BIOC	3
CHEM 1582	Intro Organic Chemistry	3
ENSC 1010	Intro Environmental Sci	3
ENSC 1490	Climate Change I	3
ENSC 2490	Climate Change II	1,3
GEOG 1200	Weather, Climate & Landscapes	3
GEOL 2105	Earth Materials	3
GEOL 2405	Environmental Geochemistry	3
GEOL 4405	Geochemistry of Natural Waters	3
NFS 1043	Fundamentals of Nutrition	3
NR 2030	Ecology, Ecosystems & Environ	3
NSCI 2105	Exploring Neuroscience	3
NSCI 4500	Diseases of the Nervous System	3
PBIO 1060	Plants, Food, and Culture	3
PHYS 1100	The Physics of Music	3
PHYS 1200	Energy and the Environment	3
PHYS 1550	Physics for Engineers II	0,3
PSS 1210	Intro to Agroecology	3
PSS 1370	Living Landscapes	3
PSYS 2100	Learning, Cognition & Behavior	3
PSYS 2200	Biopsychology	3

## NATURAL SCIENCE WITH LAB (N2)

In natural sciences courses, students become familiar with scientific thought, observation, experimentation, and formal hypothesis testing. They develop the skills necessary to make informed judgments about scientific information and arguments related to the natural world. Students also gain the ability to assess the impacts of our expanding scientific knowledge and technology on the diversity of life on Earth, and the quality of life for our own species. All courses provide experiences with the methods of scientific inquiry used to develop new knowledge about the natural world. N2 courses have a laboratory component; N1 courses do not include a lab.

Students will take 6 credits for the Natural Science requirement, to be fulfilled by taking either N1 or N2 approved courses. (Colleges

and Schools may implement specific requirements or pathways to fulfilling these requirements.)

Code	Title	Hours
ASCI 1000	Introductory Animal Sciences	0,3
ASCI 3040	Advanced Animal Nutrition	0,4
ASTR 1400	Exploring the Cosmos w/lab	0,4
BCOR 1400	Exploring Biology 1	0,4
BCOR 1425	Accelerated Biology	0-4
BCOR 1450	Exploring Biology 2	0,4
BCOR 2100	Ecology and Evolution	0,4
BCOR 2500	Molecular & Cell Biology w/lab	0,4
BHSC 1340	Human Cell Biology	0,4
BIOL 1000	AP Biology 1	4
BIOL 1005	AP Biology 2	4
BIOL 1009	Transfer Bio: Lab Science	3-8
BIOL 1100	Human Biology w/lab	0,4
BIOL 1150	The Human Body w/lab	0,4
BIOL 1400	Principles of Biology 1	0,4
BIOL 1450	Principles of Biology 2	0,4
BIOL 4405	Comparative Physiology	0,4
BIOL 4410	Physiology of Global Change	4
BIOL 4630	Adv Genetics Laboratory	4
CHEM 1100	Outline: General Chem w/lab	0,4
CHEM 1150	Outline: Organic & BIOC w/lab	0,4
CHEM 1400	General Chemistry 1	0,4
CHEM 1450	General Chemistry 2	0,4
CHEM 1500	Organic Chemistry for Majors 1	0,4
CHEM 1550	Organic Chemistry for Majors 2	0,4
CHEM 1580	Intro Organic Chemistry w/lab	0,4
CSD 2010	Speech & Hearing Science	0,4
ENSC 1490	Climate Change I	3
ENSC 2490	Climate Change II	1,3
GEOL 1400	Environmental Geology	0,4
GEOL 3105	Earth Materials w/lab	0,4

GEOL 3405	Environmental Geochem w/lab	0,4
NFS 1072	Kitchen Science	3
NR 1010	Natural Hist & Human Ecology 1	0,4
NR 1090	VT: Natural & Cultural Hst	0,4
NR 2760	Tropical Ecology in CR	4
NSCI 2100	Exploring Neuroscience w/lab	0,4
PBIO 1040	Intro to Botany	0,4
PHYS 1251	Conceptual Physics w/lab	0,4
PHYS 1400	Elementary Physics I	0,4
PHYS 1450	Elementary Physics II	0,4
PHYS 1500	Physics for Engineers I	0,4
PHYS 1600	Fundamentals of Physics I	0,4
PHYS 1650	Fundamentals of Physics II	0,4
PHYS 2500	Waves and Quanta	0-4

## SOCIAL SCIENCES (S1)

The social sciences focus on how individuals, groups, and institutions affect and interact with each other. Through systematic investigation, social scientists generate explanatory frameworks for understanding human behavior, action, and social practices. Studying social science prepares students to examine past and present social problems; to think critically about individual, local, regional, and global contexts; and to improve societal well-being.

Students will take 6 credits for the Social Science requirement, to be fulfilled by taking approved courses with the Social Science (S1) designation.

Code	Title	Hours
ANTH 1100	Cultural Anthropology	3
ANTH 1600	Linguistic Anthropology	3
ANTH 1800	Prehistoric Archaeology	3
COMU 1010	Healthy Brains, Healthy Bodies	3
CSD 3480	Cognition & Language	3
ECON 1013	FYS Latin American Development	3
ECON 1130	Economics of Globalization	3

ECON 1280	Economics of Climate Change	3
ECON 1400	Principles of Macroeconomics	3
ECON 1450	Principles of Microeconomics	3
ECON 2110	Money and Banking	3
ECON 2210	Public Policy	3
ECON 2240	Game Theory	3
ECON 2300	Economic Development	3
ECON 2350	International Econ I: Trade	3
ECON 2355	International Econ II:Finance	3
ECON 2400	Macroeconomic Theory	3
ECON 2450	Microeconomic Theory	3
ECON 2510	Using Data for Economic Policy	3
ECON 2600	Labor Economics	3
ECON 2750	Law and Economics	3
ECON 2755	Institutional Economics	3
ECON 2800	Econ of Environmental Policy	3
EDEC 1070	Movie Night:Critical Childhd	3
GEOG 1760	Global Environments & Cultures	3
GEOG 1770	Geography/ Race&Ethnicity in US	3
GEOG 1780	Society, Place, and Power	3
GEOG 2760	Rural Geography	3
GSWS 1010	FYS Gender Sexuality Wn's Stdy	3
GSWS 1500	Gender Sexuality Women's Stdy	3
HDF 1050	Human Development	3
HDF 1600	Family Context of Development	3
HDF 1650	Human Relationships &Sexuality	3
HDF 2890	Theories of Human Development	3
HSCI 1100	Introduction to Public Health	3
HSCI 2300	Health Promotion	3
HSOC 1600	Health Care in America	3



LING 1200	Linguistic Diversity in US	3
LING 1300	Intercultural Communication	3
LING 1500	Introduction to Linguistics	3
NR 1020	Natural Hist & Human Ecology 2	0,4
NR 2040	Social Proc & the Environment	3
NR 3050	Ecosys Mgt: Intg Sci, Soc & Pol	3
POLS 1013	FYS US Political System	3
POLS 1015	FYS Intro Int'l Relations	3
POLS 1017	FYS Comparative World Politics	3
POLS 1300	US Political System	3
POLS 1500	Intro International Relations	3
POLS 1700	Comparative World Politics	3
POLS 2315	Law & Politics	3
POLS 2320	Const Law: Government Powers	3
POLS 2370	Const Law: Civil Rights Amer	3
POLS 2430	Political Parties & Elections	3
POLS 2440	Politics and Media	3
POLS 2460	US Environmental Politics	3
POLS 2530	International Pol Economy	3
POLS 2710	Russian Politics	3
POLS 2715	Japanese Politics	3
POLS 2720	Latin American Politics	3
POLS 3440	Pol Effects of Entertain Media	3
POLS 3610	Ethnopolitical Conflict	3
POLS 4310	VT Legislative Research Srvc	3
PSYS 1400	Intro to Psychological Science	3
PSYS 2300	Social Psychology	3
PSYS 2400	Developmental Psych: Childhood	3
PSYS 2500	Psychopathology	3

SOC 1020	Topics In: LASP Seminar	3
SOC 1100	Social Problems	3
SOC 1210	Deviance & Social Control	3
SOC 1260	Drugs & Society	3
SOC 1300	Health Care in America	3
SOC 1330	Sociology of Sexualities	3
SOC 1370	Race Relations in the US	3
SOC 1500	Introduction to Sociology	3
SOC 2102	Sociology of Religion & Ideology	3
SOC 2210	Global Deviance	3
SOC 2220	Sociology of the Holocaust	3
SOC 2370	Race & Ethnicity	3
SOC 2460	Sociology of Disaster	3
SOC 2550	Social Theory	3
SWSS 1010	Ldrship for Racial Justice	3
SWSS 1020	Foundations of Social Work	3
SWSS 1600	Racism & Contemporary Issue	3

## CCC: CORE SKILLS

### QUANTITATIVE AND DATA LITERACY

Since data analysis drives research in academic disciplines and decision-making in applied contexts, it is critical that students have experience manipulating and drawing conclusions from data sets. QD-designated courses demonstrate and apply quantitative approaches within a disciplinary context, ensuring that students are able to extract meaning from data-rich information and to apply appropriate analytical tools in assessing that meaning.

Students are required to take 1 QD course.

Quantitative and Data Literacy (QD) (p. 211)

### WRITING AND INFORMATION LITERACY 1

Courses that fulfill the WIL1 requirement include assignments and activities that develop the four Foundational Writing and Information Literacy learning goals: rhetorical discernment, information literacy, critical reading, and substantive revision. Rhetorical discernment is the ability to write appropriately for different audiences, contexts, and purposes. Information literacy is the ability to pose appropriate questions and find reliable, relevant, and useful information to answer them. Information literacy also includes the ability to integrate sources into writing and to document sources correctly. Critical

reading is the ability to identify, understand, and communicate the main ideas of a text and evaluate the evidence or strategies used to support those ideas. Substantive revision requires approaching writing as a process that includes rethinking ideas and organization, not merely copyediting and correcting mistakes.

Students are required to take 1 WIL1 course, preferably during their first year at UVM.

Writing and Information Literacy (WIL1) (p. 212)

## WRITING AND INFORMATION LITERACY TIER 2

Courses that fulfill WIL2 help students gain familiarity and fluency with genres, conventions, and formats typical in a discipline or field as well as develop a deeper understanding of how knowledge is accessed, developed, and shared. WIL2 courses build on skills and processes introduced in Foundational Writing and Information Literacy (WIL1) but refined through the conventions and practices of the field or discipline, including writing appropriately for different purposes, audiences, and contexts; posing and pursuing questions using relevant, reliable, and useful information while integrating and documenting sources correctly; understanding and evaluating ideas and evidence in texts; and developing flexible writing processes, including planning, drafting, revising, and polishing.

Students are required to take 1 WIL2 -OR- 1 OC course.

Writing and Information Literacy Tier 2 (WIL2) (p. 214)

## ORAL COMMUNICATION (OC)

Oral communication refers to how speakers create and use messages to generate meanings across a wide variety of contexts and cultures. This includes the use of verbal and nonverbal communication practices. The oral communication general education requirement aims to enhance students' ability to speak, listen, and interact with others effectively and ethically. Students will develop effective speaking skills, including crafting messages that are appropriately adapted to purpose, audience, context, and occasion. In addition, students will gain proficiency in practices of effective listening and the critical analysis of oral presentation. Furthermore, competency in oral communication will demonstrate students' abilities to understand and synthesize theories of human communication and how to utilize and apply these theories to crafting effective speaking and listening practices. Courses in this category provide students with an understanding of the form, content, effectiveness, and ethical dimensions of verbal and nonverbal communication. Courses are not required to be delivered in English; sign language courses that develop equivalent communication skills through a signed linguistic modality may also fulfill this requirement.

Students are required to take 1 OC course -OR- or 1 WIL2 course.

Oral Communication (OC)

## ORAL COMMUNICATION (OC)

Oral communication refers to how speakers create and use messages to generate meanings across a wide variety of contexts and cultures. This includes the use of verbal and nonverbal communication

practices. The oral communication general education requirement aims to enhance students' ability to speak, listen, and interact with others effectively and ethically. Students will develop effective speaking skills, including crafting messages that are appropriately adapted to purpose, audience, context, and occasion. In addition, students will gain proficiency in practices of effective listening and the critical analysis of oral presentation. Furthermore, competency in oral communication will demonstrate students' abilities to understand and synthesize theories of human communication and how to utilize and apply these theories to crafting effective speaking and listening practices. Courses in this category provide students with an understanding of the form, content, effectiveness, and ethical dimensions of verbal and nonverbal communication. Courses are not required to be delivered in English; sign language courses that develop equivalent communication skills through a signed linguistic modality may also fulfill this requirement.

Students are required to take 1 OC course -OR- 1 WIL2 course.

Code	Title	Hours
BME 4600	Capstone Design I	0,3
BUS 1130	Business Communications	3
CALS 1010	Foundations:Communication Meth	0,3
CALS 2830	Communication Methods	0,3
CHIN 1100	1st Year College Chinese I	4
CHIN 1200	1st Year College Chinese II	4
CHIN 2100	2nd Year College Chinese I	4
CHIN 2200	2nd Year College Chinese II	4
FREN 1200	Elementary French II	4
FREN 2200	Intermediate French II	3
FREN 2208	TR Intermediate French II	3
FREN 2209	AP Intermediate French II	3
FREN 3115	Focus on Oral Expression	3
GEOL 3405	Environmental Geochem w/lab	0,4
GERM 1100	Elementary German I	4
GERM 1200	Elementary German II	0,4
GERM 2100	Intermediate German I	3
GERM 2200	Intermediate German II	3
GERM 2202	Interm Germ II: Sustainability	3

HLTH 3860	Health & Well Coaching Advance	4	BUS 1140	Information Technology	0,3
ITAL 1200	Elementary Italian II	4	BUS 2130	Decision Analysis	3
ITAL 2200	Intermediate Italian II	3	CHEM 1100	Outline: General Chem w/lab	0,4
ITAL 2208	TR Intermediate Italian II	3	CHEM 1102	Outline: General Chem	3
ITAL 2209	AP Intermediate Italian II	3	CHEM 1150	Outline: Organic & BIOC w/lab	0,4
JAPN 1100	Elementary Japanese I	0,4	CHEM 1152	Outline: Organic & BIOC	3
JAPN 1200	Elementary Japanese II	0,4	CHEM 1400	General Chemistry 1	0,4
JAPN 2100	Intermediate Japanese I	4	CHEM 1450	General Chemistry 2	0,4
JAPN 2200	Intermediate Japanese II	4	CHEM 1500	Organic Chemistry for Majors 1	0,4
RUSS 1100	Elementary Russian I	4	CHEM 1550	Organic Chemistry for Majors 2	0,4
RUSS 1200	Elementary Russian II	4	CHEM 1580	Intro Organic Chemistry w/lab	0,4
RUSS 2100	Intermediate Russian I	4	CHEM 1582	Intro Organic Chemistry	3
SPAN 1200	Elementary Spanish II	4	CS 1210	Computer Programming I	3
SPAN 2200	Intermediate Spanish II	3	CS 1320	Puzzles, Games & Algorithms	0,3
SPAN 2202	Interm Span II: Sustainability	3	CSD 3620	Measurement of Comm Processes	4
SPAN 2208	TR Intermediate Spanish II	3	ECON 2510	Using Data for Economic Policy	3
SPAN 2209	AP Intermediate Spanish II	3	GEOG 2510	Geog Info: Cncpts & Applic	0,3
SPCH 1400	Effective Speaking	3	GEOL 2525	Geocomputing	3
SPCH 1410	Argument & Advocacy	3	GEOL 4405	Geochemistry of Natural Waters	3
SPCH 1610	Social Justice Debates	3	NR 2400	Applied Environ Statistics	0,4
THE 1100	Intro to Acting	3	PHYS 1100	The Physics of Music	3
THE 1150	Improvisation Workshop	3	PHYS 1200	Energy and the Environment	3
			PHYS 1251	Conceptual Physics w/lab	0,4
			PHYS 1400	Elementary Physics I	0,4
			PHYS 1450	Elementary Physics II	0,4
			PHYS 1500	Physics for Engineers I	0,4
			PHYS 1550	Physics for Engineers II	0,3
			PHYS 1600	Fundamentals of Physics I	0,4
			PHYS 1650	Fundamentals of Physics II	0,4
			PHYS 2500	Waves and Quanta	0-4

## QUANTITATIVE AND DATA LITERACY (QD)

Since data analysis drives research in academic disciplines and decision-making in applied contexts, it is critical that students have experience manipulating and drawing conclusions from data sets. QD-designated courses demonstrate and apply quantitative approaches within a disciplinary context, ensuring that students are able to extract meaning from data-rich information and to apply appropriate analytical tools in assessing that meaning.

Students are required to take 1 QD course.

Code	Title	Hours
ASTR 1400	Exploring the Cosmos w/lab	0,4
ASTR 1405	Exploring the Cosmos	3

POLS 1026	LASP: Global Gender Inequality	4	ANTH 1023	Topics In: LASP: Div & Sustain	3
POLS 2530	International Pol Economy	3	ARTH 1010	Topics In: First-Year Seminar	3
POLS 2610	Global Politics of Food	3	ARTH 1020	Topics In: LASP Seminar	3
POLS 2650	Global Gender Inequality	4	ARTS 1010	Topics In: First-Year Seminar	3-4
POLS 2800	Social Research Methods	4	ARTS 1020	Topics In: LASP Seminar	3-4
POLS 3440	Pol Effects of Entertain Media	3	BIOL 1010	Topics In: First-Year Seminar	3
PRNU 2111	Research in Nursing	3	BIOL 1020	Topics In: LASP Seminar	3
PSS 3250	Eco Frontiers in Agroecology	3	CAS 1010	Topics In: First-Year Seminar	3
PSS 3320	Biological Control	3	CAS 1019	AP Research	3
PSYS 2010	Statistics for Psych Sci	0,4	CAS 1020	Topics In: LASP Seminar	3
SOC 2500	Social Research Methods	4	CHEM 1010	Topics In: First-Year Seminar	3
STAT 1050	Stat & Social Justice	3	CHEM 1020	Topics In: LASP Seminar	3
STAT 1110	Elements of Statistics	3	CHIN 1010	Topics In: First-Year Seminar	3
STAT 1410	Basic Statistical Methods 1	3	CHIN 1012	Topics In: FYS: Div Human Exp	3
STAT 1870	Intro to Data Science	3	CHIN 1020	Topics In: LASP Seminar	3
STAT 2430	Statistics for Engineering	3	CLAS 1010	Topics In: First-Year Seminar	3

## WRITING AND INFORMATION LITERACY (WIL1)

Courses that fulfill the WIL1 requirement include assignments and activities that develop the four Foundational Writing and Information Literacy learning goals: rhetorical discernment, information literacy, critical reading, and substantive revision. Rhetorical discernment is the ability to write appropriately for different audiences, contexts, and purposes. Information literacy is the ability to pose appropriate questions and find reliable, relevant, and useful information to answer them. Information literacy also includes the ability to integrate sources into writing and to document sources correctly. Critical reading is the ability to identify, understand, and communicate the main ideas of a text and evaluate the evidence or strategies used to support those ideas. Substantive revision requires approaching writing as a process that includes rethinking ideas and organization, not merely copyediting and correcting mistakes.

Students are required to take 1 WIL1 course, preferably during their first year at UVM.

Code	Title	Hours
ANTH 1010	Topics In: First-Year Seminar	3
ANTH 1020	Topics In: LASP Seminar	3

ANTH 1023	Topics In: LASP: Div & Sustain	3
ARTH 1010	Topics In: First-Year Seminar	3
ARTH 1020	Topics In: LASP Seminar	3
ARTS 1010	Topics In: First-Year Seminar	3-4
ARTS 1020	Topics In: LASP Seminar	3-4
BIOL 1010	Topics In: First-Year Seminar	3
BIOL 1020	Topics In: LASP Seminar	3
CAS 1010	Topics In: First-Year Seminar	3
CAS 1019	AP Research	3
CAS 1020	Topics In: LASP Seminar	3
CHEM 1010	Topics In: First-Year Seminar	3
CHEM 1020	Topics In: LASP Seminar	3
CHIN 1010	Topics In: First-Year Seminar	3
CHIN 1012	Topics In: FYS: Div Human Exp	3
CHIN 1020	Topics In: LASP Seminar	3
CLAS 1010	Topics In: First-Year Seminar	3
CLAS 1020	Topics In: LASP Seminar	3
CRES 1010	Topics In: First-Year Seminar	3
CRES 1020	Topics In: LASP Seminar	3
DNCE 1010	Topics In: First-Year Seminar	3
DNCE 1020	Topics In: LASP Seminar	3
ECON 1010	Topics In: First-Year Seminar	3
ECON 1013	FYS Latin American Development	3
ECON 1015	Topics In: FYS: Div & Sustain	3
ECON 1020	Topics In: LASP Seminar	3
ENGL 1001	Written Expression	3
ENGL 1002	Topics In: Written Expression	3

ENGL 1010	Topics In: FYS: Literature	3	HST 1020	Topics In: LASP Seminar	3
ENGL 1017	Topics In: FYS: Writing	3	ITAL 1010	Topics In: First-Year Seminar	3
ENGL 1020	Topics In: LASP: Literature	3	ITAL 1020	Topics In: LASP Seminar	3
ENGL 1027	Topics In: LASP: Writing	3	JAPN 1010	Topics In: First-Year Seminar	3
ENVS 1010	Topics In: First-Year Seminar	3	JAPN 1020	Topics In: LASP Seminar	3
ENVS 1020	Topics In: LASP Seminar	3	JS 1010	Topics In: First-Year Seminar	3
FREN 1010	Topics In: First-Year Seminar	3	JS 1020	Topics In: LASP Seminar	3
FREN 1020	Topics In: LASP Seminar	3	LING 1010	Topics In: First-Year Seminar	3
FTS 1010	Topics In: First-Year Seminar	3	LING 1020	Topics In: LASP Seminar	3
FTS 1020	Topics In: LASP Seminar	3	MU 1010	Topics In: First-Year Seminar	3
FTS 1022	Topics In: LASP: Div Human Exp	3	MU 1020	Topics In: LASP Seminar	3
GEOG 1010	Topics In: First-Year Seminar	3	NSCI 1010	Topics In: First-Year Seminar	3
GEOG 1014	Topics In: FYS: Sustainability	3	NSCI 1020	Topics In: LASP Seminar	3
GEOG 1020	Topics In: LASP Seminar	3	PHIL 1010	Topics In: First-Year Seminar	3
GEOL 1010	Topics In: First-Year Seminar	3	PHIL 1012	Topics in: FYS: Div Human Exp	3
GEOL 1020	Topics In: LASP Seminar	0,4	PHIL 1020	Topics In: LASP Seminar	3
GERM 1010	Topics In: First-Year Seminar	3	POLS 1010	Topics In: First-Year Seminar	3
GERM 1020	Topics In: LASP Seminar	3	POLS 1012	FYS Intro to Political Theory	3
GRS 1010	Topics In: First-Year Seminar	3	POLS 1013	FYS US Political System	3
GRS 1020	Topics In: LASP Seminar	3	POLS 1015	FYS Intro Int'l Relations	3
GSWS 1010	FYS Gender Sexuality Wn's Stdy	3	POLS 1017	FYS Comparative World Politics	3
GSWS 1020	Topics In: LASP Seminar	3	POLS 1020	Topics In: LASP Seminar	3
HCOL 1000	FY Writing Seminar	0,3	POLS 1026	LASP: Global Gender Inequality	4
HSOC 1010	Topics In: First-Year Seminar	3	PSYS 1010	Topics In: First-Year Seminar	3
HST 1010	Topics In: First-Year Seminar	3	PSYS 1012	Topics in: FYS: Div Human Exp	3
HST 1011	Topics In: FYS: Race in US	3	PSYS 1020	Topics In: LASP Seminar	3

REL 1010	Topics In: First-Year Seminar	3
REL 1011	Topics In: FYS: Race in US	3
REL 1012	Topics in: FYS: Div Human Exp	3
REL 1020	Topics In: LASP Seminar	3
RUSS 1010	Topics In: First-Year Seminar	3
RUSS 1020	Topics In: LASP Seminar	3
SOC 1010	Topics In: First-Year Seminar	3
SOC 1020	Topics In: LASP Seminar	3
SPAN 1010	Topics In: First-Year Seminar	3
SPAN 1020	Topics In: LASP Seminar	3
SPCH 1010	Topics In: First-Year Seminar	3
SPCH 1020	Topics In: LASP Seminar	3
THE 1010	Topics In: First-Year Seminar	3
THE 1020	Topics In: LASP Seminar	3
WLIT 1010	Topics In: First-Year Seminar	3
WLIT 1020	Topics In: LASP Seminar	3
WLIT 1022	Topics In: LASP: Div Human Exp	3

## WRITING AND INFORMATION LITERACY TIER 2 (WIL2)

Courses that fulfill WIL2 help students gain familiarity and fluency with genres, conventions, and formats typical in a discipline or field as well as develop a deeper understanding of how knowledge is accessed, developed, and shared. WIL2 courses build on skills and processes introduced in Foundational Writing and Information Literacy (WIL1) but refined through the conventions and practices of the field or discipline, including writing appropriately for different purposes, audiences, and contexts; posing and pursuing questions using relevant, reliable, and useful information while integrating and documenting sources correctly; understanding and evaluating ideas and evidence in texts; and developing flexible writing processes, including planning, drafting, revising, and polishing.

Students are required to take 1 WIL2 course -OR- 1 OC-Oral Communication course.

Code	Title	Hours
BHSC 1980	Intro to Scientific Writing	3
CEE 4950	Capstone Design	3
CS 2300	Advanced Programming	3
CS 3280	Human-Computer Interaction	3
CSD 3620	Measurement of Comm Processes	4
EDEL 4880	Student Teaching Seminar	3
EE 3415	Electronics Design Project	0,3
ENGL 2000	Literary Theory	3
FREN 3110	Writing Workshop	3
GEOG 2550	Qualitative Research Methods	3
HST 2050	History Methods	3
MATH 4344	Topology	3
MATH 4788	Exploring Biomathematics	3
NR 3010	Research Methods	3
POLS 3730	Mexican Politics	3
POLS 4310	VT Legislative Research Srvc	3
PRNU 2110	Art & Science of Nursing	3
PSS 3250	Eco Frontiers in Agroecology	3
PSS 3320	Biological Control	3
SPAN 3110	Topics in Composition & Convs	3
WFB 2170	Scientific Writing and Interpr	4

## CCC: COMMON GROUND VALUES

### DIVERSITY

Diversity courses provide undergraduates with the awareness, knowledge, and skills necessary to function productively in a complex global society.

All UVM undergraduate students must successfully complete the following two requirements prior to graduation:

1. One 3-credit course from Diversity Category One (D1) (Race and Racism in the U.S.), to be taken as early as possible after matriculation to UVM - preferably no later than the sophomore year); and

2. A second 3-credit course from either Diversity Category One (D1) or Diversity Category Two (D2) (the Diversity of Human Experience).

**Diversity: Race and Racism in the US (D1)**

Courses in this category have as a primary focus race and racism in the United States. D1 courses promote an understanding of: Race and racism in the U.S.; The meaning and significance of power and privilege.

Race and Racism in the US (D1) (p. 220)

**Diversity: Diversity of Human Experience (D2)**

Courses in this category focus on expanding students’ cultural awareness. A D2 course is intended to:

- Promote an awareness of and appreciation for the diversity of human experience in all its forms including, but not limited to race, ethnicity, religion, socio-economic status, language, sex, gender identity, sexual orientation, age, and disability; and/or
- Foster an understanding of global and international issues including the flow of people, cultures, diseases, and capital or other resources within or across political and geographical boundaries.

Diversity of Human Experience (D2) (p. 215) (p. 220)

**SUSTAINABILITY (SU)**

Sustainability (SU) courses provide undergraduates with knowledge of the social, ecological, and economic dimensions of sustainability and the skills and values to address complex societal problems.

Students are required to take 1 course designated as SU.

Sustainability (SU) (p. 221)

**GLOBAL CITIZENSHIP**

Global Citizenship courses help students understand the nature and implications of worldwide phenomena and challenges across local, national, regional, and cultural boundaries. Global citizenship courses also help students develop the skills they need to participate effectively and responsibly as citizens in our increasingly globalized society. To be effective, informed, and responsible members of a diverse and interconnected global community, students need to be able to effect change collaboratively, to communicate across cultural boundaries, and to think deeply and creatively about shared challenges, responsibilities, and injustices.

Students are required to take one 3-credit Global Citizenship course from either (GC1 or GC2) pathway.

**Global Citizenship: Global Systems and Problems (GC1)**

GC1 courses address systems and problems that are global in scope. These courses will help students understand the nature and complexity of global phenomena. They may address cultural, political, economic, ecological, artistic, technological, human health, or other aspects of our increasingly interdependent world. They

explore both the unique problems and the opportunities created by such interdependence and interconnectedness.

Global Citizenship: Global Systems and Problems (GC1)

**GLOBAL CITIZENSHIP: DEVELOPING GLOBAL CITIZENS (GC2)**

GC2 courses develop skills necessary to participate effectively as a citizen in local communities and the world at large. To be effective and responsible members of a diverse and interconnected global community, students need to be able to communicate across cultural boundaries, to think deeply and creatively about shared responsibilities and injustices, and to collaboratively effect change. The courses in this pathway are therefore designed to impart at least one of the following core skills: language proficiency, ethical reasoning, and civic engagement.

Global Citizenship: Developing Global Citizens (GC2) (p. 218)

**DIVERSITY OF HUMAN EXPERIENCE (D2)**

Courses in this category focus on expanding students’ cultural awareness. A D2 course is intended to:

- Promote an awareness of and appreciation for the diversity of human experience in all its forms including, but not limited to race, ethnicity, religion, socio-economic status, language, sex, gender identity, sexual orientation, age, and disability; and/or
- Foster an understanding of global and international issues including the flow of people, cultures, diseases, and capital or other resources within or across political and geographical boundaries.

All UVM undergraduate students must successfully complete the following two requirements prior to graduation:

1. One 3-credit course from Diversity Category One (D1) (Race and Racism in the U.S.), to be taken as early as possible after matriculation to UVM - preferably no later than the sophomore year); and
2. A second 3-credit course from either Diversity Category One (D1) or Diversity Category Two (D2) (the Diversity of Human Experience).

Code	Title	Hours
ANTH 1023	Topics In: LASP: Div & Sustain	3
ANTH 1100	Cultural Anthropology	3
ANTH 1140	Food and Culture	3
ANTH 1190	Global Health Devel & Diversit	3
ANTH 1400	Biological Anthropology	3
ANTH 1600	Linguistic Anthropology	3

ANTH 1800	Prehistoric Archaeology	3	EDEC 1010	Intr Early Care & Education	0,4
ANTH 2152	Environmental Anthropology	3	EDEC 1070	Movie Night:Critical Childhd	3
ANTH 2170	Culture, Health and Healing	3	EDEC 2220	Culturally Responsive Educ	3
ANTH 2181	Aging in Cross-Cultural Persp	3	EDHI 1110	Exploring Leadership & Iden	3
ANTH 2191	Foundations of Global Health	3	EDML 3220	Social Justice Education	3
ANTH 2205	Gender Sex Race & the Body	3	EDSP 1050	Iss Aff Persons W/ Disabil	3
ANTH 2880	Archaeology of the Americas	3	EDSP 2170	Behavior Management	3
ASCI 1100	The World of Working Animals	3	EDSP 3250	Culture of Disability	3
ASL 2300	Understanding Deaf Culture	3	ENGL 1240	Topics in Post-Colonial Lit	3
BUS 3442	International Management	3	ENGL 1270	Topics in Gender/Sexuality Lit	3
BUS 3580	Intn'l Market Analysis	3	ENGL 2206	Ecofeminism	3
CDAE 1020	World Food,Pop & Develop	3	ENGL 2240	Colonial/Post-Col World Lit	3
CDAE 1030	Intr to Dev Carib & Cent Am	3	ENGL 2244	Topics in Caribbean Lit	3
CHIN 1012	Topics In: FYS: Div Human Exp	3	ENGL 2248	Topics in African Lit	3
CHIN 1070	Elements of Chinese Culture	3	ENVS 1510	Solutions in Enviro Studies	0,4
CLAS 2610	Comparative Epic	3	EXSC 3600	Adapted Physical Activity	3
CS 2880	Inclusive Computing	3	FREN 4640	Multiethnic France: 20-21C Lt	3
CSD 1250	Comm Diff & Dis in Media	3	FTS 1022	Topics In: LASP: Div Human Exp	3
CSD 3200	Culture of Disability	3	GEOG 1760	Global Environments & Cultures	3
DNCE 1420	African Forms	3	GEOG 2770	Geography of Development	3
DNCE 1430	Brazilian Dance	3	GRS 1500	Intro to Global Studies	3
DNCE 1510	Global Perspectives in Dance	3	GRS 4500	Topics In: GRS Senior Seminar	3
DNCE 1520	Asian Performance Traditions	3	GSWS 1010	FYS Gender Sexuality Wn's Stdy	3
DNCE 2510	Sex, Gender & Performance	3	GSWS 1500	Gender Sexuality Women's Stdy	3
ECON 1013	FYS Latin American Development	3	GSWS 2050	Gender and Feminism(s)	3
ECON 1015	Topics In: FYS: Div & Sustain	3	GSWS 2070	LGBT Politics and History	3
ECON 2300	Economic Development	3	HDF 2670	Sexual & Gender Identities	3
ECSP 2100	Indiv Prac for Inclusion	3	HLTH 2050	Cultural Health Care	3
ECSP 3110	EI for Infants and Toddlers	3			



HLTH 2760	Hlth in Mediterranean	3	NFS 1073	Farm to Table: Food Sys	3
HSCI 2100	Fndns of Global Health	3	PHIL 1012	Topics in: FYS: Div Human Exp	3
HSCI 2700	Social Justice and Sport	3	PHIL 1750	Philosophy East & West	3
HSOC 1700	Global Health Devel & Diversit	3	PHIL 2760	Chinese Philosophy	3
HST 1310	Global History to 1500	3	POLS 2450	LGBT Politics and History	3
HST 1315	Global History since 1500	3	POLS 2525	Int'l Politics Middle East	3
HST 1370	Global Environmental History	3	POLS 2615	Terrorism & Counterterrorism	3
HST 1410	Colonialism and Africa	3	POLS 2650	Global Gender Inequality	4
HST 1422	Hst Islam&Mid East to 1258	3	POLS 2710	Russian Politics	3
HST 1425	Hst Islam&Mid East since 1258	3	POLS 2715	Japanese Politics	3
HST 1440	History of China and Japan	3	POLS 2720	Latin American Politics	3
HST 1475	Modern Latin American History	3	POLS 2725	African Politics	3
HST 2120	Topics in Gender&Sexuality Hst	3	POLS 3730	Mexican Politics	3
HST 2414	Nigeria: Giant of Africa	3	PRNU 3131	Health Alterations	3
HST 2416	History of Southern Africa	3	PSYS 1012	Topics in: FYS: Div Human Exp	3
HST 2423	Rel & Pol in Islamic Hist	3	REL 1012	Topics in: FYS: Div Human Exp	3
HST 2425	History of Modern Middle East	3	REL 1210	Introducing Hinduism	3
HST 2443	Modern China	3	REL 1230	Introducing Islam	3
HST 2447	Modern Japan	3	REL 1240	Jews and Judaisms	3
HST 2792	Jews in Modern Europe	3	REL 1250	What is the Bible?	3
HST 4120	Topics in Gender&Sexuality Hst	3	REL 1310	Religions in Asia	3
HST 4210	Comparative Slavery	3	REL 1605	Comparing Religions	3
JS 1500	Jews and Judaisms	3	REL 1620	Religion and Globalization	3
LING 1100	Languages of the World	3	REL 1650	Religion, Health, & Healing	3
MMG 3300	Adv St Emerg Infec Dis	3	REL 2220	Buddhist Traditions	3
MU 1170	Intro World Music Cultures	3	REL 2235	Islam and Modernity	3
MU 1175	Music of Latin Am & Carib	3	SOC 2210	Global Deviance	3
MU 2170	World Music Cultures	3	SOC 3140	Sociology of African Societies	3
			SOC 3380	Int'l Migration & US Society	3
			SPAN 3665	LatAm: Colonialism&Resistance	3
			SPAN 3670	LatAm: Revolutn&Globalizatn	3
			SPAN 4460	Modern Latin American Cultures	3
			SPAN 4570	Latin Amer City in Lit/Film	3

STAT 1050	Stat & Social Justice	3
SWSS 1040	Working with Refugees	3
THE 1520	Asian Performance Traditions	3
WLIT 1022	Topics In: LASP: Div Human Exp	3
WLIT 1100	Literatures of Globalization	3
WLIT 2310	Classical Chinese Lit in Tr	3
WLIT 2360	Japanese Lit in Tr: Premodern	3
WLIT 2370	Japanese Lit in Tr: Modern	3
WLIT 2375	Japanese Contemporary Fiction	3

## GLOBAL CITIZENSHIP: GLOBAL SYSTEMS AND PROBLEMS (GC1)

GC1 courses address systems and problems that are global in scope. These courses will help students understand the nature and complexity of global phenomena. They may address cultural, political, economic, ecological, artistic, technological, human health, or other aspects of our increasingly interdependent world. They explore both the unique problems and the opportunities created by such interdependence and interconnectedness.

Code	Title	Hours
ANTH 1190	Global Health Devel & Diversit	3
ECON 1130	Economics of Globalization	3
ECON 1280	Economics of Climate Change	3
ECON 2350	International Econ I: Trade	3
ECON 2355	International Econ II: Finance	3
HSCI 2100	Fndns of Global Health	3
HSOC 1700	Global Health Devel & Diversit	3
NFS 5245	Nutrition for Global Health	3
POLS 1026	LASP: Global Gender Inequality	4
POLS 1500	Intro International Relations	3
POLS 2510	International Security	3
POLS 2530	International Pol Economy	3

POLS 2615	Terrorism & Counterterrorism	3
POLS 2650	Global Gender Inequality	4
POLS 2720	Latin American Politics	3
POLS 2725	African Politics	3
POLS 3730	Mexican Politics	3
REL 1050	Religion, Politics, & Power	3
REL 1210	Introducing Hinduism	3
REL 1230	Introducing Islam	3
REL 1650	Religion, Health, & Healing	3
REL 2050	Interpretation of Religion	3
REL 2235	Islam and Modernity	3
SOC 2210	Global Deviance	3

## GLOBAL CITIZENSHIP: DEVELOPING GLOBAL CITIZENS (GC2)

GC2 courses develop skills necessary to participate effectively as a citizen in local communities and the world at large. To be effective and responsible members of a diverse and interconnected global community, students need to be able to communicate across cultural boundaries, to think deeply and creatively about shared responsibilities and injustices, and to collaboratively effect change. The courses in this pathway are therefore designed to impart at least one of the following core skills: language proficiency, ethical reasoning, and civic engagement.

Code	Title	Hours
CDAE 1240	Fund of Public Communication	3
CEE 4950	Capstone Design	3
CHIN 1100	1st Year College Chinese I	4
CHIN 1200	1st Year College Chinese II	4
CHIN 2100	2nd Year College Chinese I	4
CHIN 2200	2nd Year College Chinese II	4
ECLD 3050	Fmly Schl & Cmty Collaboration	3
ECON 2300	Economic Development	3
EDEC 1010	Intr Early Care & Education	0,4
EDML 3220	Social Justice Education	3
FREN 1100	Elementary French I	4

FREN 1200	Elementary French II	4	ITAL 1200	Elementary Italian II	4
FREN 2100	Intermediate French I	3	ITAL 2100	Intermediate Italian I	3
FREN 2108	TR Intermediate French I	3	ITAL 2108	TR Intermediate Italian I	3
FREN 2109	AP Intermediate French I	3	ITAL 2109	AP Intermediate Italian I	3
FREN 2200	Intermediate French II	3	ITAL 2200	Intermediate Italian II	3
FREN 2208	TR Intermediate French II	3	ITAL 2208	TR Intermediate Italian II	3
FREN 2209	AP Intermediate French II	3	ITAL 2209	AP Intermediate Italian II	3
FREN 3110	Writing Workshop	3	ITAL 3550	Topics in Culture & Literature	3
FREN 3115	Focus on Oral Expression	3	ITAL 3580	Italian Food Culture	3
FREN 3400	Topics in Culture	3	JAPN 1100	Elementary Japanese I	0,4
FREN 3410	Contemporary France	3	JAPN 1200	Elementary Japanese II	0,4
FTS 2060	Topics in Global Cinema	0,3	JAPN 2100	Intermediate Japanese I	4
FTS 2062	Topics in Global Cinema: Cit	0,3	JAPN 2200	Intermediate Japanese II	4
GERM 1100	Elementary German I	4	LAT 1100	Elementary Latin I	0,4
GERM 1200	Elementary German II	0,4	LAT 1200	Elementary Latin II	0,4
GERM 2100	Intermediate German I	3	LAT 2100	Intermediate Latin I	3
GERM 2200	Intermediate German II	3	LAT 2200	Intermediate Latin II	3
GERM 2202	Interm Germ II: Sustainability	3	NR 4060	Env Prob Sol & Impact Assessmt	0,4
GERM 3510	Screening Berlin	3	NR 4080	Birding to Change the World	4
GERM 3605	Im/Mobility in German Lit	3	PHIL 1110	God, Morality, Mind	3
GERM 3643	Guilt & Shame in German Lit	3	PHIL 1548	Marginalized Ident & Priv	3
GERM 3646	Exile and Migration	3	PHIL 1600	Ethics	3
GERM 3649	POC in Germany and Austria	3	PHIL 1635	Ethics of Eating	3
GERM 3655	German Graphic Novel	3	PHIL 1750	Philosophy East & West	3
GERM 4500	History of German Cinema	3	POLS 1012	FYS Intro to Political Theory	3
GERM 4605	Fatal Attractions	3	POLS 1200	Intro to Political Theory	3
GRK 1100	Elementary Ancient Greek I	4	POLS 2230	Democratic Theory	3
GRK 1200	Elementary Ancient Greek II	4	PRNU 2121	Gerontology	0,3
GRK 2100	Intermediate Ancient Greek I	3	RUSS 1100	Elementary Russian I	4
GRK 2200	Intermediate Ancient Greek II	3	RUSS 1200	Elementary Russian II	4
ITAL 1100	Elementary Italian I	4	RUSS 2100	Intermediate Russian I	4
			SPAN 1100	Elementary Spanish I	4
			SPAN 1200	Elementary Spanish II	4
			SPAN 2100	Intermediate Spanish I	3

SPAN 2108	TR Intermediate Spanish I	3	EDHE 2520	Race, Bullying & Discrim	3
SPAN 2109	AP Intermediate Spanish I	3	EDSP 2520	Race, Bullying & Discrim	3
SPAN 2200	Intermediate Spanish II	3	ENGL 1210	Topics in Race & Ethnic in Lit	3
SPAN 2202	Interm Span II: Sustainability	3	ENGL 1215	Topics in Native American Lit	3
SPAN 2208	TR Intermediate Spanish II	3	ENGL 1220	Topics in Afr Am Lit & Culture	3
SPAN 2209	AP Intermediate Spanish II	3	ENGL 2210	Topics in Race & Ethnic in Lit	3
SPAN 3110	Topics in Composition & Convrs	3	ENGL 2216	US Latino Writers	3
SWSS 1040	Working with Refugees	3	ENGL 2223	Topics in 20C AfAm Lit&Culture	3
			ENGR 1100	Dvrsty Issues:Math/Sci/Egr	3
			GEOG 1770	Geography/ Race&Ethnicity in US	3
			HDF 2410	Interrogatng White Identity	3
			HSCI 1200	Antiracism and Health	3
			HSCI 2600	Racism and Health Disparities	3
			HST 1011	Topics In: FYS: Race in US	3
			HST 1525	North American Indian History	3
			HST 2644	Topics in Black History	3
			LING 1200	Linguistic Diversity in US	3
			LING 2230	African American English	3
			MU 1120	Intro to Jazz History	3
			MU 1140	Blues & Related Traditions	3
			MU 1147	Music & Culture: New Orleans	3
			NR 1060	Race & Culture in NR	0,3
			NR 2810	Environmental Justice	3
			PHIL 1548	Marginalized Ident & Priv	3
			POLS 2370	Const Law: Civil Rights Amer	3
			POLS 2470	Political Construction of Race	3
			PRNU 3240	Iss & Ldrs Prf Nurs Thr & Ptm	0,6
			PSYS 3405	Race in American Youth	3

## RACE AND RACISM IN THE US (D1)

Courses in this category have as a primary focus race and racism in the United States. D1 courses promote an understanding of: Race and racism in the U.S.; The meaning and significance of power and privilege.

All UVM undergraduate students must successfully complete the following two requirements prior to graduation:

1. One 3-credit course from Diversity Category One (D1) (Race and Racism in the U.S.), to be taken as early as possible after matriculation to UVM - preferably no later than the sophomore year); and
2. A second 3-credit course from either Diversity Category One (D1) or Diversity Category Two (D2) (the Diversity of Human Experience).

Code	Title	Hours
ANTH 2310	North American Indians	3
ANTH 2325	Latinos in the US	3
ANTH 2894	Indians of the NE: Vermont	3
BIOL 1200	Intro to Forensic Biology	3
CDAE 1040	US Food, Social Equity & Dev	3
CLAS 3505	Classics and Racism in US	3
DNCE 2500	Jazz in American Dance	3
ECLD 1560	Lang Policy Issues,Race&Sch	3
EDFS 1010	Race and Racism in the U.S.	3

REL 1011	Topics In: FYS: Race in US	3	BUS 3670	Environmntl & Social Rprtng	3
REL 1355	Topics in Rel & Race in US	3	CDAE 1020	World Food,Pop & Develop	3
REL 2238	Islam and Race	3	CDAE 1610	Principles of Comm Dev Econ	3
REL 2350	Religion in America	3	CDAE 2050	Food Waste to Value	3
SOC 1020	Topics In: LASP Seminar	3	CDAE 2680	Marketing:Com Entrepreneurs	3
SOC 1370	Race Relations in the US	3	CEE 1000	Intro to Civil & Envir Engr	0,2
SOC 1372	Topics in Sociology of Race	3	CEE 2120	Environmental Systems	3
SOC 1375	Asian-American Experiences	3	CEE 2130	System Focused Design Engr	3
SOC 2370	Race & Ethnicity	3	CEE 3510	Water Quality Engineering	3
SOC 3370	Race Relations	3	CEE 4950	Capstone Design	3
SPAN 3102	Race, Identity & Migrant Labor	3	CIS 1010	Cybersecurity Law & Policy	3
SPAN 4665	Border Literatures	3	CLAS 2581	Sustainability Cultural Hst	3
SPCH 1610	Social Justice Debates	3	ECON 1015	Topics In: FYS: Div & Sustain	3
SWSS 1010	Ldrshp for Racial Justice	3	ECON 1130	Economics of Globalization	3
SWSS 1600	Racism & Contemporary Issue	3	ECON 1280	Economics of Climate Change	3
THE 1510	Diversity in US Theatre	3	ECON 2800	Econ of Environmental Policy	3

## SUSTAINABILITY (SU)

Sustainability (SU) courses provide undergraduates with knowledge of the social, ecological, and economic dimensions of sustainability and the skills and values to address complex societal problems.

Students are required to take 1 Sustainability course.

Code	Title	Hours			
ANTH 1023	Topics In: LASP: Div & Sustain	3	EDEL 3570	Social Educ&Social Studies	3
ANTH 1100	Cultural Anthropology	3	EDTE 1610	Foundations of PBE	4
ANTH 1190	Global Health Devel & Diversit	3	EDTE 1740	Science of Sustainability	3
ANTH 1800	Prehistoric Archaeology	3	EMGT 2041	Engineering Economics	3
ASCI 1090	One Health: an Exploration	3	ENGL 1205	Topics in Sustainability & Lit	3
ASCI 2700	Wildlife Hlth & Consvration	3	ENGL 1705	Topics in Intro Writing: Sust	3
BCOR 2100	Ecology and Evolution	0,4	ENSC 1010	Intro Environmental Sci	3
BUS 1110	The Business Enterprise I	0,3	ENSC 1490	Climate Change I	3
			ENSC 2490	Climate Change II	1,3
			ENSC 4740	Climate Chg: Sci & Percept	3
			ENVS 1500	Intro to Environmental Studies	0,4

ENVS 1510	Solutions in Enviro Studies	0,4
FOR 1010	Forest Conservation	3
GEOG 1014	Topics In: FYS: Sustainability	3
GEOG 1760	Global Environments & Cultures	3
GEOG 1780	Society, Place, and Power	3
GEOG 2235	Geography of Water	3
GEOG 2770	Geography of Development	3
GEOL 2105	Earth Materials	3
GEOL 3105	Earth Materials w/lab	0,4
GERM 2202	Interm Germ II: Sustainability	3
GRS 1500	Intro to Global Studies	3
HLTH 2070	Human Health & the Envirnmt	0,3
HLTH 2760	Hlth in Mediterranean	3
HLTH 2770	Iceland Ther Thermal Springs	3
HP 2100	Intro to Historic Preservation	3
HSCI 2200	Rsrch Methods in Public Health	3
HSOC 1700	Global Health Devel & Diversit	3
HST 1370	Global Environmental History	3
ME 1220	Applied Thermodynamics	3
MMG 1020	Unseen Wrlds:Microbes & You	3
MMG 3300	Adv St Emerg Infec Dis	3
NFS 1073	Farm to Table: Food Sys	3
NR 1090	VT: Natural & Cultural Hst	0,4
NR 1610	Foundations of PBE	4
NR 2020	Water as a Natural Resource	3
NR 2070	Human Health & the Envirnmt	3
NR 2740	CR: Sustainability Theory&Prac	4
NR 2880	Sustainability Science	3
NR 3050	Ecosys Mgt:Intg Sci,Soc&Pol	3

NURS 3000	Health and Sustainability	3
PBIO 1040	Intro to Botany	0,4
PBIO 1060	Plants, Food, and Culture	3
PBIO 2330	How Plants Can Save World	3
PHIL 1635	Ethics of Eating	3
PHYS 1200	Energy and the Environment	3
POLS 2460	US Environmental Politics	3
POLS 2610	Global Politics of Food	3
PRT 1100	Int Sustainable Rec&Tourism	3
PSS 1210	Intro to Agroecology	3
PSS 1370	Living Landscapes	3
PSS 2610	Fundmntls of Soil Science	0,4
PSS 3120	Advanced Agroecology	0,4
SOC 1500	Introduction to Sociology	3
SOC 2460	Sociology of Disaster	3
SPAN 2202	Interm Span II: Sustainability	3
SPAN 3102	Race, Identity & Migrant Labor	3
WFB 1740	Wildlife Conservation	3

### GENERAL EDUCATION CATEGORIES: CATALOGUE EDITIONS BEFORE FALL 2023

TO VIEW THE GENERAL EDUCATION CATEGORIES AND COURSES IN PLACE BEFORE FALL 2023, SELECT "MENU" AND THE APPROPRIATE CATEGORY

Information on this page applies to students who matriculated before Fall 2023.

<b>QUANTITATIVE REASONING (3 CREDITS)</b>	
1 course with QR designation	
<b>FOUNDATIONAL WRITING AND INFORMATION LITERACY (3 CREDITS)</b>	
1 course with FWIL designation, preferably in their first year at UVM.	

<b>DIVERSITY (6 CREDITS)</b>	
D1-Race and Racism in the US (3-6 credits)	
D2-Diversity of Human Experience (0-3 credits)	
<b>SUSTAINABILITY (3 CREDITS)</b>	
1 course with SU designation	

## FOUNDATIONAL WRITING AND INFORMATION LITERACY (FW)

Information on this page applies to students who matriculated before Fall 2023.

Foundational Writing and Information Literacy courses provide undergraduates instruction and practice in reading, writing, and researching wide ranging texts for different situations, inside and outside of the academy.

### THE FOLLOWING COURSES MEET THE FOUNDATIONAL WRITING AND INFORMATIONAL LITERACY REQUIREMENT:

All First-Year Seminars (FYS)

ENGS 001 / ENGL 1001

ENGS 002 / ENGL 1002

HCOL 085 / HCOL 1000

HCOL 086 / HCOL 1500

### RECOMMENDED ENROLLMENT:

#### College of Arts and Sciences Students

First Year Seminars (FYS)

#### Honors College Students

HCOL 085 and HCOL 086 / HCOL 1000 and HCOL 1500

#### Students in all other colleges

ENGS 001 / ENGL 1001

#### Speakers of Other Languages

An "A" section of ENGS 001 / ENGL 1001 : "Written Expression: Interntl"

#### Transfer Students

ENGS 002 / ENGL 1002

## QUANTITATIVE REASONING (QR)

Information on this page applies to students who matriculated before Fall 2023.

Quantitative Reasoning courses provide undergraduates with instruction and practice in numeracy, symbolic problem-solving,

and ways of understanding data visualizations critical for engaging in society.

### SPECIAL TOPICS COURSES

HCOL 086 / HCOL 1500 - when the topic is Knowledge and the Age of Big Data, or Introduction to Semantics

### PERMANENT COURSES

Code	Title	Hours
CS 1080	Intro to Web Site Dev	0,3
CS 1210	Computer Programming I	3
CS 1640	Discrete Structures	3
CS 1870	Intro to Data Science	3
CS 2100	Intermediate Programming	4
CS 2210	Computer Organization	3
CS 2240	Data Struc & Algorithms	3
CS 2250	Computability & Complexity	3
CS 2300	Advanced Programming	3
CS 2450	Web Client Programming	3
CS 2480	Database Design for Web	3
CS 2660	Cybersecurity Principles	3
CS 2830	Embedded Programming in C	2-3
CS 2870	Basics of Data Science	3
CS 3010	Operating Systems	3
CS 3040	Database Systems	3
CS 3050	Software Engineering	3
CS 3060	Evolutionary Robotics	3
CS 3220	Computer Architecture	3
CS 3240	Algorithm Design & Analysis	3
CS 3250	Programming Languages	3
CS 3260	Software Verification	3
CS 3430	Theory of Computation	3
CS 3530	Reinforcement Learning	3
CS 3540	Machine Learning	3
CS 3650	Computer Networks	3

CS 3660	Network Secrty&Cryptography	3	MATH 2766	Intro to Complex Systems	3
CS 3750	Mobile App Development	3	MATH 3201	Adv Engineering Mathematics	3
CS 3870	Data Science I - Pinnacle	3	MATH 3230	Ordinary Diffrentl Equation	3
CS 3880	Statistical Learning	3	MATH 3456	Complex Analysis	3
ECON 3500	Econometrics	3	MATH 3468	Anyl in Several Real Vars I	3
ECON 3510	Economic Forecasting	3	MATH 3472	Anyl Several Real Vrbes II	3
ECON 4400	Adv Macroeconomic Theory	3	MATH 3517	Elementary Number Theory	3
EDHI 1120	Data Ltrcy to PromoteChange	3	MATH 3551	Abstract Algebra I	3
EDSC 2570	Intro to Teaching Math	3	MATH 3555	Abstract Algebra II	3
EE 2830	Embedded Programming in C	2-3	MATH 3737	Intro to Numerical Analysis	3
LING 2630	Semantics	3	MATH 3766	Chaos,Fractals&Dynam Syst	3
MATH 1012	College Algebra	3	MATH 4344	Topology	3
MATH 1034	Pre-Calculus Mathematics	3	ME 3060	Integrated Product Dev	3
MATH 1077	Exploring Modern Mathematics	3	MMG 3310	Survey Bioinformatic Databases	3
MATH 1088	Numbers for Naturalists	3	MMG 3320	Advanced Bioinformatics	3
MATH 1111	Elementary School Math	3	PHIL 1400	Introduction to Logic	3
MATH 1122	Fund Cncpts Elm School Math	3	SOC 2300	Population Health Research	3
MATH 1212	Fundamentals of Calculus I	3	STAT 1050	Stat & Social Justice	3
MATH 1224	Fundamentals of Calculus II	3	STAT 1110	Elements of Statistics	3
MATH 1234	Calculus I	4	STAT 1410	Basic Statistical Methods 1	3
MATH 1242	Transitional Calculus	5	STAT 1870	Intro to Data Science	3
MATH 1248	Calculus II	4	STAT 2430	Statistics for Engineering	3
MATH 2055	Fundamentals of Mathematics	3	STAT 2510	Applied Probability	3
MATH 2111	Algebra for Educators	3	STAT 2830	Basic Statistical Methods 2	3
MATH 2248	Calculus III	4	STAT 2870	Basics of Data Science	3
MATH 2468	Real Anlys in One Variable	3	STAT 3000	Med Biostat&Epidemiology	3
MATH 2522	Applied Linear Algebra	3	STAT 3010	Stat Computing&Data Anlysis	3
MATH 2544	Linear Algebra	3	STAT 3210	Advanced Statistical Methods	3
MATH 2551	Groups and Rings	3	STAT 3240	Stats for Quality&Productvty	3
MATH 2678	Basic Combinatorial Theory	3	STAT 3410	Statistical Inference	3
MATH 2700	Fndmntls of Financial Math	3			



STAT 3870	Data Science I - Pinnacle	3
STAT 3880	Statistical Learning	3

## COLLEGES/SCHOOLS

### THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES

<http://www.uvm.edu/cals>

The programs of the College of Agriculture and Life Sciences (CALS) emphasize life sciences, agriculture and food systems, environment, sustainability, and the preservation of healthy rural communities. In cooperation with the Agricultural Experiment Station and the University of Vermont Extension Service, CALS fulfills the four core public functions of the University's land grant mission: teaching, research, outreach, and providing related services.

As an integral part of the University of Vermont, the College of Agriculture and Life Sciences helps fulfill the university's mission to discover, interpret and share knowledge; to prepare students to lead productive, responsible, and creative lives; and to promote the application of relevant knowledge to benefit the State of Vermont and society as a whole.

The college faculty strive for excellence in undergraduate education as evidenced by a sustained and enviable record of university teaching award winners. The college emphasizes the importance of each individual student and promotes significant student-faculty interaction. Students are provided with a firm foundation in the life sciences and social sciences in order to excel and meet the challenges in future professional careers. Faculty and staff provide a broad range of support to help students develop high-quality academic programs that meet individual needs.

Applying knowledge outside the classroom is a signature of all CALS programs. Opportunities abound for on and off-campus experiences such as internships, community service learning, undergraduate research, independent study, and study abroad. Pre-professional tracks prepare students for employment upon graduation or for the successful pursuit of advanced degrees. Career choices are broad, but focus primarily on entrepreneurship, dietetics, international and rural community development, agriculture, veterinary and human medicine, biotechnology, nutrition, research and teaching, horticulture, and the plant sciences.

Academic study is enhanced by the on-campus farm and field facilities, the labs, and the research for which the college is renowned. Many CALS faculty, working through the Agricultural Experiment Station, conduct mission-oriented, applied research and encourage undergraduate participation.

The office of the dean of the college is located in Rooms 106 and 108 in Morrill Hall. For more information, contact the Student Services office at [calsstudentservices@uvm.edu](mailto:calsstudentservices@uvm.edu) or call (802) 656-2980.

### CATAMOUNT CORE CURRICULUM REQUIREMENTS

All undergraduate degree students matriculating in Fall 2023 or later are required to successfully complete the Catamount Core Curriculum Requirements.

The Catamount Core Curriculum is designed to expose students to the intellectual breadth of the liberal arts, develop the skills needed to integrate and apply diverse areas of knowledge, and build the foundations for lifelong learning and active participation in local and global communities.

The Catamount Core Curriculum is made up of 42 credits in courses distributed across three main areas: LIBERAL ARTS (21 credits); CORE SKILLS (9 credits); and COMMON GROUND VALUES (12 credits).

### CALS FOUNDATION REQUIREMENTS

Students develop abilities and use tools to communicate effectively, analyze, problem-solve, think critically, and work well with others.

#### ORAL COMMUNICATION

Students show confidence and efficacy in speaking before a group, expressing themselves in a way that is easily understood at a level that is appropriate for the audience. Competency may be met by satisfactory completion of CALS 1010 or CALS 2830 (or equivalent, where the primary focus is public speaking).

#### INFORMATION TECHNOLOGY

Students demonstrate mastery of technology for communication, data gathering and manipulation, and information analysis. Competency may be met by satisfactory completion of CALS 1020 or CALS 1850 (or equivalent).

### DISTINGUISHED UNDERGRADUATE RESEARCH (DUR) COLLEGE HONORS PROGRAM

The CALS Academic Awards committee promotes and encourages independent research by recognizing those students who especially excel in their creative, innovative, responsible, and independent pursuit of research. DUR Committee Guidelines for student projects may be obtained on the CALS website or by emailing [calsstudentservices@uvm.edu](mailto:calsstudentservices@uvm.edu).

Independent research can be an important aspect of a student's education. Scientific research, independent projects, and internships or field practice are examples of independent research which benefit students as they pursue graduate study or seek employment. Over the years a number of undergraduate research projects have been published in well-known scientific journals and manuals, videotapes, and other products of special projects have been incorporated into classes to enhance the learning environment in the college.

The completed research, in a form appropriate to the discipline, is evaluated first by a departmental review committee. Independent research of the highest quality will be chosen for college Honors by the Academic Awards committee.

## HONORS PROGRAM

The CALS Honors program is a four-year Honors sequence for CALS students who are accepted into the university Honors College. It is designed for highly qualified and motivated students desiring an academically challenging undergraduate experience in the broad areas of the life sciences and agriculture.

In their first two years, Honors scholars will join Honors students from across the university in small, interdisciplinary Honors seminars conducted by renowned scholars from the University of Vermont and other institutions. In their junior and senior years, Honors scholars do Honors work within the College of Agriculture and Life Sciences. The program culminates with an Honors thesis: an opportunity to conduct independent scholarly research under the guidance of a faculty advisor.

Entering first-year students with outstanding academic records will be invited to participate in the Honors College. Scholars will be required to maintain a minimum grade-point average, participate in program activities, enroll in Honors classes and successfully complete a Senior Honors thesis.

Students in CALS who demonstrate academic excellence during their first year may apply for sophomore admission to the Honors College.

## ACCELERATED MASTER'S PROGRAMS (AMPS)

The AMP allows early admission to graduate studies with up to 6 concurrent credits double-counted toward the bachelor's and master's degrees. Most programs also allow students to take an additional 3 credits of graduate coursework while still an undergraduate, but these credits may not be double counted. AMPs affiliated with the College of Agriculture and Life Sciences include:

Animal Biosciences

Food Systems

Microbiology and Molecular Genetics

Nutrition and Food Science

Public Administration

Visit the UVM Graduate College for more information.

## UVM & VERMONT LAW SCHOOL

The University of Vermont (UVM) and Vermont Law School (VLS) offer unique 3+2 and 3+3 dual-degree programs. The dual-degree programs enable highly-focused students to earn both degrees in less time and at less cost from two distinguished institutions. In addition to the dual-degree programs, VLS offers a guaranteed admission program for UVM graduates. Learn more about the dual-degree and guaranteed admission programs.

## EXAMPLES OF PRE-MEDICAL AND PRE-VETERINARY OPPORTUNITIES MAY INCLUDE:

### PRE-MEDICAL ENHANCEMENT PROGRAM

The Premedical Enhancement Program (PEP) is a mentoring and shadowing program co-sponsored by the Larner College of Medicine's Office of Primary Care and the UVM Honors College. A small number of UVM pre-health students are accepted after a thorough application process. Read more about this program on the Larner College of Medicine website. The application season will begin in a student's sophomore year. Any pre-health UVM sophomore who meets eligibility criteria can apply.

### ACEND-ACCREDITED DIDACTIC PROGRAM

UVM students who aspire to become Registered Dietitian Nutritionists have the opportunity to successfully complete the Accreditation Council for Education in Nutrition and Dietetics (ACEND)-accredited didactic program while majoring in Dietetics, Nutrition & Food Sciences (DNFS) at UVM. Dietetics is a growing profession as healthcare moves from treatment to prevention. Healthcare reform and policies discussed in Washington DC and across the country all include prevention-related components. Although many health professionals are interested in prevention, Registered Dietitians are at the cutting edge of prevention, because so many preventable diseases and conditions are tied to food and nutrition. Our UVM DNFS graduates are eligible to apply to an ACEND-accredited supervised practice program to be eligible to become Registered Dietitian Nutritionists.

### UVM/TUFTS SCHOOL OF VETERINARY MEDICINE PROGRAM

Tufts University Cummings School of Veterinary Medicine offers undergraduates at UVM an opportunity to apply for admission in the spring of their sophomore year. A limited number of students are admitted; they are guaranteed a space in the veterinary school class once they graduate if they have maintained the required grade-point average upon graduation.

Participants in this program are offered the assurance of veterinary school admission without the substantial investments of time and energy that other pre-veterinary students typically make in the process of preparing, researching, and applying to numerous veterinary schools and preparing for optimal scores on the GRE. Program participants can select any undergraduate major, explore other areas of interest during their junior and senior years or choose to study abroad, thus broadening their undergraduate experience.

To be eligible to apply, candidates for this program must be sophomores and must have demonstrated academic proficiency in their course work, particularly in the pre-veterinary science courses.

It is expected that competitive applicants will have:

- Completed at least two science sequences (most typically the year of introductory chemistry and the year of introductory biology) by the spring semester of their sophomore year.

- Completed prerequisite courses at their undergraduate institution or at other universities by special permission of the veterinary school's admissions office.
- Achieved a highly competitive cumulative grade-point average.

AP credit is acceptable as long as it appears on the student's transcript. The GRE is not required for applicants to this joint program; the applicant's SAT scores will be considered during the admissions process.

For more details on the application process and program requirements, visit the Pre-veterinary Information for Prospective Students on the Department of Animal and Veterinary Sciences website.

### **UVM/ROYAL (DICK) SCHOOL OF VETERINARY STUDIES, THE UNIVERSITY OF EDINBURGH (UOE, R(D)SVS) PLACEMENT AGREEMENT**

The University of Vermont (UVM) and the Royal (Dick) School of Veterinary Studies, the University of Edinburgh (UoE, R(D)SVS) have entered into an early entrance admission placement program that will make available three guaranteed places for UVM early application students. Application to the UoE, R(D)SVS early admission program can be made at the end of the second year (four semesters) with predetermined science and math courses completed and a minimum GPA of 3.40. If accepted, the 3.40 or above GPA has to be maintained until the time of graduation. Admitted students must receive adequate animal handling experience throughout their residence at UVM. The type of experience required can be coordinated between the student and the UoE, R(D)SVS. Opportunity will exist to credit some components of UVM teaching in animal husbandry and animal handling as accredited prior learning for the Edinburgh degree. Advice will be given by UoE, in consultation with UVM, as to what courses can be credited. If requested, opportunity to undertake a four week vacation clinical placement (companion animal and/or equine) at R(D)SVS will be available to all students in the program.

### **UVM/UNIVERSITY OF GLASGOW MATRICULATION AGREEMENT**

The University of Glasgow (UoG), Glasgow, UK and the University of Vermont (UVM), Burlington, VT USA have formed an agreement (p. 490) whereby University of Vermont students can complete a joint B.S./BVMS degree attending UoG in their fourth year at UVM. UVM may send students who have successfully completed three years of study in the University of Vermont Animal and Veterinary Sciences Bachelor of Science (B.S.) program to the Bachelor of Veterinary Medicine and Surgery programme (BVMS) hosted by the School of Veterinary Medicine, College of Medical, Veterinary and Life Sciences at Glasgow. Participating students will continue as candidates for degrees from their home institution (UVM) and will not, at the end of the first year at UoG, be eligible candidates for degrees from the host institution (UoG). Credit for subjects taken at UoG will be transferred to UVM to fulfill the requirements for awarding successful students a B.S. degree in Animal and Veterinary Sciences from UVM at the end of their fourth year. University of Vermont students meeting matriculation requirements

and successfully completing Year 1 of the BVMS program at the University of Glasgow will be offered a direct entry place in Year 2 of the BVMS program. UVM students must work with the Department of Animal and Veterinary Sciences to apply at the beginning of the fall semester of their junior year.

## **ARTICULATION AGREEMENTS**

For more information on articulation agreements with other colleges and universities, please go to <https://catalog-next.uvm.edu/undergraduate/admissioninfo/articulationagreements/> (p. 490)

## **MAJORS**

Agroecology and Landscape Design B.S. (p. 261)

Animal Science B.S. (p. 230)

Biochemistry B.S. (p. 236)

Biological Science B.S. (p. 238)

Community and International Development B.S. (p. 240)

Community-Centered Design B.S. (p. 241)

Community Entrepreneurship B.S. (p. 243)

Food Systems B.S. (p. 252)

Microbiology B.S. (p. 255)

Molecular Genetics B.S. (p. 256)

Nutrition and Food Sciences B.S. (p. 259)

Plant Biology B.S. (p. 263)

Public Communication B.S. (p. 244)

Self-Designed B.S. (p. 264)

## **MINORS**

- Agroecology (p. 262)
- Animal Science (p. 235)
- Applied Design (p. 246)
- Biochemistry (p. 237)
- Bioinformatics (p. 257)
- Biosecurity (p. 246)
- Community and International Development (p. 247)
- Community Entrepreneurship (p. 247)
- Consumer and Advertising (p. 247)
- Food Systems (p. 248)
- Green Building and Community Design (p. 249)
- Microbiology (p. 257)
- Molecular Genetics (p. 257)
- Nutrition and Food Sciences (p. 260)
- Plant Biology (p. 264)
- Public Communication (p. 250)
- Soil Science (p. 262)

- Sports Management (p. 251)
- Sustainable Landscape Horticulture (p. 262)

## REQUIREMENTS

### MAJOR DEGREE REQUIREMENTS

All programs in the College of Agriculture and Life Sciences lead to the Bachelor of Science degree and require:

1. The successful completion of a minimum of 120 credits of course work.
2. A minimum cumulative grade-point average of 2.00.
3. Completion of the Catamount Core Curriculum.
4. CALS 1010 (CALS 2830) and CALS 1020 (CALS 1850) foundation courses or approved equivalent courses for transfer students.
5. Students may overlap up to eight credits between their major and minor. Departmental exceptions and restrictions allowed.
6. All courses as specified in individual program majors.

The applicability of courses to specific areas of study is based on content and not departmental label. Applicability of courses to fulfill requirements rests with the student's advisor and, if necessary, concurrence of the dean of the college.

### TECHNOLOGY REQUIREMENT

The College of Agriculture and Life Sciences prepares students for careers and graduate studies by applying their knowledge, skills, and values in the classroom, as well as experiences in labs, farms, facilities, internships and study abroad. In these professional capacities, students will be expected to apply technology to communicate, compile, and analyze their work. Therefore, all CALS undergraduate programs require students to have a laptop computer.

### PRE-PROFESSIONAL PREPARATION

Students striving for admission to professional colleges, such as dentistry, medicine (including naturopathic), chiropractic, osteopathic, and veterinary medicine, can meet the undergraduate requirements for these programs through enrollment in CALS majors. Competition for admission to professional schools is very keen, and a superior academic record throughout an undergraduate program is necessary to receive consideration for future admission. Due to the intense competition, only a small percentage of those first-year students declaring an interest in professional schools are eventually admitted after completion of the baccalaureate. Consequently, students must select a major, in an area of their choice, to prepare them for a career other than medical sciences. The pre-professional requirements will be met concurrently with the major requirements for the B.S. degree. Students interested in human medical sciences often enroll in biochemistry, biological sciences, nutrition and food sciences, microbiology or molecular genetics. Those interested in veterinary medicine usually enroll in animal science or biological science.

Each student prepares a four-year program of courses, with the guidance of a faculty advisor, to meet requirements for a B.S. degree in their major. It is recommended that students complete

the following courses to meet minimum requirements of most professional schools. It is the responsibility of each student to contact the professional schools of their choice to determine the exact entrance requirements.

### Human Medical and Dental Schools

BIOLOGY WITH LABORATORY		
Choose one of the following sequences:		8
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
CHEMISTRY WITH LABORATORY		
Inorganic Chemistry:		8
CHEM 1400	General Chemistry 1	
CHEM 1450	General Chemistry 2	
Organic Chemistry:		8
CHEM 2580	Organic Chemistry 1	
CHEM 2585	Organic Chemistry 2	
PHYSICS WITH LABORATORY		
With math:		10
PHYS 1400 & PHYS 1410	Elementary Physics I and Elem Physics Problem Solving I	
PHYS 1450 & PHYS 1460	Elementary Physics II and Elem Physic Problem Solving II	
MATHEMATICS (REQUIREMENT VARIES)		
MATH 1212	Fundamentals of Calculus I	3
MATH 1224	Fundamentals of Calculus II	3
HUMANITIES, SOCIAL SCIENCES, LANGUAGES		
Students must complete the minimum college requirements in this area that includes English composition and speech. Many Medical and Dental Schools require two English Courses. Psychology and Sociology courses are required and/or recommended. For more information, Please visit the UVM Pre-Health website.		

### Veterinary Medical Schools

All of the courses listed above under Human Medical and Dental Schools plus:

BIOCHEMISTRY		
BIOC 3001	Fundamentals of Biochemistry	3
(optional corresponding lab)		1
WRITTEN ENGLISH		
Choose two of the following:		6

ENGL 1001	Written Expression	
ENGL 1740	The Art of the Essay	
ENGL 1730	Intro to Creative Writing	
GENETICS		
BCOR 2300	Genetics	3
or ASCI 2160	Animal Genetics	
MICROBIOLOGY		
MMG 2010	Microbiol & Infectious Disease	4
NUTRITION		
ASCI 3040	Advanced Animal Nutrition	4
STATISTICS		
STAT 1410	Basic Statistical Methods 1	3

Several schools require a course in introductory animal sciences, vertebrate embryology, immunology, molecular genetic cell biology or statistics. Students should consult their advisor regarding specific requirements for various veterinary schools. Requirements vary by school.

Finally, both human and veterinary medical schools want to see a history of interest in medicine. It is important for students to work with physicians or veterinarians and gain first-hand knowledge of their chosen profession. Volunteer or paid work in hospitals, nursing homes or emergency centers is important. Commercial farm experience is also valuable for pre-veterinary students.

Students applying to CALS who express an interest in medicine or pre-veterinary medicine should present evidence of high performance in high school level science and mathematics courses, plus additional supporting documentation such as high SAT scores, strong letters of recommendation, and a motivational summary statement.

## REGULATIONS

### GOVERNING ACADEMIC STANDARDS

The College of Agriculture and Life Sciences Studies committee reviews the semester grades of all students in the college whose semester or cumulative grade-point average falls below the 2.00 minimum, as well as the academic progress of all students placed on academic probation the previous semester. Detailed information may be obtained from the CALS Student Services office, 106 Morrill Hall, (802) 656-2980.

#### Guidelines

A student whose semester grade-point average falls below a 2.00 will be placed “on trial” and will be given a target semester average to achieve by the end of the following semester. A student whose semester grade-point average is below a 1.00 or who fails to achieve the stated target average while “on trial” may be placed on “intermediate trial”. Any student with a prolonged history of poor grades, including students who consistently fail to achieve the target

semester average, may be placed on “final trial”. A student who does not achieve the target semester grade-point average while on “final trial” is a candidate for dismissal from the university.

#### Additional Guidelines for CALS Academic Probation

Any student who has been dismissed can return to the College of Agriculture and Life Sciences assuming the student has satisfied the stipulations stated in their dismissal letter. Upon re-entry to the university, the student will be placed on “intermediate trial” and will not be allowed to take more than twelve credits during the semester in which they are re-admitted.

If a student is dismissed twice during their undergraduate degree program, the student will be required to take one academic year off as a matriculated student. During this period, courses may be taken through Professional and Continuing Education at the University of Vermont or elsewhere. Upon re-entry to the university, the student will be placed on “intermediate trial” and will not be allowed to take more than twelve credits during the semester in which they are re-admitted.

If the student is dismissed for a third time, the dismissal is final and cannot be appealed. Readmission to the university will only be permitted if the student is granted an Academic Reprieve. Please refer to the Academic Reprieve section under Academic and General Information in this catalog for details on this policy.

#### Appeal

A student may appeal a dismissal to the CALS Studies Committee by direction of the dismissal letter. The student will be asked to appear in person before the Studies Committee to appeal the case.

#### Continuing Education and Readmission

A student who has been dismissed from the college may take up to six credits of course work through UVM Professional and Continuing Education or another institution in an attempt to improve their grades. To gain readmission to the college, the student must achieve no less than a 2.67 semester average on the six credits. If six credits are to be taken at another institution, the student should work with the UVM Office of Transfer Affairs to ensure transferability.

## DEPARTMENTS/PROGRAMS

Animal and Veterinary Sciences (p. 230)

Biochemistry (p. 235)

Biological Science (p. 237)

Community Development and Applied Economics (p. 239)

Food Systems (p. 252)

Microbiology and Molecular Genetics (p. 254)

Nutrition and Food Sciences (p. 258)

Plant and Soil Science (p. 260)

Plant Biology (p. 263)

## DEPARTMENT OF ANIMAL AND VETERINARY SCIENCES

<https://www.uvm.edu/cals/asci>

Animals play a major role in our lives through agriculture, recreation, biomedical sciences, and companionship. The mission of the Department of Animal and Veterinary Sciences is to provide a high quality, broad-based education emphasizing domestic animals and their interactions with humans.

Graduates enter veterinary or other professional schools, pursue careers in biomedical sciences, agribusiness, companion animal and equine care and management, zoos and aquaria, or education. Students work closely with faculty advisors to tailor their programs toward specific career goals.

The Department of Animal and Veterinary Sciences actively encourages participation in undergraduate research, internships, and study abroad. Students have the opportunity to develop a well-rounded curriculum by complementing their classroom learning with laboratory and hands-on practical experiences.

### MAJORS

#### ANIMAL AND VETERINARY SCIENCES MAJOR

Animal Science B.S. (p. 230)

### MINORS

#### ANIMAL AND VETERINARY SCIENCES MINOR

Animal Science (p. 235)

### GRADUATE

Animal Biosciences AMP

Animal Biosciences M.S.

Animal Biosciences Ph.D.

Cellular, Molecular, and Biomedical Sciences Ph.D.

Food Systems M.S.

Food Systems Ph.D.

See the online Graduate Catalogue for more information

### ANIMAL SCIENCE B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

Major Requirements - Common to all Concentrations

ANIMAL AND VETERINARY SCIENCES		
ASCI 1000	Introductory Animal Sciences	3
ASCI 1040	Intro to Animal Nutrition	3
ASCI 2110	Animal Anatomy	4
ASCI 2120	General Physiology	3
ASCI 2130	Animals in Soc/Animal Welfare	3
ASCI 2160	Animal Genetics	3
ASCI 3150	Physiology of Reproduction	3
ASCI 3040	Advanced Animal Nutrition	4
RESTRICTED ELECTIVES		
Choose 9 credits from the following options:		9
ASCI 2180	Appl Animal Health	
ASCI 2240	Forage and Pasture Mgmt	
ASCI 2300	CREAM 1	
ASCI 2310	CREAM 2	
ASCI 2350	Dairy Management Seminar	
ASCI 2400	Equus	
ASCI 2420	Equine Training Techniques	
ASCI 2430	Equine Instructing Techniques	
ASCI 2450	Horse Barn Coop Exec Committee	
ASCI 2470	Equine Enterprise Management	
ASCI 2480	Horse Health and Disease	
ASCI 2700	Wildlife Hlth & Consvration	
ASCI 2510	Canine Behavior	
ASCI 2600	Zoos, Exotics & Endang Species	
ASCI 2990	Special Topics	
ASCI 2991	Internship	
ASCI 2993	Independent Study	
ASCI 2994	Teaching Assistantship	
ASCI 2995	Undergraduate Research	
ASCI 3070	Animal and Human Parasitology	
ASCI 3080	Molecular Epidemiol Infect Dis	
ASCI 3090	One Health: Antimicrob Resist	
ASCI 3470	Equine Industry Issues	
ASCI 3180	Endocrinology	
ASCI 3200	Lactation Physiology	

ASCI 3280	Clin Topics:Livestock Medicine	
ASCI 3300	CREAM Advising	
ASCI 3355	Advanced Dairy Management	
ASCI 3400	Equus Advising	
ASCI 3480	Clin Topics Equine Med & Surg	
ASCI 3490	Lameness in Horses	
ASCI 3580	Clin Top:Companion Animal Med	
ASCI 3600	Adv Top:Zoo,Exotic,Endang Spec	
ASCI 3990	Special Topics	
ASCI 3994	Teaching Assistantship	
ASCI 3995	Undergraduate Research	
ASCI 4990	Special Topics	
BIOL 4245	Mammalogy	
CDAE 2020	Sustainable Community Dev	
CDAE 2570	Consumer Law and Policy	
CDAE 2660	Intro to Comm Entrepreneurship	
CDAE 2670	Fin Mgmt: Comm Entrepreneurs	
CDAE 2680	Marketing:Com Entrepreneurs	
CDAE 3660	Dec Making:Comm Entrepreneurs	
CDAE 3670	Strat Plan:Comm Entrepreneurs	
FS 2010	U.S. Food Policy and Politics	
MMG 2010	Microbiol & Infectious Disease	
MMG 3230	Immunology	
NFS 2113	U.S. Food Policy and Politics	
NFS 3204	Food Microbiology Lab	
NFS 5253	Food Regulation	
NR 2030	Ecology, Ecosystems & Environ	
PSS 2610	Fundmntls of Soil Science	
PSYS 2100	Learning, Cognition & Behavior	
PSYS 2200	Biopsychology	
WFB 2300	Ornithology	
WFB 2310	Field Ornithology	
WFB 2410	Field Herpetology	
WFB 2740	Prin of Wildlife Management	
WFB 3240	Conservation Biology	
WFB 3990	Special Topics	

WFB 4320	Ichthyology	
WFB 4750	Wildlife Behavior	
WFB 4830	Terrestrial Wildlife Ecology	
ANIMAL HEALTH		
Choose 1 of the following health options:		3 or 4
ASCI 2180	Appl Animal Health	
ASCI 2480	Horse Health and Disease	
ASCI 3070	Animal and Human Parasitology	
ASCI 3280	Clin Topics:Livestock Medicine	
ASCI 3480	Clin Topics Equine Med & Surg	
ASCI 3580	Clin Top:Companion Animal Med	
MMG 2010	Microbiol & Infectious Disease	
BIOLOGY		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	8
CHEMISTRY		
CHEM 1100	Outline: General Chem w/lab	4
or CHEM 1400	General Chemistry 1	
CHEM 1150	Outline: Organic & BIOC w/lab	4
or CHEM 1580	Intro Organic Chemistry w/lab	
or CHEM 2580	Organic Chemistry 1	
MATHEMATICS		
MATH 1012	College Algebra (or higher)	3
STATISTICS		
STAT 1110	Elements of Statistics	3
or STAT 1410	Basic Statistical Methods 1	

Additional courses are selected with the help of the faculty advisor. See specific academic offerings for additional course requirements.

## PLAN OF STUDY

This page includes descriptions of the four Animal & Veterinary Sciences focus areas:

Dairy Production (p. 231)

Equine Science (p. 232)

Zoo, Exotic, and Companion Animal (p. 233)

Pre-Veterinary/Pre-Professional (p. 234)

## DAIRY PRODUCTION

Designed for students seeking in-depth training in dairy herd management and milk production with strong links to agribusiness.

Experiential learning is emphasized through the Cooperative for Real Education in Agricultural Management (CREAM) program and the Vermont State University/UVM 2+2 FARMS (p. 490) program. Students may also enroll in dairy courses at the Miner Agricultural Research Institute in Chazy, New York. Students with an interest in agribusiness could also consider a minor in Community Entrepreneurship from the Department of Community Development and Applied Economics (CDAE).

For students interested in dairy production, the Vermont State University/UVM 2+2 FARMS (p. 490) program provides Vermont residents with scholarships and the opportunity to earn a bachelor's degree after a two-year associate degree in Dairy Farm Management from the Vermont Technical College.

A potential plan of study for the dairy production concentration is outlined below but programs are highly individualized by students working with their faculty advisors.

First Year	Credits
ASCI 1000 Introductory Animal Sciences	3
ASCI 1040 Intro to Animal Nutrition	3
CALS 1010 Foundations:Communication Meth	3
CALS 1020 Foundation:Information Tech	3
BCOR 1400 Exploring Biology 1	4
BCOR 1450 Exploring Biology 2	4
CHEM 1100 Outline: General Chem w/lab	4
CHEM 1150 Outline: Organic & BIOC w/lab	4
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	3-6
Year Total:	31-34
<b>Sophomore</b>	
	<b>Credits</b>
ASCI 2110 Animal Anatomy	4
ASCI 2120 General Physiology	3
ASCI 2130 Animals in Soc/Animal Welfare	3
ASCI 2180 Appl Animal Health	3
ASCI 2300 CREAM 1	4
STAT 1110 Elements of Statistics	3
ENGL 1001 Written Expression or ENGL 1002 Topics In: Written Expression	3
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	6-12
Year Total:	29-35

Junior	Credits
ASCI 2160 Animal Genetics	3
ASCI 2240 Forage and Pasture Mgmt	4
ASCI 2310 CREAM 2	4
ASCI 2350 Dairy Management Seminar	2
ASCI 3040 Advanced Animal Nutrition	4
ASCI 3150 Physiology of Reproduction	3
ASCI 3200 Lactation Physiology	3
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	7-13
Year Total:	30-36
<b>Senior</b>	
	<b>Credits</b>
ASCI 2350 Dairy Management Seminar	2
ASCI 2990 Special Topics (Artificial Insemination )	1
ASCI 3180 Endocrinology	3
ASCI 3280 Clin Topics:Livestock Medicine	3
ASCI 3355 Advanced Dairy Management (@ Miner Institute)	15
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	5-9
Year Total:	29-33
<b>Total Credits in Sequence:</b>	<b>119-138</b>

### EQUINE SCIENCE

Specialized courses are offered on the care, management, breeding, training, and health of horses. Students can focus in either equine management and industry and/or equine health. The Ellen A. Hardacre Equine Center, located on the UVM campus, services many experiential equine courses such as EQUUS.

The UVM Morgan Horse Farm at Weybridge, VT, about 45 minutes from campus, is also part of the department and offers opportunities for study and research. Students may also enroll in equine courses at the Miner Agricultural Research Institute in Chazy, New York. Students with an interest in equine business could also consider a minor in Community Entrepreneurship from the Department of Community Development and Applied Economics (CDAE).

A potential plan of study for the equine science concentration is outlined below but programs are highly individualized by students working with their faculty advisors.



<b>First Year</b>	<b>Credits</b>
ASCI 1000 Introductory Animal Sciences	3
ASCI 1040 Intro to Animal Nutrition	3
ASCI 1400 Intro to the Horse	3
CALS 1010 Foundations:Communication Meth	3
CALS 1020 Foundation:Information Tech	3
BCOR 1400 Exploring Biology 1	4
BCOR 1450 Exploring Biology 2	4
CHEM 1100 Outline: General Chem w/lab	4
CHEM 1150 Outline: Organic & BIOC w/lab	4
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	0-5
Year Total:	31-36
<b>Sophomore</b>	<b>Credits</b>
ASCI 2110 Animal Anatomy	4
ASCI 2120 General Physiology	3
ASCI 2130 Animals in Soc/Animal Welfare	3
ASCI 2420 Equine Training Techniques	3
ASCI 2470 Equine Enterprise Management	3
ASCI 2480 Horse Health and Disease	3
STAT 1110 Elements of Statistics	3
ENGL 1001 Written Expression or ENGL 1002 Topics In: Written Expression	3
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	6-10
Year Total:	31-35
<b>Junior</b>	<b>Credits</b>
ASCI 2160 Animal Genetics	3
ASCI 2240 Forage and Pasture Mgmnt	4
ASCI 2400 Equus	2-4
ASCI 2430 Equine Instructing Techniques	2
ASCI 2990 Special Topics (Equine Repro Workshop)	1
ASCI 3040 Advanced Animal Nutrition	4
ASCI 3150 Physiology of Reproduction	3
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	9-11

Year Total:	28-32
<b>Senior</b>	<b>Credits</b>
ASCI 2991 Internship	15
ASCI 3470 Equine Industry Issues	3
ASCI 3480 Clin Topics Equine Med & Surg	3
ASCI 3490 Lameness in Horses	4
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	5-11
Year Total:	30-36
<b>Total Credits in Sequence:</b>	<b>120-139</b>

## ZOO, EXOTIC, AND COMPANION ANIMAL

This concentration is designed for students who are primarily interested in zoo, exotic, and companion animal focused careers. Courses are offered on the management, care, breeding, health, and training of zoo, exotic, and companion animals. Hands-on experiences are available locally and through summer and winter course work and internships. A potential study plan is outlined below but individual plans can be designed by the student and advisor. Students could also consider a minor in either Psychological Science from the Department of Psychological Science, a minor in Community Entrepreneurship from the Department of Community Development and Applied Economics (CDAE) or a minor in Wildlife Biology from the The Rubenstein School of Environment and Natural Resources.

A potential plan of study for the zoo, exotic and companion animal concentration is outlined below but programs are highly individualized by students working with their faculty advisors.

<b>First Year</b>	<b>Credits</b>
ASCI 1000 Introductory Animal Sciences	3
ASCI 1040 Intro to Animal Nutrition	3
ASCI 1500 Companion Animal Care & Mgmt	3
CALS 1010 Foundations:Communication Meth	3
CALS 1020 Foundation:Information Tech	3
CHEM 1100 Outline: General Chem w/lab	4
CHEM 1150 Outline: Organic & BIOC w/lab	4
BCOR 1400 Exploring Biology 1	4
BCOR 1450 Exploring Biology 2	4
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	0-3
Year Total:	31-34

<b>Sophomore</b>	<b>Credits</b>
ASCI 1510 Understanding & Speaking Dog	3
ASCI 2110 Animal Anatomy	4
ASCI 2120 General Physiology	3
ASCI 2130 Animals in Soc/Animal Welfare	3
ASCI 2180 Appl Animal Health	3
ENGL 1001 Written Expression or ENGL 1002 Topics In: Written Expression	3
STAT 1110 Elements of Statistics	3
NR 2030 Ecology, Ecosystems & Environ or BCOR 2100 Ecology and Evolution	3
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	3-12
Year Total:	28-37
<b>Junior</b>	<b>Credits</b>
ASCI 2160 Animal Genetics	3
ASCI 2240 Forage and Pasture Mgmt	4
ASCI 2510 Canine Behavior	3
ASCI 2600 Zoos, Exotics & Endang Species	3
ASCI 3040 Advanced Animal Nutrition	4
ASCI 3150 Physiology of Reproduction	3
MMG 2010 Microbiol & Infectious Disease	4
WFB 2740 Prin of Wildlife Management	3
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	3-9
Year Total:	30-36
<b>Senior</b>	<b>Credits</b>
ASCI 3180 Endocrinology	3
ASCI 3580 Clin Top:Companion Animal Med	3
ASCI 3600 Adv Top:Zoo,Exotic,Endang Spec	3
WFB 2300 Ornithology	3
WFB 4830 Terrestrial Wildlife Ecology	4
Choose either Mathematics (MATH 1012 or higher) or Catamount Core or Electives	3-10
Year Total:	19-26

<b>Total Credits in Sequence:</b>	<b>108-133</b>

## PRE-VETERINARY/PRE-PROFESSIONAL

This option is for students who intend to enter veterinary, professional, or graduate school. It provides the necessary background in the sciences, as well as opportunities for advanced study related to production, companion, and zoo animals. For students with interest in pursuing their veterinary technology certification, UVM and Vermont Technical College offer a 2+2 Vet Tech program (p. 490).

A potential plan of study for the pre-veterinary/pre-professional science concentration is outlined below but programs are highly individualized by students working with their faculty advisors.

<b>First Year</b>	<b>Credits</b>
ASCI 1000 Introductory Animal Sciences	3
ASCI 1040 Intro to Animal Nutrition	3
ASCI 1400 Intro to the Horse or ASCI 1500 Companion Animal Care & Mgmt	3
CALS 1010 Foundations:Communication Meth	3
CALS 1020 Foundation:Information Tech	3
CHEM 1400 General Chemistry 1	4
CHEM 1450 General Chemistry 2	4
BCOR 1400 Exploring Biology 1	4
BCOR 1450 Exploring Biology 2	4
Choose either Mathematics (MATH 1212 or higher) or Catamount Core or Electives	0-3
Year Total:	31-34
<b>Sophomore</b>	<b>Credits</b>
ASCI 2110 Animal Anatomy	4
ASCI 2120 General Physiology	3
ASCI 2130 Animals in Soc/Animal Welfare	3
ASCI 2180 Appl Animal Health	3
ASCI 2480 Horse Health and Disease	3
CHEM 2580 Organic Chemistry 1	4
CHEM 2585 Organic Chemistry 2	4
ENGL 1001 Written Expression or ENGL 1002 Topics In: Written Expression	3
STAT 1410 Basic Statistical Methods 1	3

Choose either Mathematics (MATH 1212 or higher) or Catamount Core or Electives	0-5
Year Total:	30-35
<b>Junior</b>	<b>Credits</b>
ASCI 1510 Understanding & Speaking Dog	3
ASCI 2160 Animal Genetics	3
ASCI 2510 Canine Behavior	3
ASCI 3040 Advanced Animal Nutrition	4
ASCI 3150 Physiology of Reproduction	3
MMG 2010 Microbiol & Infectious Disease	4
BCOR 2500 Molecular & Cell Biology w/lab	4
ENGL 1740 The Art of the Essay or ENGL 1730 Intro to Creative Writing	3
Choose either Mathematics (MATH 1212 or higher) or Catamount Core or Electives	6-8
Year Total:	33-35
<b>Senior</b>	<b>Credits</b>
BIOC 3001 Fundamentals of Biochemistry	3
(optional corresponding lab, BIOC 3003)	1
ASCI 3180 Endocrinology	3
ASCI 3200 Lactation Physiology	3
ASCI 3280 Clin Topics:Livestock Medicine	3
ASCI 3480 Clin Topics Equine Med & Surg	3
ASCI 3580 Clin Top:Companion Animal Med	3
Physics	8-10
Choose either Mathematics (MATH 1212 or higher) or Catamount Core or Electives	3-5
Year Total:	30-34
<b>Total Credits in Sequence:</b>	<b>124-138</b>

## ANIMAL SCIENCES MINOR REQUIREMENTS

At least 15 credits of course work in Animal and Veterinary Sciences including:

ASCI 1000	Introductory Animal Sciences	3
9 credits from the following list:		9

ASCI 2110	Animal Anatomy	
ASCI 2120	General Physiology	
ASCI 2130	Animals in Soc/Animal Welfare	
ASCI 2160	Animal Genetics	
ASCI 2180	Appl Animal Health	
ASCI 2240	Forage and Pasture Mgmt	
ASCI 2300	CREAM 1	
ASCI 2310	CREAM 2	
ASCI 2350	Dairy Management Seminar	
ASCI 2400	Equus	
ASCI 2420	Equine Training Techniques	
ASCI 2430	Equine Instructing Techniques	
ASCI 2450	Horse Barn Coop Exec Committee	
ASCI 2480	Horse Health and Disease	
ASCI 2510	Canine Behavior	
ASCI 2600	Zoos, Exotics & Endang Species	
ASCI 2700	Wildlife Hlth & Consvration	
ASCI 3040	Advanced Animal Nutrition	
ASCI 3070	Animal and Human Parasitology	
ASCI 3080	Molecular Epidemiol Infect Dis	
ASCI 3090	One Health: Antimicrob Resist	
ASCI 3150	Physiology of Reproduction	
ASCI 3180	Endocrinology	
ASCI 3200	Lactation Physiology	
ASCI 3280	Clin Topics:Livestock Medicine	
ASCI 3355	Advanced Dairy Management	
ASCI 3480	Clin Topics Equine Med & Surg	
ASCI 3490	Lameness in Horses	
ASCI 3580	Clin Top:Companion Animal Med	
ASCI 3600	Adv Top:Zoo,Exotic,Endang Spec	
Remaining 3 credits can be taken from ASCI 1XXX, 2XXX, 3XXX, or 4XXX lists		3

## BIOCHEMISTRY IN THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES

<https://www.uvm.edu/biochemistry>

The interdisciplinary Biochemistry program is administered by the College of Agriculture and Life Sciences (CAL S) and the College of

Arts and Sciences (CAS) in conjunction with the College of Medicine (COM). The Bachelor of Science in Biochemistry can be pursued through the College of Agriculture and Life Sciences or through the College of Arts and Sciences.

## CALS BIOCHEMISTRY MAJOR

Biochemistry is the basic science that explores the chemical and physical properties of living organisms and the chemical changes that occur in these organisms. It is integral to the study of multiple disciplines within the life and biomedical sciences, including biology, chemistry, microbiology, genetics, anatomy, physiology, pharmacology, nutrition and food sciences, animal sciences, plant biology, and plant sciences. The Bachelor of Science in Biochemistry draws upon a broad set of university resources from CALS, CAS, and COM to provide students with a modern science-based education designed to emphasize fundamental knowledge of chemistry and biology along with advanced courses specializing in biochemistry and related life and biomedical sciences. The biochemistry curriculum offers students with a strong academic ability in the sciences an opportunity to explore upper-level courses in areas of modern biochemistry and is designed to meet the needs of students wishing to compete in the job market at the B.S. degree level as well as students planning to continue with advanced studies in a graduate or professional degree program.

Students may apply to the program either through CALS or CAS, which vary in their college distribution requirements. The distribution categories and the number of required courses in each category differ slightly. In CAS, students are required to fulfill distribution requirements in all of the following seven categories: foreign languages, fine arts, literature, humanities, social sciences, physical sciences, and mathematics, plus complete the University Approved Diversity requirements. In CALS, students are required to fulfill distribution requirements in science, humanities and fine arts, communication skills, information technology skills, quantitative skills, critical thinking skills, interpersonal skills, citizenship and social responsibility values, environmental stewardship values, and personal growth values. Regardless of the college through which students choose to apply, all students must take a core set of basic courses in chemistry, biology, and mathematics in their first two years followed by advanced courses in biochemistry, chemistry, and/or molecular biology in their third and fourth years. Since biochemistry is a “hands-on” science, involvement of students in undergraduate research projects, most of which qualify as Honors projects in either college, is strongly encouraged.

## MAJORS

### BIOCHEMISTRY MAJOR

Biochemistry B.S. (p. 236)

## MINORS

### BIOCHEMISTRY MINOR

Biochemistry (p. 237)

## GRADUATE

Biochemistry M.S.

Biochemistry Ph.D.

See the online Graduate Catalogue for more information

## BIOCHEMISTRY B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

## MAJOR REQUIREMENTS

In addition to the CALS or CAS college distribution requirements, the biochemistry core requires satisfactory completion of:

<b>ANCILLARY REQUIREMENTS. At least 27 credits.</b>		
BCOR 1400	Exploring Biology 1	4
BCOR 1450	Exploring Biology 2	4
MATH 1234 & MATH 1248	Calculus I and Calculus II	8
PHYS 1600	Fundamentals of Physics I	4
PHYS 1650	Fundamentals of Physics II	4
STAT 1410	Basic Statistical Methods 1	3
<b>CORE REQUIREMENTS. At least 32 credits.</b>		
BCOR 2300	Genetics	3
BCOR 2500	Molecular & Cell Biology w/lab	4
CHEM 1410 & CHEM 1460 & CHEM 2400	Exploring Chemistry 1 and Exploring Chemistry 2 and Inorganic Chemistry	5
CHEM 1500	Organic Chemistry for Majors 1	4
CHEM 1550	Organic Chemistry for Majors 2	4
CHEM 2600	Intro Physical Chemistry	3
BIOC 3005	Biochemistry I	3
BIOC 3006	Biochemistry II	3
BIOC 3007	Biochemistry Lab	3
<b>ADVANCED COURSES. 13-16 credits.</b>		
In addition, students must select one course from the following group of intermediate-level laboratory electives:		4
CHEM 2310	Quantitative Analysis	
MMG 2040	Intro Molecular Genetics	
MMG 3010	Applied Cell & Mol Bio Lab	

BIOL 4630	Adv Genetics Laboratory	
BIOL 4635	Adv Genetics & Proteomics Lab	
9-12 credits of advanced biochemistry-related electives		9-12
Choose one of the following:		1-6
BIOC 4084	Biochemistry Senior Seminar	
BIOC 4996	Honors	
Students may substitute: (However, the program of study recommended above will provide a better preparation for advanced course work in biochemistry.)		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2 (For BCOR 1400 and BCOR 1450)	
BCOR 1425	Accelerated Biology (See Advisor)	
MATH 1212 & MATH 1242	Fundamentals of Calculus I and Transitional Calculus (For MATH 1234 and MATH 1248)	
PHYS 1400 & PHYS 1450 & PHYS 1410 & PHYS 1460 (For PHYS 1600 & PHYS 1650)		
CHEM 1400 & CHEM 1450 & CHEM 2580 & CHEM 2585 (For CHEM 1500 & CHEM 1550 & CHEM 1410 & CHEM 1460, CHEM 2400)		
Research up to 6 credits from the following: BIOC 3995, MMG 3995, CHEM 3995		
Research credits in other related disciplines may be applied with the approval of the biochemistry directors		
<b>Total Credits</b>		<b>73-81</b>

## BIOCHEMISTRY MINOR REQUIREMENTS

17 credits in minor courses, including:

Choose 1 of the following options:		8
Option A:		
CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2	
Option B:		
CHEM 1500 & CHEM 1550	Organic Chemistry for Majors 1 and Organic Chemistry for Majors 2	
BIOC 3005	Biochemistry I	3
BIOC 3006	Biochemistry II	3
BIOC 3007	Biochemistry Lab	3

## RESTRICTIONS

Ineligible Major: Chemistry (B.A., B.S.)

Ineligible Minor: Chemistry

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## BIOLOGICAL SCIENCE IN THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES

<https://www.uvm.edu/biologicalscience>

The Biological Science program offers a Bachelor of Science degree in Biological Science administered through the College of Agriculture and Life Sciences (CALs) but drawing from the rich spectrum of courses and faculty found in CALs, the College of Arts and Sciences, the Rubenstein School of Environment and Natural Resources, and the Larner College of Medicine.

## CALS BIOLOGICAL SCIENCE MAJOR

Many of the most exciting developments with the potential to benefit society are in biological science. For example, consider how often the fields of biotechnology, medicine, ecology, and genetics are mentioned in the daily news. For students concerned about contemporary issues and who love the sciences, the Bachelor of Science program in Biological Science (BISC) offers the flexibility, rigor and comprehensiveness to prepare for a dynamic and challenging career. Veterinarian, marine biologist, physician, lab technician – these are among the several hundred careers in which CALs graduates are employed. Many use their degree as a professional stepping stone to medical, veterinary or graduate school.

BISC is the generic Bachelor of Science in Biological Science. Flexibility and quality are its biggest attractions. As a cross-college integrated major, BISC draws its expertise of faculty from several departments in the College of Agriculture and Life Sciences, the Department of Biology in the College of Arts and Science, and from other parts of the university, including the Larner College of Medicine. BISC students take two years of fundamental course work: mathematics, chemistry, introductory biology, genetics, ecology and evolution, and cell and molecular biology. During the junior and senior years, students study physics, statistics, advanced biology, and often do internships and undergraduate research working one-on-one with a professor in the student's area of interest. Students use their advanced electives to develop a rich expertise in biology or to concentrate in specialized areas such as genetics, plant biology, biochemistry, nutrition, and microbiology. Others expand their solid foundation by adding a second major or a minor in a complementary field selected from the offerings in CALs or CAS.

The wealth of faculty among the diverse biological sciences allows students to gain personal attention engaging with a professor in undergraduate research in the student's chosen field of interest. Students are encouraged to participate in the lab or field research of a UVM professor, chosen from the full range of life science disciplines at UVM. UVM has extensive teaching and research facilities, e.g., state-of-the-art laboratories and greenhouses, protected Natural Areas (from alpine tundra to Lake Champlain), Proctor Maple Research Center, Horticultural Farm, Morgan Horse Farm and Miller Research Center. Students find opportunities in biotechnology splicing genes and working on HIV; others examine how one gene may affect a cancer patient's sensitivity to chemotherapy drugs. One student contributed to research on how drug-eluting stents affect the potential for blood clots. Another biological science student worked on a project studying how pH affects phosphorus level in streams; while another, in a biomedical engineering lab, helped design a way to simulate skiing injuries (the data to be used to manufacture a safer ski boot).

Internships, a path for students to get experience in the working world while still in college, are of growing importance on a graduate's resume. In the BISC major, a broad range of opportunities are offered to the students.

## MAJORS

### BIOLOGICAL SCIENCE MAJOR

Biological Science B.S. (p. 238)

### BIOLOGICAL SCIENCE B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

## MAJOR REQUIREMENTS

The Biological Science B.S. core curriculum requires satisfactory completion:

CORE REQUIREMENTS:		
1 of the 2 following introductory biology options:		4-8
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
BCOR 1425	Accelerated Biology	
BCOR 2300	Genetics	3
BCOR 2100	Ecology and Evolution	4
BCOR 2500	Molecular & Cell Biology w/lab	4
ANCILLARY REQUIREMENTS:		
CHEM 1400	General Chemistry 1	4

CHEM 1450	General Chemistry 2	4
CHEM 2580	Organic Chemistry 1	4
CHEM 2585	Organic Chemistry 2	4
MATH 1212	Fundamentals of Calculus I	3-4
or MATH 1234	Calculus I	
MATH 1224	Fundamentals of Calculus II	3-4
or MATH 1248	Calculus II	
STAT 1410	Basic Statistical Methods 1	3
or STAT 2430	Statistics for Engineering	
1 of the following 2 Physics options:		8-10
OPTION A		
PHYS 1400	Elementary Physics I	
PHYS 1450	Elementary Physics II	
OPTION B		
PHYS 1600	Fundamentals of Physics I	
PHYS 1650	Fundamentals of Physics II	
ADVANCED ELECTIVES:		26
In consultation with their academic advisor, students will design a course of study that includes an additional 26 credits of advanced life science electives chosen from the following list of courses. No more than 8 credits at the 2000-level may apply toward these electives, and not exceeding 3 2000-level courses. With an advisor's permission, a biologically relevant graduate-level course may be applied. Up to 6 credits of undergraduate research and/or thesis credits in any biological discipline may be applied to the advanced electives; only 3 of these credits taken at the 2000-level will count toward the major, and these will be counted in the 8 credits allowed at the 2000-level.		

ANTH 3475, ASCI 2110, ASCI 2180, ASCI 2120, ASCI 2240, ASCI 2700, ASCI 2160, ASCI 3150, ASCI 3180, ASCI 3200, ASCI 3040, ASCI 3600, ASCI 3070, BCOR 3000, BCOR 2995, BCOR 3995, BHSC 3420, BHSC 3440, BHSC 3810, BHSC 3820, BIOC 2995, BIOC 3001, BIOC 3005, BIOC 3006, BIOC 3007, BIOC 3063, BIOC 3075, BIOC 3995, BIOC 3993, BIOC 3994, BIOC 3990, BIOL 2100, BIOL 5990, BIOL 2990, BIOL 2995, BIOL 2105, BIOL 4635, BIOL 4240, BIOL 4245, BIOL 4400, BIOL 3560, BIOL 4260, BIOL 4405, BIOL 3505, BIOL 3105, BIOL 3500, BIOL 3100, BIOL 3165, BIOL 3130, BIOL 3160, BIOL 3993, BIOL 4990, BIOL 3990, BIOL 3995, BIOL 6990 (when the title is Computational Biology), CSD 3810, ENSC 2480, ENSC 3600, ENSC 4010, ENSC 4740, FOR 3230, FOR 4280, BIOL 4996, PBIO 4996, MATH 5788, MLS 3200, MLS 3300, MMG 2010, MMG 2040, MMG 2060, MMG 2993, MMG 2994, MMG 4990, MMG 2995, MMG 3010, MMG 3050, MMG 3060, MMG 3070, MMG 3110, MMG 3200, MMG 3220, MMG 3230, MMG 3250, MMG 3300, MMG 3310, MMG 3320, MMG 3330, MMG 3350, MMG 3993, MMG 3994, MMG 5990, MMG 3990, MMG 3995, NFS 2143, NFS 2163, NFS 3203, NFS 3204, NFS 3243, NR 3200, NR 3280, NR 4500, NR 4680, NR 4800, NSCI 2105, NSCI 3220, NSCI 3250, NSCI 3500, NSCI 4500, PBIO 2040, PBIO 2080, PBIO 2090, PBIO 2170, PBIO 2330, PBIO 2510, PBIO 2770, PBIO 2993, PBIO 2990, PBIO 2995, PBIO 3090, PBIO 3320, PBIO 3410, PBIO 3610, PBIO 3750, PBIO 3993, PBIO 5940, PBIO 3990, PBIO 3995, PHRM 3000, PHRM 3010, PHRM 5400, PHRM 3720, PHRM 3900, PSS 2060, PSS 2120, PSS 2170, PSS 2380, PSS 2430, PSS 2540, PSS 2560, PSS 3120, PSS 3250, PSS 3320, PSS 3680, PSYS 2200, PSYS 3200, PSYS 3250, PSYS 3205, PSYS 3210, STAT 3000, WFB 2300, WFB 2310, WFB 2410, WFB 3610, WFB 2740, WFB 2990, WFB 3240, WFB 4320, WFB 4610, WFB 4750, WFB 4830	<b>74-82</b>
<b>Total Credits</b>	

Students are advised to complete 12 credits of advanced electives from courses with a quantitative component, 3 credits that stress oral communication and 3 credits that stress written communication. See the advanced electives list on the Biological Science B.S. website for these designations as well as course titles.

## DEPARTMENT OF COMMUNITY DEVELOPMENT AND APPLIED ECONOMICS

<http://www.uvm.edu/cals/cdae>

The social, economic, and environmental challenges affecting our communities and world are complex, interconnected and ever-changing, fueling the demand for professionals with a unique set of knowledge and skills. The Department of Community Development and Applied Economics (CDAE) uses principles, theories, and practical skills from the social, economic, and environmental fields to identify community needs, analyze problems and advance sustainable and resilient solutions in partnership with organizations and communities.

### THE CDAE MISSION

CDAE prepares students to contribute to society, conduct research, and engage in service for the development of resilient, inclusive, and just communities in an era of unprecedented change. Students learn

how to create and implement transdisciplinary solutions through applied learning and community engagement for the public good.

CDAE offers four innovative majors: Community-Centered Design, Community Entrepreneurship, Community and International Development, and Public Communication. CDAE offers many courses with experiential learning, including service-learning courses in which students partner with community organizations to work on real-world issues.

CDAE also offers six minors: Community Entrepreneurship; Community and International Development; Public Communication; Applied Design; Consumer and Advertising; and Green Building and Design. CDAE also participates in the College of Agriculture and Life Sciences interdepartmental Food Systems and Biosecurity minors as well as the intercollegiate Sports Management Minor.

Expertise among the CDAE faculty includes economics (ecological, neoclassical, and behavioral), public policy, design innovation, community entrepreneurship, consumer affairs, food systems, rural sociology, journalism, and communication. CDAE’s research and outreach is global and local (e.g., social marketing, community organizing, and local community initiatives).

### GENERAL REQUIREMENTS

Students majoring in any of the four majors within the department must complete the CDAE Core Curriculum, which includes the following courses:

CDAE 1020	World Food, Pop & Develop	3
CDAE 1240	Fund of Public Communication	3
CDAE 1610	Principles of Comm Dev Econ	3
CDAE 2020	Sustainable Community Dev	3
CDAE 2270	Consumer, Markets & Public Policy	3
CDAE 3500	Applied Research Methods	4
Additionally required are:		
POLS 1300	US Political System	3
CALS 1010	Foundations: Communication Meth	3
or CALS 2830	Communication Methods	
CALS 1020	Foundation: Information Tech	3
or CALS 1850	Computer Applications	
Two courses from the Humanities and Fine Arts		
Two Physical and Life Sciences (no lab requirement)		
One 3-credit university-approved Sustainability Course		
Two 3-credit university-approved Diversity courses		
CCD and PCOM Majors Only - the following are also required:		
MATH 1012	College Algebra (or higher)	3

STAT 1110	Elements of Statistics (or higher)	3
CID and CENT Majors Only - the following are also required:		
MATH 1212	Fundamentals of Calculus I (or higher)	3
STAT 1410	Basic Statistical Methods 1	3
or STAT 1110	Elements of Statistics	

## UVM & VERMONT LAW & GRADUATE SCHOOL DUAL DEGREE PROGRAM:

A significant number of UVM students consider attending law school immediately or a few years after graduation. UVM is successful in placing its graduates in leading law programs around the country, including Yale University, New York University, Columbia University, and the University of Michigan.

The University of Vermont (UVM) and Vermont Law & Graduate School (VLGS) offer unique 3+2 and 3+3 dual-degree programs. The dual-degree programs enable highly-focused students to earn both degrees in less time and at less cost from two distinguished institutions. In addition to the dual-degree programs, VLGS offers a guaranteed admission program for UVM graduates. Learn more about the dual-degree and guaranteed admission programs.

The University of Vermont provides guidance to its pre-law students through the Career Center and faculty and staff advisors in CALS. The college begins working with students as soon as they express an interest in law and provide guidance throughout their undergraduate career. Unlike pre-medical programs, where students must take a prescribed set of courses, there is no pre-law curriculum. "What law schools seek in their entering students is not accomplishment in mere memorization," states the Association of American Law Schools, "but accomplishment in understanding, the capacity to think for themselves, and the ability to express their thoughts with clarity and force."

## MAJORS

### COMMUNITY DEVELOPMENT AND APPLIED ECONOMICS MAJORS

Community and International Development B.S. (p. 240)

Community-Centered Design B.S. (p. 241)

Community Entrepreneurship B.S. (p. 243)

Public Communication B.S. (p. 244)

## MINORS

### COMMUNITY DEVELOPMENT AND APPLIED ECONOMICS MINORS

Applied Design (p. 246)

Biosecurity (p. 246)

Community and International Development (p. 247)

Community Entrepreneurship (p. 247)

Consumer and Advertising (p. 247)

Food Systems (p. 248)

Green Building and Community Design (p. 249)

Public Communication (p. 250)

Sports Management (p. 251)

## GRADUATE

Community Development and Applied Economics AMP

Community Development and Applied Economics M.S.

Public Administration AMP

Public Administration M.P.A.

Sustainable Development Policy, Economics, and Governance Ph.D.

See the online Graduate Catalogue for more information

## COMMUNITY AND INTERNATIONAL DEVELOPMENT B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

Building on an applied economics foundation, the Community and International Development curriculum offers students the academic and professional experience enabling them to address community development locally and globally. Students in Community and International Development have opportunities to analyze and learn from development issues in Vermont, New England, and around the world; students learn while engaging in real-world problem solving. Over the past decade, students and faculty members within CDAE have also nurtured relationships with communities in Belize, Peru, Honduras, Kenya, Puerto Rico, Nepal, and St. Lucia. CID students partner with organizations in these experiences to address the development issues facing local communities through carefully designed service-learning courses and faculty-led trips at home and abroad.

## CDAE CORE REQUIREMENTS

CDAE 1020	World Food, Pop & Develop	3
CDAE 1240	Fund of Public Communication	3
or CDAE 1400	Small Group Communication	
CDAE 1610	Principles of Comm Dev Econ	3
CDAE 2020	Sustainable Community Dev	3



CDAE 2270	Consumer, Markets & Public Policy	3
CDAE 3500	Applied Research Methods	4

## COMMUNITY AND INTERNATIONAL DEVELOPMENT MAJOR REQUIREMENTS

Students must complete:

MATH 1212	Fundamentals of Calculus I (or higher)	3
STAT 1410	Basic Statistical Methods 1	3
or STAT 1110	Elements of Statistics	
CDAE 2660	Intro to Comm Entrepreneurship	3
CDAE 3530	Macroeconomics for Appl Econ	3
CDAE 3540	Microeconomics for Appl Econ	3
CDAE 3550	Applied Consumption Economics	3
Choose 7 of the following:		27-28
CDAE 1600	Design Innovation I	
CDAE 2010	Drafting & Design: SketchUp II	
CDAE 2080	Comparative Food Systems	
CDAE 2140	Doc. Film for Social Change	
CDAE 2230	Media-Policy-Action	
CDAE 2410	Crisis Communication	
CDAE 2440	Community Media Production	
CDAE 2450	Propaganda, Media, & Cit Respn	
CDAE 2570	Consumer Law and Policy	
CDAE 2590	Consumer Law in Action I	
CDAE 2600	Design Innovation II	
CDAE 2640	Design+Cultural Entrepreneurship	
CDAE 2700	Green Building Energy Systems	
CDAE 2710	Community&Int'l Econ Transform	
CDAE 2720	Sust. Development Travel Study (*in the past has included Puerto Rico, Brazil, and Nepal)	
CDAE 2730	Evolving Trends in Int'l Devel	
CDAE 2740	Global Media & Intl Developmen	
CDAE 2860	Community Developmt:St Lucia I	
CDAE 2870	Community Developmt:St Lucia II	
CDAE 3050	Rural Comm in Modern Society	
CDAE 3070	The Real Cost of Food	
CDAE 3080	Agricultural Policy and Ethics	
CDAE 3180	Community Org & Development	

CDAE 3370	Economics of Sustainability	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3590	Consumer Law in Action II	
CDAE 3600	Smart Resilient Communities	
CDAE 3710	Local Community Initiatives	
CDAE 3720	Int'l Economic Development	
CDAE 3730	Project Development & Planning	
CDAE 3760	Community Design Studio	
CDAE 3780	Applied Community Planning	
CDAE 3860	Adv Sust Dev Sm Island States	
CDAE 3991	Internship (with Advisor-Approved Focus)	1-15
Transfer Credit or CDAE Special Topics courses, as appropriate		

## COMMUNITY-CENTERED DESIGN B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements.

Driven by an overarching question: “How can we design for a better tomorrow?” the Community-Centered Design major helps students learn about creative collaboration and design processes by which we understand complex issues and develop, implement, and share new ideas. Focused on sustainable and responsible solutions for real-world communities, this program places equal emphasis on theory, critical thinking, reflection, creativity, empathy, and working effectively with others, including community members and professionals in different fields. In addition to learning about general design theories, skills, and contexts, students customize their education by picking a concentration in Applied Design or Relational Design. Upon graduation, Community-Centered Design graduates are process experts ready to design a better tomorrow—a resilient and responsible tomorrow—together with local and global communities.

The Applied Design concentration emphasizes design processes needed to create tangible output; built or material products; simulations, interfaces or experiences that address the needs of the user; a person or a community. Tracks include (a) Communication Design, and (b) Green Design

The Relational Design concentration emphasizes design processes related to understanding and interacting with stakeholders, and creating within the complex relationships among people, across communities, and within systems. Tracks include (a) Community Resilience, Advocacy & Social Change and (b) Project Leadership, Management & Planning.

**CDAE CORE REQUIREMENTS**

CDAE 1020	World Food,Pop & Develop	3
CDAE 1240	Fund of Public Communication	3
CDAE 1610	Principles of Comm Dev Econ	3
CDAE 2020	Sustainable Community Dev	3
CDAE 2270	Consumer,Markets&Public Policy	3
CDAE 3500	Applied Research Methods	0 or 4

**COMMUNITY-CENTERED DESIGN MAJOR REQUIREMENTS**

MATH 1012	College Algebra (or higher)	3
STAT 1110	Elements of Statistics (or higher)	3
CDAE 1400	Small Group Communication	3
or CDAE 2760	Inclusive ScienceCommunication	
CDAE 1600	Design Innovation I	3
CDAE 2600	Design Innovation II	3
One additional 200 level design course		3
Choice of Three-Credit Capstone Experience Options:		
CDAE 2720	Sust. Development Travel Study	
CDAE 3991	Internship	
CDAE 3995	Undergraduate Research	
CDAE 3993	Independent Study	
CDAE 3000-level Service-Learning Course/Capstone		

**Community-Centered Design Concentration**

Choose either the Applied Design Concentration or the Relational Design Concentration. Choose one Track within that Concentration.

**CONCENTRATION REQUIREMENTS: APPLIED DESIGN**

Applied Design Concentration Tracks - Requirements: choose 9 courses (27 credits) from one of the following tracks:		
Track 1. Communication Design		
CDAE 1150	Visual Communication	
CDAE 1160	Communication Design I	
CDAE 1170	Digital Illustration	
CDAE 1850	Narrative Data Design	
CDAE 2110	Design:Narrative Media & Video	
CDAE 2120	Social Media:Theory 2 Practice	
CDAE 2140	Doc. Film for Social Change	
CDAE 2160	Communication Design II	

CDAE 2430	Sports Media	
CDAE 2440	Community Media Production	
CDAE 2460	Publication Design	
CDAE 2640	Design+Cultural Entrepreneurshp	
CDAE 2680	Marketing:Com Entrepreneurs	
CDAE 2720	Sust. Development Travel Study	
CDAE 2780	Socially Responsible Marketing	
CDAE 3310	Applied Computer Graphics	
CDAE 3760	Community Design Studio	
CDAE 3990	Special Topics (with Advisor Approval)	
CDAE 3991	Internship (with Advisor-Approved Focus)	
CS 1080	Intro to Web Site Dev	
Track 2. Green Design		
CDAE 1010	Drafting & Design in SketchUp	
CDAE 1060	Energy Alternatives	
CDAE 2010	Drafting & Design: SketchUp II	
CDAE 2700	Green Building Energy Systems	
CDAE 2710	Community&Int'l Econ Transform	
CDAE 2720	Sust. Development Travel Study	
CDAE 2860	Community Developmt:St Lucia I	
CDAE 3370	Economics of Sustainability	
CDAE 3600	Smart Resilient Communities	
CDAE 3730	Project Development & Planning	
CDAE 3760	Community Design Studio	
CDAE 3780	Applied Community Planning	
CDAE 3991	Internship (with Advisor-Approved Focus)	
PSS 1100	Home & Garden Horticulture	
PSS 2230	Garden Flowers	
PSS 2250	Woody Landscape Plants	
PSS 2370	Landscape Design Fundamentals	
PSS 2371	Landscape Design Studio	
PSS 2560	Permaculture	
PSS 3380	Ecological Landscape Design	
GEOG 1500	Geospatial Cncpt&Visualization	
NR 2430	Intro to Geog Info Systems	

**CONCENTRATION REQUIREMENTS: RELATIONAL DESIGN**

Relational Design Concentration - Requirements: choose 9 courses (27 credits) from one of the following tracks:	
Track 1. Community Resilience, Advocacy & Social Change	
CDAE 2130	Activist Journalism
CDAE 2140	Doc. Film for Social Change
CDAE 2230	Media-Policy-Action
CDAE 2410	Crisis Communication
CDAE 2430	Sports Media
CDAE 2440	Community Media Production
CDAE 2450	Propaganda, Media, & Cit Respn
CDAE 2570	Consumer Law and Policy
CDAE 2590	Consumer Law in Action I
CDAE 2720	Sust. Development Travel Study
CDAE 2780	Socially Responsible Marketing
CDAE 3050	Rural Comm in Modern Society
CDAE 3590	Consumer Law in Action II
CDAE 3600	Smart Resilient Communities
CDAE 3710	Local Community Initiatives
CDAE 3760	Community Design Studio
CDAE 3991	Internship (with Advisor-Approved Focus)
SPCH 1410	Argument & Advocacy
Track 2. Project Leadership, Management & Planning	
CDAE 1040	US Food, Social Equity & Dev
CDAE 2190	Event Planning for Athletics
CDAE 2400	Leadership in Practice
CDAE 2410	Crisis Communication
CDAE 2660	Intro to Comm Entrepreneurship
CDAE 2720	Sust. Development Travel Study
CDAE 2860	Community Developmt:St Lucia I
CDAE 3180	Community Org & Development
CDAE 3370	Economics of Sustainability
CDAE 3600	Smart Resilient Communities
CDAE 3660	Dec Making:Comm Entrepreneurs
CDAE 3670	Strat Plan:Comm Entrepreneurs
CDAE 3710	Local Community Initiatives

CDAE 3720	Int'l Economic Development
CDAE 3730	Project Development & Planning
CDAE 3760	Community Design Studio
CDAE 3780	Applied Community Planning
CDAE 3860	Adv Sust Dev Sm Island States
CDAE 3991	Internship (with Advisor-Approved Focus)
PA 3060	Intro Cont Public Affairs

**COMMUNITY ENTREPRENEURSHIP B.S.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

Successful entrepreneurship is fundamental to a healthy community. Students majoring in Community Entrepreneurship test the entrepreneurial waters in courses designed to provide firsthand experience in launching and strengthening a business. Students build skills applying strategic planning, marketing, management, economics, and public policy on the enterprise level. This major emphasizes enterprises that promote community development with sound stewardship of natural resources and regard for social capital.

**CDAE CORE REQUIREMENTS**

CDAE 1020	World Food,Pop & Develop	3
CDAE 1240	Fund of Public Communication	3
or CDAE 1400	Small Group Communication	
CDAE 1610	Principles of Comm Dev Econ	3
CDAE 2020	Sustainable Community Dev	3
CDAE 2270	Consumer,Markets&Public Policy	3
CDAE 3500	Applied Research Methods	4

**COMMUNITY ENTREPRENEURSHIP MAJOR REQUIREMENTS**

Students must complete:

MATH 1212	Fundamentals of Calculus I (or higher)	3
STAT 1410	Basic Statistical Methods 1	3
or STAT 1110	Elements of Statistics	
CDAE 2570	Consumer Law and Policy	3
CDAE 2660	Intro to Comm Entrepreneurship	3
CDAE 2680	Marketing:Com Entrepreneurs	3
CDAE 2670	Fin Mgmt: Comm Entrepreneurs	4

CDAE 3530	Macroeconomics for Appl Econ	3
CDAE 3540	Microeconomics for Appl Econ	3
CDAE 3550	Applied Consumption Economics	3
CDAE 3660	Dec Making:Comm Entrepreneurs	3
CDAE 3670	Strat Plan:Comm Entrepreneurs	4
Choose 2 of the following:		
CDAE 1600	Design Innovation I	
CDAE 2120	Social Media:Theory 2 Practice	
CDAE 2140	Doc. Film for Social Change	
CDAE 2190	Event Planning for Athletics	
CDAE 2230	Media-Policy-Action	
CDAE 2240	Public Communication Media	
CDAE 2400	Leadership in Practice	
CDAE 2410	Crisis Communication	
CDAE 2430	Sports Media	
CDAE 2440	Community Media Production	
CDAE 2450	Propaganda, Media, & Cit Respn	
CDAE 2590	Consumer Law in Action I	
CDAE 2600	Design Innovation II	
CDAE 2640	Design+Cultural Entrepreneurshp	
CDAE 2740	Global Media & Intl Developmen	
CDAE 3050	Rural Comm in Modern Society	
CDAE 3070	The Real Cost of Food	
CDAE 3080	Agricultural Policy and Ethics	
CDAE 3180	Community Org & Development	
CDAE 3370	Economics of Sustainability	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3590	Consumer Law in Action II	
CDAE 3600	Smart Resilient Communities	
CDAE 3710	Local Community Initiatives	
CDAE 3730	Project Development & Planning	
CDAE 3760	Community Design Studio	
CDAE 3780	Applied Community Planning	
CDAE 3991	Internship (or SL course with advisor approval)	

## PUBLIC COMMUNICATION B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

Public Communication (PCOM) is the practice of creating and delivering relevant, creative, and responsible messages to serve the needs of a community, business, or organization. PCOM graduates are well-prepared for careers in marketing, public relations, community organizing, event planning, and activist journalism, as well as in video, audio, graphic, and social media.

The PCOM program equips students to use communication to inform and persuade, to build relationships, and to encourage open dialogue in organizations and communities toward resilient solutions. The academic programming is rooted in the application of research, theory, technical knowledge, and sound design principles. Students majoring in Public Communication use an integrated, hands-on approach to communication to critically analyze situations, manage information, and craft messages that work in an increasingly global society.

### CDAE CORE REQUIREMENTS

CDAE 1020	World Food,Pop & Develop	3
CDAE 1240	Fund of Public Communication	3
CDAE 1610	Principles of Comm Dev Econ	3
CDAE 2020	Sustainable Community Dev	3
CDAE 2270	Consumer,Markets&Public Policy	3
CDAE 3500	Applied Research Methods	4

### PCOM MAJOR REQUIREMENTS

MATH 1012	College Algebra (or higher)	3
STAT 1110	Elements of Statistics	3
CDAE 1150	Visual Communication	3
or CDAE 1600	Design Innovation I	
CDAE 1160	Communication Design I	3
CDAE 2200	Strategic Writing for PCOM	3
or CDAE 2210	News Writing Across Media	
CDAE 2240	Public Communication Media	3
CDAE 4240	Public Communication Capstone	3

### concentration requirements: communication design

Required Courses: 9 credits		
CDAE 1170	Digital Illustration	3

CDAE 2160	Communication Design II	3
CDAE 3310	Applied Computer Graphics	3
or CDAE 2110	Design:Narrative Media & Video	
or CDAE 2140	Doc. Film for Social Change	
or CDAE 2440	Community Media Production	
Elective Courses: 12 credits from the list below:		
CDAE 1010	Drafting & Design in SketchUp	
CDAE 2010	Drafting & Design: SketchUp II	
CDAE 2120	Social Media:Theory 2 Practice	
CDAE 2190	Event Planning for Athletics	
CDAE 2230	Media-Policy-Action	
CDAE 2290	Communication Law	
CDAE 2450	Propaganda, Media, & Cit Respn	
CDAE 2600	Design Innovation II	
CDAE 2640	Design+Cultural Entrepreneurshp	
CDAE 2780	Socially Responsible Marketing	
CDAE 2990	Special Topics (when the topic is Publication Design)	
CDAE 3760	Community Design Studio	
CDAE 3991	Internship (with Advisor-Approved Focus)	
ARTS 2610	Digital Art	
ARTS 2410	Graphic Design	
CS 1080	Intro to Web Site Dev	

**Concentration requirements: Community Media + Journalism**

Required Courses: 9 credits		
CDAE 2230	Media-Policy-Action	3
or CDAE 2450	Propaganda, Media, & Cit Respn	
or POLS 2440	Politics and Media	
CDAE 2290	Communication Law	3
CDAE 2120	Social Media:Theory 2 Practice	3
or CDAE 2130	Activist Journalism	
Elective Courses: 12 credits from the list below:		
CDAE 2110	Design:Narrative Media & Video	
CDAE 2130	Activist Journalism	
CDAE 2140	Doc. Film for Social Change	
CDAE 2160	Communication Design II	

CDAE 2410	Crisis Communication	
CDAE 2430	Sports Media	
CDAE 2440	Community Media Production	
CDAE 2600	Design Innovation II	
CDAE 2740	Global Media & Intl Developmen	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3991	Internship (with Advisor-Approved Focus)	
CAS 3922	Community News Service	
CS 1080	Intro to Web Site Dev	
ENGL 2740	Writing Creative Nonfiction	
FTS 2655	Production Foundations	

**concentration requirements: Strategic communication**

Required Courses: 9 credits		
CDAE 2280	Strategic Communication	3
CDAE 2290	Communication Law	3
CDAE 2680	Marketing:Com Entrepreneurs	3
or CDAE 2780	Socially Responsible Marketing	
Elective Courses: 12 credits from the list below:		
CDAE 1600	Design Innovation I	
CDAE 2120	Social Media:Theory 2 Practice	
CDAE 2190	Event Planning for Athletics	
CDAE 2230	Media-Policy-Action	
CDAE 2410	Crisis Communication	
CDAE 2440	Community Media Production	
CDAE 2450	Propaganda, Media, & Cit Respn	
CDAE 2570	Consumer Law and Policy	
CDAE 2590	Consumer Law in Action I	
CDAE 2660	Intro to Comm Entrepreneurship	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3590	Consumer Law in Action II	
CDAE 3991	Internship (with Advisor-Approved Focus)	
PA 3060	Intro Cont Public Affairs	
POLS 2440	Politics and Media	
SPCH 1410	Argument & Advocacy	

## APPLIED DESIGN MINOR

### REQUIREMENTS

Choose one of the following (3 credits):		
CDAE 1150	Visual Communication	
CDAE 1600	Design Innovation I	
Choose one of the following sequences (6 credits):		
CDAE 1010 & CDAE 2010	Drafting & Design in SketchUp and Drafting & Design: SketchUp II	
CDAE 1160 & CDAE 2160	Communication Design I and Communication Design II	
CDAE 1170 & CDAE 3310	Digital Illustration and Applied Computer Graphics	
Choose two of the following (6 credits):		
CDAE 1850	Narrative Data Design	
CDAE 2110	Design:Narrative Media & Video	
CDAE 2120	Social Media:Theory 2 Practice	
CDAE 2140	Doc. Film for Social Change	
CDAE 2430	Sports Media	
CDAE 2440	Community Media Production	
CDAE 2460	Publication Design	
CDAE 2600	Design Innovation II	
CDAE 2640	Design+Cultural Entrepreneurshp	
CDAE 2990	Special Topics (When the topic is Publication Design)	
CDAE 2990	Special Topics (When the topic is Motion Graphics)	
CDAE 2990	Special Topics (When the topic is Infographics and Data Visualization)	
CDAE 3600	Smart Resilient Communities	
CDAE 3760	Community Design Studio	
CDAE 3780	Applied Community Planning	
CDAE 3991	Internship	
No more than two courses can count toward both a student's major and minor for CENT, PCOM, CID, and CCD majors or other CDAE minors.		

### RESTRICTIONS

Ineligible Majors: Public Communication majors with Communication Design concentration, Community Centered Design majors with an Applied Design Track

## BIOSECURITY MINOR

Our increasingly global society creates opportunity for the spread of both intentional and unintentional threats to food and agriculture. To protect the food system from harm, agrosecurity, biosecurity, and cybersecurity need to work hand in hand. Put in positive terms, biosecurity is the opposite of bioterrorism and not only includes the study of threats, but the systems necessary to prevent those threats or reinforce resiliency to those threats.

This minor allows students to formalize a grouping of courses from social science and agriculture to STEM disciplines with a focus area on biosecurity. Topics include bioterror threats, prevention, and resilience in our lived, built, and natural environments.

### REQUIREMENTS

MMG 1020	Unseen Wrlds:Microbes & You	3
ASCI 1070	ABCs of Biosecurity	3
CDAE 1320	Protect Your Privacy	2
CDAE 2990	Special Topics (Agroterrorism and BioPiracy)	3
Restricted Electives (6 credits)		
CS 1060	Exploring Cybersecurity	
CDAE 2410	Crisis Communication	
CDAE 3600	Smart Resilient Communities	
FS 2030	Human Health in the Food Syst	
or NFS 2114	Human Health in the Food Syst	
MMG 2010	Microbiol & Infectious Disease	
MMG 3350	Bioterrorism	
NFS 2156	Deadly Food: Outbreak Investig	
NFS 5254	Global Food Safety	
POLS 1500	Intro International Relations	
or POLS 1700	Comparative World Politics	
POLS 2510	International Security	
or POLS 2525	Int'l Politics Middle East	
or POLS 2650	Global Gender Inequality	
or POLS 2720	Latin American Politics	
Other advisor-approved courses as appropriate		
Students interested in pursuing upper-level electives for this minor, please be aware that some have prerequisites not included in the minor course of study.		

## COMMUNITY AND INTERNATIONAL DEVELOPMENT MINOR REQUIREMENTS

CDAE 1020	World Food,Pop & Develop	3
CDAE 1610	Principles of Comm Dev Econ (CAS students may substitute EC012 for CDAE 1610)	3
CDAE 2020	Sustainable Community Dev	3
Choose 1 of the following:		3
CDAE 2710	Community&Int'l Econ Transform	
CDAE 2720	Sust. Development Travel Study	
CDAE 2860	Community Developmt:St Lucia I	
CDAE 3710	Local Community Initiatives	
CDAE 3730	Project Development & Planning	
CDAE 3991	Internship (or SL course approved by advisor)	
Choose 1 of the following:		3
CDAE 2010	Drafting & Design: SketchUp II	
CDAE 2080	Comparative Food Systems	
CDAE 2140	Doc. Film for Social Change	
CDAE 2230	Media-Policy-Action	
CDAE 2410	Crisis Communication	
CDAE 2440	Community Media Production	
CDAE 2450	Propaganda, Media, & Cit Respn	
CDAE 2570	Consumer Law and Policy	
CDAE 2590	Consumer Law in Action I	
CDAE 2640	Design+Cultural Entrepreneurshp	
CDAE 2700	Green Building Energy Systems	
CDAE 2730	Evolving Trends in Int'l Devel	
CDAE 2740	Global Media & Intl Developmen	
CDAE 2860	Community Developmt:St Lucia I	
CDAE 3050	Rural Comm in Modern Society	
CDAE 3070	The Real Cost of Food	
CDAE 3080	Agricultural Policy and Ethics	
CDAE 3180	Community Org & Development	
CDAE 3370	Economics of Sustainability	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3530	Macroeconomics for Appl Econ	
CDAE 3540	Microeconomics for Appl Econ	

CDAE 3550	Applied Consumption Economics	
CDAE 3590	Consumer Law in Action II	
CDAE 3600	Smart Resilient Communities	
CDAE 3720	Int'l Economic Development	
CDAE 3760	Community Design Studio	
CDAE 3780	Applied Community Planning	
CDAE 3860	Adv Sust Dev Sm Island States	
Or other courses as approved by advisor		
No more than two courses may count toward a student's major and minor for CCD, CENT, PCOM, and CID majors or other CDAE minors.		

### RESTRICTIONS

Ineligible Major: Community and International Development, Natural Resource Planning

## COMMUNITY ENTREPRENEURSHIP MINOR

### REQUIREMENTS

CDAE 1610	Principles of Comm Dev Econ	3
CDAE 2660	Intro to Comm Entrepreneurship	3
CDAE 2670	Fin Mgmt: Comm Entrepreneurs	4
CDAE 2680	Marketing:Com Entrepreneurs	3
Choose one of the following:		
CDAE 2020	Sustainable Community Dev	
CDAE 2570	Consumer Law and Policy	
CDAE 3660	Dec Making:Comm Entrepreneurs	
CDAE 3670	Strat Plan:Comm Entrepreneurs	

### RESTRICTIONS

Ineligible Major: Community Entrepreneurship

## CONSUMER AFFAIRS MINOR

This program is not currently accepting students.

## CONSUMER AND ADVERTISING MINOR REQUIREMENTS

CDAE 1240	Fund of Public Communication	3
CDAE 2200	Strategic Writing for PCOM	3
CDAE 2280	Strategic Communication	3
Choose two of the following (6 credits):		

CDAE 2120	Social Media:Theory 2 Practice	
CDAE 2190	Event Planning for Athletics	
CDAE 2270	Consumer,Markets&Public Policy	
CDAE 2410	Crisis Communication	
CDAE 2430	Sports Media	
CDAE 2440	Community Media Production	
CDAE 2570	Consumer Law and Policy	
CDAE 2590	Consumer Law in Action I	
CDAE 2660	Intro to Comm Entrepreneurship	
CDAE 2680	Marketing:Com Entrepreneurs	
CDAE 2760	Inclusive ScienceCommunication	
CDAE 2780	Socially Responsible Marketing	
SPCH 1410	Argument & Advocacy	
CDAE 3991	Internship (with Advisor-Approved Focus)	
No more than two courses may count toward a student's major and minor for CCD, CENT, PCOM, and CID majors or other CDAE minors.		

**RESTRICTIONS**

Ineligible Majors: Public Communication majors with Strategic Communication concentrations.

**FOOD SYSTEMS MINOR**

**REQUIREMENTS**

A minimum of 18 credits.

NFS 1073	Farm to Table: Food Sys	3
Choose 1 of the following Natural Sciences:		3
PSS 1210	Intro to Agroecology	
PBIO 1060	Plants, Food, and Culture	
PBIO 1040	Intro to Botany	
Choose 1 of the following Social Sciences and Humanities:		3
ANTH 1140	Food and Culture	
CDAE 1020	World Food,Pop & Develop	
CDAE 1040	US Food, Social Equity &Dev	
PHIL 1635	Ethics of Eating	
Choose 6 credits at the 2000-level or above:		6
ASCI 2300	CREAM 1	
or ASCI 2310	CREAM 2	
ASCI 2130	Animals in Soc/Animal Welfare	

ASCI 2240/ PSS 2430	Forage and Pasture Mgmt	
ASCI 2350	Dairy Management Seminar	
ASCI 2160	Animal Genetics	
ASCI 3040	Advanced Animal Nutrition	
CDAE 2050	Food Waste to Value	
CDAE 2270	Consumer,Markets&Public Policy	
CDAE 3070	The Real Cost of Food	
CDAE 3080/ PSS 3180	Agricultural Policy and Ethics	
CDAE 3370	Economics of Sustainability	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3600	Smart Resilient Communities	
HLTH/NR 2070	Human Health & the Envirnmnt	
FS 2010/ NFS 2113	U.S. Food Policy and Politics	
FS 2020/ CDAE 2080	Comparative Food Systems	
FS 2030/ NFS 2114	Human Health in the Food Syst	
NFS 2143	Nutrition in the Life Cycle	
NFS 2153	Principles of Food Technology	
NFS 2156	Deadly Food: Outbreak Investig	
NFS 3203	Food Microbiology	
NFS 3205	Functional Foods:Pncpl & Tech	
NFS 5245	Nutrition for Global Health	
NFS 5254	Global Food Safety	
NFS 5285	Food, Exchange and Culture	
PBIO 2090	Plant Systematics	
PBIO 2170	Plant Pathology	
PBIO 2330	How Plants Can Save World	
PBIO 2770	Biology of Fungi	
POLS 2990	Special Topics (when the topic is Global Politics of Food)	
PSS 2240	Sust Veg Crops Production	
PSS 2270	Greenhouse Operations & Mgmt	
PSS 2540	Composting Ecology & Mgmt	
PSS 2560	Permaculture	
PSS 3080	Diversified Farm Planning	



PSS 3090	Diversified Farm Operations	
PSS 3120	Advanced Agroecology	
Choose 3 credits at any level:		3
ANTH 1140	Food and Culture	
ASCI 1040	Intro to Animal Nutrition	
ASCI 2300	CREAM 1	
or ASCI 2310	CREAM 2	
ASCI 2130	Animals in Soc/Animal Welfare	
ASCI 2240/ PSS 2430	Forage and Pasture Mgmt	
ASCI 2350	Dairy Management Seminar	
ASCI 2160	Animal Genetics	
ASCI 3040	Advanced Animal Nutrition	
CDAE 1020	World Food,Pop & Develop	
CDAE 1040	US Food, Social Equity &Dev	
CDAE 1610	Principles of Comm Dev Econ	
CDAE 2050	Food Waste to Value	
CDAE 2270	Consumer,Markets&Public Policy	
CDAE 2720	Sust. Development Travel Study	
CDAE 2990	Special Topics (when the topic is Food or Agriculture)	
CDAE 3070	The Real Cost of Food	
CDAE 3080/ PSS 3180	Agricultural Policy and Ethics	
CDAE 3370	Economics of Sustainability	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3600	Smart Resilient Communities	
CDAE 3990	Special Topics (when the topic is Food or Agriculture)	
HLTH/NR 2070	Human Health & the Envirnmnt	
HLTH 2370	Mindful Eating	
FS 2010/ NFS 2113	U.S. Food Policy and Politics	
FS 2020/ CDAE 2080	Comparative Food Systems	
FS 2030/ NFS 2114	Human Health in the Food Syst	
GEOG 2990	Special Topics (when topic is Restoration Cultures)	
MMG 1020	Unseen Wrlds:Microbes & You	

NFS 1033	What's Brewing in Food Science	
NFS 1043	Fundamentals of Nutrition	
NFS 1050	Cheese and Culture	
NFS 1053	Basic Concepts of Foods	
NFS 2143	Nutrition in the Life Cycle	
NFS 2153	Principles of Food Technology	
NFS 2156	Deadly Food: Outbreak Investig	
NFS 3203	Food Microbiology	
NFS 3205	Functional Foods:Pncpl & Tech	
NFS 5245	Nutrition for Global Health	
NFS 5254	Global Food Safety	
NFS 5285	Food, Exchange and Culture	
NR 2750	Rural Lives in Global World	
PBIO 1040	Intro to Botany	
PBIO 1060	Plants, Food, and Culture	
PBIO 2090	Plant Systematics	
PBIO 2170	Plant Pathology	
PBIO 2330	How Plants Can Save World	
PBIO 2770	Biology of Fungi	
PHIL 1635	Ethics of Eating	
PSS 1210	Intro to Agroecology	
PSS 2240	Sust Veg Crops Production	
PSS 2270	Greenhouse Operations & Mgmt	
PSS 2540	Composting Ecology & Mgmt	
PSS 2560	Permaculture	
PSS 3080	Diversified Farm Planning	
PSS 3090	Diversified Farm Operations	
PSS 3120	Advanced Agroecology	
PSS 3210	Sustainable Orchard Management	

## GREEN BUILDING AND COMMUNITY DESIGN MINOR

### REQUIREMENTS

GREEN BUILDING AND COMMUNITY DESIGN BASICS		9
CDAE 1010	Drafting & Design in SketchUp	3
CDAE 2010	Drafting & Design: SketchUp II	3
CDAE 3760	Community Design Studio	3

or CDAE 3780	Applied Community Planning	
ENERGY AND SUSTAINABLE COMMUNITIES		6
Choose two of the following:		
CDAE 1060	Energy Alternatives	
CDAE 1600	Design Innovation I	
CDAE 2020	Sustainable Community Dev	
CDAE 2160	Communication Design II	
CDAE 2410	Crisis Communication	
CDAE 2600	Design Innovation II	
CDAE 2700	Green Building Energy Systems	
CDAE 2710	Community&Int'l Econ Transform	
CDAE 2720	Sust. Development Travel Study	
CDAE 2860	Community Developmt:St Lucia I	
CDAE 3050	Rural Comm in Modern Society	
CDAE 3180	Community Org & Development	
CDAE 3600	Smart Resilient Communities	
CDAE 3730	Project Development & Planning	
CDAE 2990	Special Topics (As approved by minor advisor: Special Topics offerings may be applied toward the minor, but require pre-approval from the student's academic advisor.)	
NR 2430	Intro to Geog Info Systems	
NR 3880	Ecol Design & Living Technol	
NR 4880	Advanced Ecological Design	
PSS 2370	Landscape Design Fundamentals	
PSS 2371	Landscape Design Studio	
PSS 2560	Permaculture	
PSS 3080	Diversified Farm Planning	
PSS 3380	Ecological Landscape Design	
No more than two courses may count toward a student's major and minor for CCD, CENT, PCOM, and CID majors or other CDAE minors.		

**RESTRICTIONS**

Students majoring in Environmental Science (ENSC) may obtain the Green Building and Community Design minor with only one overlapping course. Students majoring in Community Centered Design on the Green Building Track cannot minor in GBCD.

**PUBLIC COMMUNICATION MINOR REQUIREMENTS**

3 Required Courses (9 credits):		
CDAE 1240	Fund of Public Communication	3
CDAE 2200	Strategic Writing for PCOM	3
CDAE 2240	Public Communication Media	3
Choose 2 of the following courses (6 credits):		
CDAE 1150	Visual Communication	
or CDAE 1600 Design Innovation I		
or CDAE 3760 Community Design Studio		
CDAE 2110	Design:Narrative Media & Video	
CDAE 2120	Social Media:Theory 2 Practice	
CDAE 2130	Activist Journalism	
CDAE 2140	Doc. Film for Social Change	
CDAE 2160	Communication Design II	
CDAE 2190	Event Planning for Athletics	
CDAE 2230	Media-Policy-Action	
CDAE 2280	Strategic Communication	
CDAE 2290	Communication Law	
CDAE 2410	Crisis Communication	
CDAE 2430	Sports Media	
CDAE 2440	Community Media Production	
CDAE 2450	Propaganda, Media, & Cit Resp	
CDAE 2590	Consumer Law in Action I	
CDAE 2600	Design Innovation II	
CDAE 2680	Marketing:Com Entrepreneurs	
or CDAE 2780 Socially Responsible Marketing		
CDAE 2740	Global Media & Intl Developmen	
CDAE 2760	Inclusive ScienceCommunication	
CDAE 3590	Consumer Law in Action II	
CDAE 3991	Internship (with a focus on Strategic Communication, Community Media & Journalism, or Communication Design)	
PA 3060	Intro Cont Public Affairs	
POLS 2440	Politics and Media	
No more than 2 courses may count toward a student's major and minor for CCD, CENT, PCOM, and CID majors or other CDAE minors.		

**RESTRICTIONS**

Ineligible Major: Public Communication majors with Community Media and Journalism concentrations.

**SPORTS MANAGEMENT MINOR REQUIREMENTS**

A total of 18 credits is required for the minor.

EDPE 2010	Intro to Sports Management	3
EDPE 3200	Sport in Society	3
PRT 4350	Outdoor Recreation Planning	3
Choose 1 of the following Management courses:		3
BUS 2300	Leadership & Org Behavior	
EDPE 2190	Careers in College Athletics	
EDPE 3300	Philosophy of Coaching	
PRT 2570	Ski Area Management	
Choose 1 of the following Marketing/Communications courses:		3
BUS 2500	Marketing Management	
CDAE 1240	Fund of Public Communication	
CDAE 2190	Event Planning for Athletics	
CDAE 2430	Sports Media	
CDAE 2680	Marketing:Com Entrepreneurs	
PRT 2580	Resort Mgmt & Marketing	
Choose 1 of the following Entrepreneurship courses:		3
CDAE 2660	Intro to Comm Entrepreneurship	
CDAE 3670	Strat Plan:Comm Entrepreneurs	
PRT 3580	Entrepreneurship Rec&Tourism	
<b>Total Credits</b>		<b>18</b>

**OTHER INFORMATION**

Consult your major advisor for any applicable course/major restrictions and information regarding the use of one course to meet multiple degree requirements. Majors in Parks, Recreation and Tourism, or Business Administration may double count at most two courses from the Sports Management minor towards the major.

At least half the courses must be taken at UVM. Students must earn at least a 2.0 cumulative GPA in their Sports Management minor courses to earn a minor in Sports Management.

**ENVIRONMENTAL SCIENCES IN THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES**

This program is not currently accepting students. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

**MAJORS****ENVIRONMENTAL SCIENCES MAJOR**

This program is not currently accepting students. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

**ENVIRONMENTAL SCIENCES B.S.**

This program is not currently accepting students. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

**ENVIRONMENTAL STUDIES IN THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES**

This program is not currently accepting students via the College of Agriculture and Life Sciences. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

**MAJORS****ENVIRONMENTAL STUDIES MAJOR**

This program is not currently accepting students. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

**MINORS****ENVIRONMENTAL STUDIES MINOR**

This program is not currently accepting students. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

**ENVIRONMENTAL STUDIES B.S.**

This program is not currently accepting students via the College of Agriculture and Life Sciences. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

## FOOD SYSTEMS

[https://www.uvm.edu/foodsystems/undergraduate\\_programs\\_bs\\_food\\_systems](https://www.uvm.edu/foodsystems/undergraduate_programs_bs_food_systems)

UVM is a pioneer and global leader in food systems education, research, and collaboration and is the first and only university in the country to offer undergraduate, master's, and doctoral degrees in Food Systems.

UVM faculty, staff, and students have developed and maintained this position by embracing transdisciplinary approaches and fostering strong partnerships within the university, state, and beyond that contribute to a culture of collaboration and innovation. Given its strong systems orientation, UVM food systems scholarship encompasses a wide range of topics such as innovative production systems, environmental quality, entrepreneurship, human health and wellbeing, and nutrition. UVM's scale, as a land-grant university in a small state, provides students, staff, and faculty access to both diverse resources and an approachable campus community. This setting sustains relationships that integrate distinct disciplines in the natural and social sciences, as well as the humanities.

### MAJORS

#### FOOD SYSTEMS MAJOR

Food Systems (p. 252)

### MINORS

#### FOOD SYSTEMS MINOR

Food Systems (p. 248)

### GRADUATE

Food Systems M.S.

Food Systems Ph. D.

See the online Graduate Catalogue for more information

## FOOD SYSTEMS B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

The food systems curriculum provides students with a broad foundational knowledge about the food system that includes environmental, social, and economic sustainability of food production. This knowledge is presented within the context of a changing climate, agricultural systems, food, health, and nutrition, food security, policy development at federal, state, and local levels, and an understanding of the complex dynamics of a global food system. In addition, students declare a concentration with a focus on natural or social science. The concentration follows the curriculum of a minor by the same name. Students also complete six credits of

internship or research, providing an opportunity to apply what they learn, as well as prepare for a career in food systems.

### MAJOR REQUIREMENTS

MATH 1012	College Algebra	3
STAT 1110	Elements of Statistics	3
CDAE 1020	World Food, Pop & Develop	3
CDAE 1040	US Food, Social Equity & Dev	3
or NFS 1073	Farm to Table: Food Sys	
NFS 1043	Fundamentals of Nutrition	3
PBIO 1040	Intro to Botany	3-4
or PBIO 1060	Plants, Food, and Culture	
PSS 1210	Intro to Agroecology	3
FS 1930	Food Systems Seminar I	2
FS 2930	Food Systems Seminar II	2
FS 2010/ NFS 2113	U.S. Food Policy and Politics	3
FS 2020/ CDAE 2080	Comparative Food Systems	3
FS 2030/ NFS 2114	Human Health in the Food Syst	3
3 credits at the 3000 level of the following or advisor-approved electives		
ASCI 3040	Advanced Animal Nutrition	
CDAE 2990	Special Topics (when the topic is Food or Agriculture)	
CDAE 3070	The Real Cost of Food	
CDAE 3080/ PSS 3180	Agricultural Policy and Ethics	
CDAE 3370	Economics of Sustainability	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3600	Smart Resilient Communities	
NFS 3203	Food Microbiology	
NFS 3205	Functional Foods:Prncpl & Tech	
NFS 5245	Nutrition for Global Health	
NFS 5254	Global Food Safety	
NFS 5285	Food, Exchange and Culture	
PSS 3080	Diversified Farm Planning	
PSS 3090	Diversified Farm Operations	
PSS 3120	Advanced Agroecology	
PSS 3210	Sustainable Orchard Management	

Internship - Field Experience/Research <sup>1</sup>	6
Food Systems Concentration Requirement (Choose one)	15-18
NATURAL SCIENCES CONCENTRATION: may include Agroecology, Animal and Veterinary Sciences, Microbiology, Molecular Genetics, Nutrition and Food Sciences, Plant Biology, Soil Science, Sustainable Landscape Horticulture	
SOCIAL SCIENCES CONCENTRATION: may include Community Entrepreneurship, Community and International Development, Consumer + Advertising, Community Centered Design, Nutrition and Food Sciences, Public Communication, Sustainable Landscape Horticulture	
1 course/3 credits in the concentration area must be at the 3000-level	
Additional pre-requisites as needed (depending on concentration)	

Any 2000-level or higher course can only count ONCE toward the FS major OR the FS Concentration (minor) OR another minor declared within CALS.

<sup>1</sup> The following classes can apply to the internship - field/research experience requirement: ASCI 2300, ASCI 2310, ASCI 2991, CDAE 2991, CDAE 3991, MMG 2991, NFS 2991, PBIO 2991, PSS 2994, PSS 3090.

## FOOD SYSTEMS MINOR REQUIREMENTS

A minimum of 18 credits.

NFS 1073	Farm to Table: Food Sys	3
Choose 1 of the following Natural Sciences:		3
PSS 1210	Intro to Agroecology	
PBIO 1060	Plants, Food, and Culture	
PBIO 1040	Intro to Botany	
Choose 1 of the following Social Sciences and Humanities:		3
ANTH 1140	Food and Culture	
CDAE 1020	World Food,Pop & Develop	
CDAE 1040	US Food, Social Equity &Dev	
PHIL 1635	Ethics of Eating	
Choose 6 credits at the 2000-level or above:		6
ASCI 2300	CREAM 1	
or ASCI 2310	CREAM 2	
ASCI 2130	Animals in Soc/Animal Welfare	
ASCI 2240/ PSS 2430	Forage and Pasture Mgmnt	
ASCI 2350	Dairy Management Seminar	
ASCI 2160	Animal Genetics	

ASCI 3040	Advanced Animal Nutrition	
CDAE 2050	Food Waste to Value	
CDAE 2270	Consumer,Markets&Public Policy	
CDAE 3070	The Real Cost of Food	
CDAE 3080/ PSS 3180	Agricultural Policy and Ethics	
CDAE 3370	Economics of Sustainability	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3600	Smart Resilient Communities	
HLTH/NR 2070	Human Health & the Envirmnt	
FS 2010/ NFS 2113	U.S. Food Policy and Politics	
FS 2020/ CDAE 2080	Comparative Food Systems	
FS 2030/ NFS 2114	Human Health in the Food Syst	
NFS 2143	Nutrition in the Life Cycle	
NFS 2153	Principles of Food Technology	
NFS 2156	Deadly Food: Outbreak Investig	
NFS 3203	Food Microbiology	
NFS 3205	Functional Foods:Prncpl & Tech	
NFS 5245	Nutrition for Global Health	
NFS 5254	Global Food Safety	
NFS 5285	Food, Exchange and Culture	
PBIO 2090	Plant Systematics	
PBIO 2170	Plant Pathology	
PBIO 2330	How Plants Can Save World	
PBIO 2770	Biology of Fungi	
POLS 2990	Special Topics (when the topic is Global Politics of Food)	
PSS 2240	Sust Veg Crops Production	
PSS 2270	Greenhouse Operations & Mgmt	
PSS 2540	Composting Ecology & Mgmt	
PSS 2560	Permaculture	
PSS 3080	Diversified Farm Planning	
PSS 3090	Diversified Farm Operations	
PSS 3120	Advanced Agroecology	
Choose 3 credits at any level:		3

ANTH 1140	Food and Culture	
ASCI 1040	Intro to Animal Nutrition	
ASCI 2300	CREAM 1	
or ASCI 2310	CREAM 2	
ASCI 2130	Animals in Soc/Animal Welfare	
ASCI 2240/ PSS 2430	Forage and Pasture Mgmnt	
ASCI 2350	Dairy Management Seminar	
ASCI 2160	Animal Genetics	
ASCI 3040	Advanced Animal Nutrition	
CDAE 1020	World Food,Pop & Develop	
CDAE 1040	US Food, Social Equity &Dev	
CDAE 1610	Principles of Comm Dev Econ	
CDAE 2050	Food Waste to Value	
CDAE 2270	Consumer,Markets&Public Policy	
CDAE 2720	Sust. Development Travel Study	
CDAE 2990	Special Topics (when the topic is Food or Agriculture)	
CDAE 3070	The Real Cost of Food	
CDAE 3080/ PSS 3180	Agricultural Policy and Ethics	
CDAE 3370	Economics of Sustainability	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3600	Smart Resilient Communities	
CDAE 3990	Special Topics (when the topic is Food or Agriculture)	
HLTH/NR 2070	Human Health & the Envirnmnt	
HLTH 2370	Mindful Eating	
FS 2010/ NFS 2113	U.S. Food Policy and Politics	
FS 2020/ CDAE 2080	Comparative Food Systems	
FS 2030/ NFS 2114	Human Health in the Food Syst	
GEOG 2990	Special Topics (when topic is Restoration Cultures)	
MMG 1020	Unseen Wrlds:Microbes & You	
NFS 1033	What's Brewing in Food Science	
NFS 1043	Fundamentals of Nutrition	
NFS 1050	Cheese and Culture	

NFS 1053	Basic Concepts of Foods	
NFS 2143	Nutrition in the Life Cycle	
NFS 2153	Principles of Food Technology	
NFS 2156	Deadly Food: Outbreak Investig	
NFS 3203	Food Microbiology	
NFS 3205	Functional Foods:Pncpl & Tech	
NFS 5245	Nutrition for Global Health	
NFS 5254	Global Food Safety	
NFS 5285	Food, Exchange and Culture	
NR 2750	Rural Lives in Global World	
PBIO 1040	Intro to Botany	
PBIO 1060	Plants, Food, and Culture	
PBIO 2090	Plant Systematics	
PBIO 2170	Plant Pathology	
PBIO 2330	How Plants Can Save World	
PBIO 2770	Biology of Fungi	
PHIL 1635	Ethics of Eating	
PSS 1210	Intro to Agroecology	
PSS 2240	Sust Veg Crops Production	
PSS 2270	Greenhouse Operations & Mgmt	
PSS 2540	Composting Ecology & Mgmt	
PSS 2560	Permaculture	
PSS 3080	Diversified Farm Planning	
PSS 3090	Diversified Farm Operations	
PSS 3120	Advanced Agroecology	
PSS 3210	Sustainable Orchard Management	

## DEPARTMENT OF MICROBIOLOGY AND MOLECULAR GENETICS

<http://www.uvm.edu/microbiology/>

The College of Agriculture and Life Sciences shares this department with the Larner College of Medicine (LCOM). Undergraduate studies are in CALS while graduate studies are in the LCOM. The department offers a B.S. in Microbiology or a B.S. in Molecular Genetics.

## CALS MICROBIOLOGY AND MOLECULAR GENETICS MAJOR

Undergraduates who undertake studies in the Department of Microbiology and Molecular Genetics receive instruction in the classroom and in state-of-the-art teaching and research laboratories.

If you are interested in attending medical school or graduate school, then majoring in Microbiology (MICR) or Molecular Genetics (MGEN) may be appropriate. Fascinating recent developments in medicine and biomedical sciences, such as stem cell research, emerging microbial infectious diseases, genetic engineering, and cancer therapeutics, have emerged from a detailed understanding of the molecular events that underlie the routine functions of cells and organisms. Microbiology majors study in detail the microbes involved in infectious disease, human health, industrial manufacturing, ecology, and basic science research. Molecular genetics majors investigate the chemical, biological, and genetic principles that underlie all living processes at the molecular level.

Small classes, hands-on/intensive classroom laboratory experiences, and a strong commitment to undergraduate advising give students many opportunities to interact with the faculty, including a First-year Colloquium in which students meet directly with the faculty to discuss on-going research projects and contemporary issues in microbiology and molecular genetics. Undergraduates are encouraged to get involved in cutting-edge research projects in the department and the College of Medicine in such areas as DNA repair, infectious diseases, bioinformatics, structural biology, developmental genetics, and other fields. Internship opportunities outside of UVM with the local hospital, The University of Vermont Medical Center, the Department of Health, and the Office of the Chief Medical Examiner are also available to pre-med students. Approximately 75 percent of MICR and MGEN majors take advantage of either research or internship opportunities.

The program is flexible enough to allow students to minor in another scientific discipline such as animal sciences, biochemistry, biological sciences, chemistry, computer science, mathematics, medical technology, nutrition, and pharmacology -- or in a field that is altogether different. Students have graduated with minors in French, business administration, psychology, and statistics, allowing them to put together a career plan that spans a wide range of opportunities. The program is also flexible enough to allow students to experience a study abroad semester.

## MAJORS

### MICROBIOLOGY AND MOLECULAR GENETICS MAJORS

Microbiology B.S. (p. 255)

Molecular Genetics B.S. (p. 256)

## MINORS

### MICROBIOLOGY AND MOLECULAR GENETICS MINORS

Bioinformatics (p. 257)

Microbiology (p. 257)

Molecular Genetics (p. 257)

## GRADUATE

Cellular, Molecular, and Biomedical Sciences M.S.

Cellular, Molecular, and Biomedical Sciences Ph.D.

Microbiology and Molecular Genetics M.S.

See the online Graduate Catalogue for more information

## MICROBIOLOGY B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

## MAJOR REQUIREMENTS

MMG 1010	First Year Colloquium	1
MMG 1020	Unseen Wrlds:Microbes & You	3
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	4-8
or BCOR 1425	Accelerated Biology	
CS 1210	Computer Programming I	3
MATH 1212	Fundamentals of Calculus I	3-4
or MATH 1234	Calculus I	
CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 2580	Organic Chemistry 1	4
CHEM 2585	Organic Chemistry 2	4
MMG 2010	Microbiol & Infectious Disease	4
MMG 2040	Intro Molecular Genetics	4
MMG 2060	Intr Biomedical Research Meth	3
BCOR 2300	Genetics	3
MMG 2990	Special Topics (Molecular Cell Biology w/o Lab)	3-4
or BCOR 2500	Molecular & Cell Biology w/lab	
MMG 3050	Biochemistry I	3
or MMG 3060	Biochemistry II	
or BIOC 3001	Fundamentals of Biochemistry	
or BIOC 3075	Adv Biochem of Human Disease	
STAT 1410	Basic Statistical Methods 1	3
or STAT 3000	Med Biostat&Epidemiology	
MMG 4899	Senior Seminar	1
Choose 6 credits from the following MMG courses:		6

MMG 3110	Bacterial Genetics	
MMG 3220	Adv Medical Microbiology w/lab	
MMG 3300	Adv St Emerg Infec Dis	
Choose 9 credits from the following MMG courses:		9
MMG 3010	Applied Cell & Mol Bio Lab	
MMG 3070	Biochemistry Lab	
MMG 3200	Environmental Microbiology	
MMG 3230	Immunology	
MMG 3250	Eukaryotic Virology	
MMG 3310	Survey Bioinformatic Databases	
MMG 3320	Advanced Bioinformatics	
MMG 3330	Genetics and Genomics	
Choose 6 additional credits from above and/or below courses:		6
MMG 2995	Undergraduate Research	
MMG 3995	Undergraduate Research	
MMG 4990 & MMG 2990	Special Topics and Special Topics	
MMG 5990 & MMG 3990	Special Topics and Special Topics	
ASCI 3180	Endocrinology	
BIOL 3560	Developmental Biology	
BIOL 3505	Neurobiology	
MLS 3300	Clinical Microbiology II	
BHSC 3420	Immunology	
BHSC 3440	Immunology Lab	
NFS 3990	Special Topics (Food Microbiology)	
PHRM 3010	Pharmacology and Therapeutics	
PHRM 5400	Molecules & Medicine	
PHRM 3720	Toxicology	
PHRM 3900	Topics Molecular&Cell Pharm	

## MOLECULAR GENETICS B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

## MAJOR REQUIREMENTS

MMG 1010	First Year Colloquium	1
MMG 1020	Unseen Wrlds:Microbes & You	3
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	4-8
or BCOR 1425	Accelerated Biology	
CS 1210	Computer Programming I	3
MATH 1212	Fundamentals of Calculus I	3-4
or MATH 1234	Calculus I	
CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 2580	Organic Chemistry 1	4
CHEM 2585	Organic Chemistry 2	4
MMG 2010	Microbiol & Infectious Disease	4
MMG 2040	Intro Molecular Genetics	4
MMG 2060	Intr Biomedical Research Meth	3
BCOR 2300	Genetics	3
MMG 2990	Special Topics (Molecular Cell Biology w/o Lab)	3-4
or BCOR 2500	Molecular & Cell Biology w/lab	
BIOC 3075	Adv Biochem of Human Disease	3
or MMG 3050	Biochemistry I	
or BIOC 3001	Fundamentals of Biochemistry	
or MMG 3060	Biochemistry II	
STAT 1410	Basic Statistical Methods 1	3
or STAT 3000	Med Biostat&Epidemiology	
MMG 4899	Senior Seminar	1
Choose 6 credits from the following MMG courses:		6
MMG 3010	Applied Cell & Mol Bio Lab	
MMG 3330	Genetics and Genomics	
MMG 3990	Special Topics	
Choose 9 credits from the following MMG courses:		9
MMG 3070	Biochemistry Lab	
MMG 3110	Bacterial Genetics	
MMG 3200	Environmental Microbiology	
MMG 3220	Adv Medical Microbiology w/lab	
MMG 3230	Immunology	



MMG 3250	Eukaryotic Virology	
MMG 3300	Adv St Emerg Infec Dis	
MMG 3310	Survey Bioinformatic Databases	
MMG 3320	Advanced Bioinformatics	
Choose 6 additional credits from above and/or below courses:		6
MMG 2995	Undergraduate Research	
MMG 3995	Undergraduate Research	
MMG 3990 & MMG 5990	Special Topics and Special Topics	
MMG 4990 & MMG 2990	Special Topics and Special Topics	
ASCI 3180	Endocrinology	
BIOL 3560	Developmental Biology	
BIOL 3505	Neurobiology	
MLS 3300	Clinical Microbiology II	
BHSC 3420	Immunology	
BHSC 3440	Immunology Lab	
NFS 3990	Special Topics (Food Microbiology)	
PHRM 3010	Pharmacology and Therapeutics	
PHRM 5400	Molecules & Medicine	
PHRM 3720	Toxicology	
PHRM 3900	Topics Molecular&Cell Pharm	

## BIOINFORMATICS MINOR REQUIREMENTS

MMG 2060	Intr Biomedical Research Meth	3
MMG 3310	Survey Bioinformatic Databases	3
MMG 3320	Advanced Bioinformatics	3
MMG 3330	Genetics and Genomics	3
Six credits from the following courses:		
MMG 2995	Undergraduate Research (Advisor Approval for 2995 or 3995 Required)	
or MMG 3995	Undergraduate Research	
MMG 3110	Bacterial Genetics	
CS 2240	Data Struc & Algorithms	
CS 3540	Machine Learning	
STAT 1870	Intro to Data Science	
STAT 3000	Med Biostat&Epidemiology	

STAT 3010	Stat Computing&Data Analysis	
18 credits of bioinformatics course work		18

## PRE/CO-REQUISITES

BIOL 1400	Principles of Biology 1	4
or BIOL 1450	Principles of Biology 2	
or BCOR 1400	Exploring Biology 1	
or BCOR 1450	Exploring Biology 2	
CS 1210	Computer Programming I	3
STAT 1110	Elements of Statistics	3
or STAT 1410	Basic Statistical Methods 1	
or STAT 2430	Statistics for Engineering	

## MICROBIOLOGY MINOR REQUIREMENTS

MMG 2010	Microbiol & Infectious Disease	4
MMG 2040	Intro Molecular Genetics	4
MMG 2990	Special Topics (Molecular Cell Biology w/o Lab)	3-4
or BCOR 2300	Genetics	
or BCOR 2500	Molecular & Cell Biology w/lab	
9 credits of MMG courses at or above 2000-level		9

## PRE/CO-REQUISITES

BCOR 1400	Exploring Biology 1	4
BCOR 1450	Exploring Biology 2	4
CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 2580	Organic Chemistry 1	4
CHEM 2585	Organic Chemistry 2	4

## MOLECULAR GENETICS MINOR REQUIREMENTS

MMG 2010	Microbiol & Infectious Disease	4
MMG 2040	Intro Molecular Genetics	4
MMG 2990	Special Topics (Molecular Cell Biology w/o Lab)	3-4
or BCOR 2300	Genetics	

or BCOR 2500	Molecular & Cell Biology w/lab	
9 credits of MMG courses at or above the 2000-level		9

## PRE/CO-REQUISITES

BCOR 1400	Exploring Biology 1	4
BCOR 1450	Exploring Biology 2	4
CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 2580	Organic Chemistry 1	4
CHEM 2585	Organic Chemistry 2	4

## DEPARTMENT OF NUTRITION AND FOOD SCIENCES

<http://www.uvm.edu/nfs/>

The mission of the Nutrition and Food Sciences department is to foster the intellectual and professional growth of our students through engaged teaching, innovative instruction, and community-based applied learning opportunities. We conduct research that contributes to the public good by advancing knowledge in weight inclusive nutrition; safe and innovative foods; food security and food agency; and sustainable food systems. The shared requirements for the major reflect the departmental commitment to the life sciences while fostering crucial intersections with the social sciences. All students will engage in hands-on laboratory and field experiences and participate in a senior capstone course. Thus, NFS majors are able to meet the current and future needs in a number of fields and the ability to assume innovative leadership roles in society and industry.

Departmental majors may elect to meet the undergraduate requirements needed for admission to medical schools (including naturopathic, chiropractic or osteopathic) or graduate school in nutrition, dietetics, public health, food systems and food science.

Depending on current interests and future plans, majors may select 1 of 3 concentrations:

### DIETETICS CONCENTRATION

Dietetics is a profession concerned with the science and art of human nutritional care, an essential component of human health science. This concentration retains the Dietetics program accreditation and provides the only pathway in Vermont for students to complete their didactic requirements to become a dietitian. This concentration prepares graduates to counsel people about the preventive and therapeutic role of nutrition in the maintenance of health and fitness.

The didactic program in Dietetics is accredited by the:

Accreditation Council for Education and Dietetics  
Academy of Nutrition and Dietetics  
120 South Riverside Plaza, Suite 2000  
Chicago, IL 60606-6995

(312) 899-0040 ext. 5400

This program prepares students for careers as Registered Dietitians by providing the undergraduate requirements needed to apply to dietetic internships. Students graduating with this concentration could go on to become registered dietitians without taking additional undergraduate coursework.

To become a Registered Dietitian, students must complete the didactic program in Dietetics, complete an ACEND accredited supervised practice/internship program, and pass the National Registration Examination for Dietitians.

### FOOD SCIENCES CONCENTRATION

The vision of the food sciences concentration is to provide graduates with a solid foundation in the field in order to be key contributors to the food and beverage industry and related fields. Graduates will obtain knowledge in nutrition, food chemistry and analysis, food microbiology and safety and food functionality. Students pursuing this concentration will be provided with hands-on learning experiences in-house through a food industry practicum.

### NUTRITION, SUSTAINABILITY AND SOCIETY CONCENTRATION

This concentration provides a deeper focus on nutrition in public health, food policy and sustainability. This concentration capitalizes on our department's expertise in the food policy, food systems, food insecurity, sustainability, and nutrition in public health topic areas. This concentration will allow students who are not interested in becoming a dietitian but are interested in other aspects of nutrition to complete a nutrition-focused major. The focus will be on the impacts of our contemporary food system on nutrition, be it at the level of individual or population health.

## MAJORS

### NUTRITION AND FOOD SCIENCES MAJORS

Nutrition and Food Sciences B.S. (p. 259)

## MINORS

### NUTRITION AND FOOD SCIENCES MINORS

Nutrition and Food Sciences (p. 260)

Food Systems (p. 248)

## GRADUATE

Dietetics M.S.D.

Nutrition and Food Sciences M.S.

Nutrition and Food Sciences AMP

Food Systems M.S.

Food Systems AMP

Food Systems Ph.D.

See the online Graduate Catalogue for more information

## NUTRITION AND FOOD SCIENCES B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

### MAJOR REQUIREMENTS, FOR ALL CONCENTRATIONS

All Nutrition and Food Science majors must take courses that encompass the breadth of knowledge of the department, develop a set of research and/or technical skills, and then choose a concentration in order to master a depth of knowledge. All NFS majors must take basic science and social science courses in order to prepare for the requirements of the major, whatever the chosen concentration.

#### Basic Science and Social Science Foundation Courses (25 credits):

SOC 1500	Introduction to Sociology	3
or ANTH 1100	Cultural Anthropology	
or HLTH 2050	Cultural Health Care	
NFS 2183	Introduction to Biochemistry	3
ANPS 1190	Ugr Hum Anatomy & Physiology 1	4
ANPS 1200	Ugr Hum Anatomy & Physiology 2	4
CHEM 1100	Outline: General Chem w/lab	4
CHEM 1580	Intro Organic Chemistry w/lab	4
PSYS 1400	Intro to Psychological Science	3

#### Breadth of Knowledge Courses (21 credits):

NFS 1043	Fundamentals of Nutrition	3
NFS 1044	Survey of the Field	1
NFS 1053	Basic Concepts of Foods (Dietetics + Nutrition, Sustainability and Society Concentrations)	3
or NFS 1072	Kitchen Science	
(Kitchen Science ONLY for Food Science Concentration)		
NFS 1073	Farm to Table: Food Sys	3
NFS 3203	Food Microbiology	3
NFS 3204	Food Microbiology Lab	1
NFS 3243	Advanced Nutrition	3
NFS 4286	NFS Senior Seminar	1
STAT 1110	Elements of Statistics	3

For more information about the University Approved Diversity requirement, see the Degree Requirements in the Academic Information section of the Catalogue.

### Depth of Knowledge Concentrations: Dietetics; Food Sciences; Nutrition, Sustainability and Society DIETETICS CONCENTRATION (32-35 CREDITS)

Required Courses		
BUS 1610	Financial Accounting	3
or BUS 1190	Personal Finance & Investing	
or CDAE 2580	Personal Financial Literacy	
BUS 2300	Leadership & Org Behavior	3
HLTH 1030	Medical Terminology	2
NFS 1034	Servsafe Certification Course	1
NFS 2143	Nutrition in the Life Cycle	3
NFS 3223	Nutrition Educ & Counseling	3
NFS 3250	Foodservice Systems	4
NFS 3260	Clinical Nutrition 1	3
NFS 3262	Community Nutrition	3
BIOC 3063	Nutritional Biochemistry	3
NFS 3261	Clinical Nutrition 2	3
NFS 3890	Community Practicum	1-3

### FOOD SCIENCES CONCENTRATION (22 CREDITS)

Required Courses		
NFS 2113	U.S. Food Policy and Politics	3
NFS 2153	Principles of Food Technology	3
NFS 2154	Principles Food Technology Lab	1
NFS 2156	Deadly Food: Outbreak Investig	3
NFS 3205	Functional Foods:Prncpl & Tech	3
NFS 3283	HACCP: Theory & Application	3
NFS 3991	Internship	3
MATH 1012	College Algebra	3

### NUTRITION, SUSTAINABILITY AND SOCIETY CONCENTRATION (25 CREDITS)

Required Courses		
NFS 2113	U.S. Food Policy and Politics	3
NFS 2114	Human Health in the Food Syst	3
NFS 2143	Nutrition in the Life Cycle	3
NFS 2995	Undergraduate Research	3

or NFS 3991	Internship	
NFS 3262	Community Nutrition	3
NFS 2990	Special Topics (Sustainable Diets)	3
NFS 2990 (Sustainable Diets Lab)		1
MATH 1012	College Algebra	3

## NUTRITION AND FOOD SCIENCES MINOR

### REQUIREMENTS

A total of 15 credits in Nutrition and Food Sciences:

NFS 1043	Fundamentals of Nutrition	3
Choose 1 of the following:		3
NFS 1053	Basic Concepts of Foods	
NFS 1072	Kitchen Science	
NFS 1073	Farm to Table: Food Sys	
Choose 1 of the following:		3
NFS 2113	U.S. Food Policy and Politics	
NFS 2143	Nutrition in the Life Cycle	
NFS 2153	Principles of Food Technology	
Choose 2 of the following:		6
NFS 2113	U.S. Food Policy and Politics	
NFS 2114	Human Health in the Food Syst	
NFS 2143	Nutrition in the Life Cycle	
NFS 2153	Principles of Food Technology	
NFS 2156	Deadly Food: Outbreak Investig	
NFS 2163	Sports Nutrition	
NFS 2183	Introduction to Biochemistry	
NFS 2990	Special Topics (Sustainable Diets)	
NFS 3203	Food Microbiology	
NFS 3205	Functional Foods:Prncpl & Tech	
NFS 3223	Nutrition Educ & Counseling	
NFS 3243	Advanced Nutrition	
NFS 3246	Weight Inclusive Nutrition	
NFS 3262	Community Nutrition	
NFS 3283	HACCP: Theory & Application	

### RESTRICTIONS

Independent study, field experience and undergraduate research cannot be counted in this total.

## DEPARTMENT OF PLANT AND SOIL SCIENCE

<http://www.uvm.edu/cals/pss>

The Plant and Soil Science (PSS) program integrates classroom and field experiences incorporating relevant environmental, social, and economic issues into the curriculum. PSS students have access to a diverse array of hand-on, high impact learning opportunities. Many of the department's courses include field components that will make Burlington and beyond part of the classroom. From stormwater mitigation, to soil testing on local farms, to creating farm business plans, students will be challenged and working within the local food system. The Agroecology and Landscape Design major is strongly linked to UVM's highly recognized environmental program. The program is flexible, allowing students to pursue their interests in plant production, landscape design, and environmental issues related to plants, pathogens, pests, soils, and water management while preparing for career opportunities and graduate studies. Choose from either of two concentrations, Agroecology which addresses land management within agriculture, or, Landscape Design which addresses multifunctional landscapes. In both concentrations, students gain an understanding of ecological systems through hands-on coursework, research, internships and engaging with local and global communities.

Through research and teaching the department engages with key environmental issues facing the use of resources. Faculty members study food security and sovereignty, sustainable food production, ecological landscape design, climate change in agricultural food systems, improvement of food crops, ecological pest management, soil health, and more. Faculty and courses span a wide range of disciplines, offering students a highly customizable course of study. PSS faculty represent the disciplines of agroecology, agronomy, entomology, horticulture, landscape design, plant pathology, and soil science.

Faculty help students develop individualized courses of study to match their interests and career goals. For more information, email: [pss@uvm.edu](mailto:pss@uvm.edu) or call (802)656-2630.

### MAJORS

#### PLANT AND SOIL SCIENCE MAJORS

Agroecology and Landscape Design B. S. (p. 261)

### MINORS

#### PLANT AND SOIL SCIENCE MINORS

Agroecology (p. 262)

Food Systems (p. 248)

Soil Science (p. 262)

Sustainable Landscape Horticulture (p. 262)

**GRADUATE**

Plant and Soil Science M.S.

Plant and Soil Science Ph.D.

See the online Graduate Catalogue for more information

**AGROECOLOGY AND LANDSCAPE DESIGN B.S.**

All students must meet the Degree and University Requirements (p. 473).

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

Agroecology and Landscape Design (ALD) is a degree that provides a foundation in the natural sciences with an emphasis on the application of ecological principles to managed landscapes and the production of horticulture or agronomic crops. Disciplinary synthesis is attained through advanced courses in design, soils, plant pathology, entomology, and integrated farm management. Students are prepared to become practitioners through internship experiences and completing cross-disciplinary courses in ethics, policy, and economics.

**CORE MAJOR REQUIREMENTS**

BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	4
or BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
CHEM 1100	Outline: General Chem w/lab	4
or CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	
MATH 1034	Pre-Calculus Mathematics	3
or MATH 1212	Fundamentals of Calculus I	
or MATH 1234	Calculus I	
NR 2030	Ecology, Ecosystems & Environ	3
or BCOR 2100	Ecology and Evolution	
STAT 1110	Elements of Statistics	3
or STAT 1410	Basic Statistical Methods 1	
CDAE 1610	Principles of Comm Dev Econ	3
PBIO 2040	Plant Physiology	4
PSS 2380	Commercial Plant Propagation	4
PSS 2610	Fundmntls of Soil Science	4
PSS 2620	Soil Fertility & Conservation	3

PSS 2991	Internship	1
or PSS 3090	Diversified Farm Operations	
PSS 2810	Prof Dev:Eco Ag/Sust Lndsc Hrt	1

**Agroecology concentration**

PSS 1210	Intro to Agroecology	3
PSS 2560	Permaculture	3
PSS 1100 & PSS 1150	Home & Garden Horticulture and Home & Garden Horticulture Lab	3-4
or PSS 1370	Living Landscapes	
PSS 2720	Crop Breeding	4
PSS 2060	Entomology & Pest Mgmt	4
PSS 2120	Weed Ecology & Management	3
PSS 2170	Plant Pathology	4
PSS 3120	Advanced Agroecology	4
PSS 3180/ CDAE 3080	Agricultural Policy and Ethics	3
Choose one of the following:		3
CDAE 2660	Intro to Comm Entrepreneurship	
PSS 3080	Diversified Farm Planning	
Major electives - A minimum of 9 credits of approved course electives at 2000-level or above. Students are allowed to substitute a course or independent study up to 3 credits of the 9 required if given prior approval by the student's advisor. Suggested electives: PSS 2200 - Cold Climate Viticulture (summer); PSS 2240 - Sustainable Vegetable Crop Production; PSS 2270 - Greenhouse Operations & Mgmt; PSS 2370 - Landscape Design Fundamentals; PSS 2540 - Composting Ecology & Mgmt; PSS 3090 - Diversified Farm Operations (summer); PSS 3210 - Sustainable Orchard Management; PSS 3320 - Biological Control; PSS 3380 - Ecological Landscape Design; PSS 3680 - Soil Ecology; PSS 3690 - Soil/Water Pollution & Bioremediation		9

**Landscape design concentration**

Choose two of the following:		6-7
CDAE 1010	Drafting & Design in SketchUp	
CDAE 1170	Digital Illustration	
NR 2430	Intro to Geog Info Systems	
PSS 1100 & PSS 1150	Home & Garden Horticulture and Home & Garden Horticulture Lab	4
Choose one of the following:		3
PSS 1210	Intro to Agroecology	
PSS 1370	Living Landscapes	
PSS 2230	Garden Flowers	2
PSS 2250	Woody Landscape Plants	4

PSS 2370	Landscape Design Fundamentals (requires design, drawing, or mapping course)	3
PSS 3380	Ecological Landscape Design	4
Choose two of the following:		6-8
PSS 2060	Entomology & Pest Mgmt	
PSS 2120	Weed Ecology & Management	
PSS 2170	Plant Pathology	
PSS 2560	Permaculture	
Major electives - A minimum of 9 credits of approved course electives at 2000-level or above. Students are allowed to substitute a course or independent study up to 3 credits of the 9 required if given prior approval by the student's advisor. Suggested electives: Suggested electives: PSS 2200 - Cold Climate Viticulture; PSS 2240 - Sustainable Vegetable Crop Production; PSS 2270 - Greenhouse Operations & Mgmt; PSS 2540 - Composting Ecology & Mgmt; PSS 2720 - Crop Breeding; PSS 3210 - Sustainable Orchard Management; PSS 3120 Advanced Agroecology; PSS 3180 Agriculture Policy and Ethics; PSS 3320 - Biological Control; PSS 3680 Soil Ecology; PSS 3690 - Soil/Water Pollution & Bioremediation; CDAE 2010 - Advanced Sketchup; CDAE 2660 - Intro to Community Entrepreneurship.		9

### AGROECOLOGY MINOR

This minor is designed to give students a knowledge-based concentration in diversified agricultural production that is based on ecological principles and is economically viable, socially acceptable, and minimizes impacts to the environment.

#### REQUIREMENTS

A minimum of 15 credits from the following courses:

PSS 1210	Intro to Agroecology	3
PSS 3120	Advanced Agroecology	4
Choose three of the following:		9-12
ASCI 2040	Animal Nutrit, Metab & Feeding	
ASCI 2130	Animals in Soc/Animal Welfare	
PSS 2060	Entomology & Pest Mgmt	
PSS 2120	Weed Ecology & Management	
PSS 2170	Plant Pathology	
PSS 2200	Cold Climate Viticulture	
PSS 2240	Sust Veg Crops Production	
PSS 2270	Greenhouse Operations & Mgmt	
PSS 2380	Commercial Plant Propagation	
PSS 2430	Forage and Pasture Mgmt	
PSS 2540	Composting Ecology & Mgmt	
PSS 2560	Permaculture	

PSS 2610	Fundmntls of Soil Science	
PSS 2620	Soil Fertility & Conservation	
PSS 3080	Diversified Farm Planning	
PSS 3090	Diversified Farm Operations	
PSS 3210	Sustainable Orchard Management	
PSS 3320	Biological Control	
PSS 3680	Soil Ecology	
Or appropriate 2000- or 3000-level PSS special topics (as approved by the PSS Undergraduate Affairs committee).		

#### RESTRICTIONS

Ineligible Major: Agroecology and Landscape Design

### SOIL SCIENCE MINOR REQUIREMENTS

A minimum of 17 credits including:

PSS 2610	Fundmntls of Soil Science	4
4 courses from the following list:		13
PSS 2540	Composting Ecology & Mgmt	
PSS 2620	Soil Fertility & Conservation	
PSS 3610	Soil Morph Class & Land Use	
PSS 3640	Chemistry of Soil & Water	
PSS 3680	Soil Ecology	
PSS 3690	Soil/Water Pollution/Bioremed	
With 1 PSS course substitution allowed from the following:		
GEOL 3410	Geomorphology	
NR 3880	Ecol Design & Living Technol	

### SUSTAINABLE LANDSCAPE HORTICULTURE MINOR REQUIREMENTS

A minimum of 15 credits from the following:

PSS 1100	Home & Garden Horticulture	3
PSS 2230	Garden Flowers	2
PSS 2250	Woody Landscape Plants	4
PSS 2370	Landscape Design Fundamentals	3
Choose 1 of the following:		3-4
PSS 2060	Entomology & Pest Mgmt	
PSS 2170	Plant Pathology	

PSS 2380	Commercial Plant Propagation	
PSS 2560	Permaculture	
PSS 2610	Fundmntls of Soil Science	
PSS 3380	Ecological Landscape Design	
Or an appropriate PSS special topics course (as approved by the Plant and Soil Science Undergraduate Affairs Committee)		

## RESTRICTIONS

Ineligible Major: Agroecology and Landscape Design

## PRE/CO-REQUISITES

One course in drawing required for PSS 2370	
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## PLANT BIOLOGY DEPARTMENT

<http://www.uvm.edu/cals/plantbiology>

### CALS Plant Biology Major

The undergraduate Plant Biology program at the University of Vermont provides a broad introduction to the life sciences, from biochemistry and molecular biology to whole plant physiology and ecosystem ecology. Students receive individualized faculty attention via one-on-one advising to develop a personalized course of study. Popular study opportunities include a biennial trip to Costa Rica and an annual trip to the Galapagos. All students complete a senior capstone experience. Most students opt to conduct undergraduate research as part of a faculty-led research group, either in a plant science laboratory or at the internationally acclaimed Proctor Maple Research Center or at the Pringle Herbarium, the third largest plant collection in New England.

## MAJORS

### PLANT BIOLOGY MAJOR

Plant Biology B.S. (p. 263)

## MINORS

### PLANT BIOLOGY MINOR

Plant Biology (p. 264)

## GRADUATE

Field Naturalist M.S.

Plant Biology M.S.

Plant Biology Ph.D.

See the online Graduate Catalogue for more information

## PLANT BIOLOGY B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 228)

## MAJOR REQUIREMENTS

REQUIRED FOUNDATIONAL COURSES:		
Choose one of the following:		4-8
Option A:		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 2580	Organic Chemistry 1	4
CHEM 2585	Organic Chemistry 2	4
Calculus I: Choose one of the following:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
Calculus II: Choose one of the following:		3-4
MATH 1224	Fundamentals of Calculus II	
MATH 1242	Transitional Calculus	
MATH 1248	Calculus II	
Statistics: Choose one of the following:		3
STAT 1410	Basic Statistical Methods 1	
NR 2400	Applied Environ Statistics	
Physics: Choose one of the following:		4
PHYS 1400	Elementary Physics I	
PHYS 1600	Fundamentals of Physics I	
REQUIRED MAJOR COURSES:		
BCOR 2300	Genetics	3
Choose one of the following:		4
BCOR 2100	Ecology and Evolution	
BCOR 2500	Molecular & Cell Biology w/lab	
PBIO 2040	Plant Physiology	4
PBIO 2090	Plant Systematics	4
PBIO 4899	Plant Biology Capstone	1
PLANT BIOLOGY ELECTIVES		

Intermediate level or above, 6 credits from the following:	6
PBIO Numbered 2000-2999	
PBIO Numbered 3000-3999	
Advanced level. 6 credits from the following:	6
PBIO Numbered 3000-3999	
PBIO Numbered 5000-5999 (grad-level, with Instructor permission)	
ADDITIONAL ELECTIVES:	
Additional 12 credits at the 2000 level or above in courses relevant to plant biology, selected in consultation with the advisor	12

## PLANT BIOLOGY MINOR

### REQUIREMENTS

At least fifteen credits of course work in Plant Biology (PBIO courses) at the 2000-level or above. One 2000-level BCOR course may be presented in fulfillment of the minor requirements.

12 credits in PBIO at the 2000-level or above.	12
3 credits in PBIO or BCOR at the 2000-level or above	3

### RESTRICTIONS

Ineligible Majors: Plant Biology

### PRE/CO-REQUISITES

At least one semester of introductory Biology or Plant Biology: PBIO 1040, BIOL 1400, BIOL 1450, BCOR 1400, or BCOR 1450.

### SELF-DESIGNED B.S.

All students must meet the Degree and University Requirements (p. 473).

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements (p. 228).

Undergraduate students have the opportunity to define a personalized program of study when their educational objectives fall outside curricula defined by departments and programs of the college. Each student is asked to formulate their own program of study by working in association with a faculty advisor and the committee of faculty that oversees the major. Designing a major requires examination of personal goals and acquiring information about formal courses and other possible learning experiences (e.g., internships, independent studies, special topics and studies, and undergraduate research). The information is then formulated into a package of proposed course work and other learning experiences.

The objective is to design a unique and coherent plan of study to meet the specific learning needs of the student, by which the student

will achieve advanced knowledge, skills, and values in their chosen field. The student must justify the designed package in two ways:

1. value to the student;
2. uniqueness and deviation from curricula already available.

The Self-Designed major usually comprises about 60+ credits of study in the junior and senior years.

The design of the major is itself an intensive learning experience; therefore, students should plan to spend some time each week over the course of one semester designing their major.

REQUIRED COURSES FOR SELF-DESIGNED MAJOR	
MATH 1012 or higher	3
STAT 1110 or higher	3
Course credits in CALS numbered 1000 or above	20
Course credits in CALS numbered 2000 or above	14
Course credits in CALS numbered 3000 or above	6

## THE COLLEGE OF ARTS AND SCIENCES

<https://www.uvm.edu/cas>

The College of Arts and Sciences at UVM combines the advantages of a small liberal arts college with the resources of a major research institution. Students receive an excellent liberal education through close interaction with nationally and internationally recognized scholars. This close interaction helps students acquire the deep knowledge and scholarly discipline that allows them to think critically about the issues they will undoubtedly confront in their professional and personal lives. The college's academic programs acquaint students with the intellectual, cultural, and aesthetic heritage of our complex world. They also prepare students for entry into rewarding careers in a diverse range of fields and for a variety of advanced study opportunities. Increasingly, professional schools, corporate managers, and graduate schools seek individuals who have a broad liberal arts background.

In UVM's College of Arts and Sciences, students are encouraged to develop depth and breadth of knowledge, as well as the critical thinking and communication skills that are the hallmarks of a liberal education. Students begin developing these skills in a first-year seminar or other first-year experience, and, as they complete degree requirements, they explore a wide range of disciplines spanning literature, the humanities, the arts, foreign languages, the natural and social sciences, and mathematics. The college offers over forty majors and more than fifty-five minors from which students may choose.

The Office of the Dean of the College of Arts and Sciences is located at 438 College Street.

### FIRST-YEAR PROGRAMS

Beginning university-level study is challenging. The College of Arts and Sciences offers students programs that help them complete their



first year successfully and acquire the skills and background necessary for them to excel throughout their undergraduate careers.

In their first semester, students are encouraged to enroll in a First Year Seminar (FYS), which is designed to help students begin to meaningfully engage with the liberal arts as a cornerstone of their UVM education. FYS courses are interactive and writing intensive. In these seminars, students approach significant issues from a variety of perspectives, developing their critical thinking, oral, and written communication skills. FYS courses also help students discover their interests and reach their academic goals. Every FYS course satisfies the university Writing and Information Literacy 1 (WIL1) requirement and most also fulfill a Catamount Core Liberal Arts requirement. Recent topics have included “Planetology,” “Frankenstein and Climate Change,” “History of the Wild,” and “Chasing Happiness.” More than fifty different courses like these are available each year to first-year students.

Another First-Year experience for students in the College of Arts and Sciences at UVM is participation in one of our Liberal Arts Scholars Programs (LASP). These are organized around six disciplinary areas: arts, earth and environment, humanities, natural sciences, social sciences, and world languages and cultures. Students in these residentially based programs enroll in four connected seminars or classes and live together. The Liberal Arts Scholars Programs are designed for highly motivated first-year students with strong academic records. Admission is by application following formal acceptance to UVM.

## PRE-PROFESSIONAL AND GRADUATE SCHOOL PREPARATION

Whether a student is interested in medical or dental school, a career in the law, or graduate work in other fields leading to either academic or professional degrees, the College of Arts and Sciences offers excellent opportunities to prepare them for their future.

### Medicine and Dentistry

All paths to a career in medicine or dentistry are unique and often reflect personal academic interests. However, there are several courses in the sciences, social sciences, and the humanities that medical and dental schools recommend or require prior to applying. These courses are outlined on the Pre-Med UVM website and can, in most cases, be easily completed by College of Arts and Sciences students before graduation, regardless of major or area of focus. Since the practice of medicine involves both art and science, medical schools are eager for students who have studied a range of subjects. A CAS advisor can help students plan out a timeline for completing these courses along with their degree requirements. The Career Center’s Health Professions Advisor is available for guidance throughout a student’s time at UVM, as well as after graduation.

Because the College of Arts and Sciences at UVM offers the advantages of a small liberal arts college within the context of a research university, students have ample opportunities to pursue scholarly and creative projects with faculty who are nationally and internationally recognized leaders in their fields. Meaningful experiences in laboratories, libraries, archives, and studios help

students grow in many of the thinking, reasoning, and character competencies that medical and dental schools expect to see in their applicants.

Growth years between college and medical school matriculation have become the norm. The average age nationally for starting medical school is ~25. CAS graduates routinely pursue impactful experiences before beginning their medical education, including Fulbright (and other) Fellowships, clinical or bench research, hands-on patient care, public health responsibilities, social service work, and teaching, to mention but a few. Currently, CAS graduates are enrolled in medical schools across the country.

The Pre-Medical Enhancement Program (PEP) is a joint program across the College of Arts and Sciences, the College of Agriculture and Life Sciences, and the College of Medicine that provides highly qualified pre-medical students with enhanced opportunities that help them prepare for their futures. Interested students apply to PEP in the second semester of their first year. Students accepted into PEP are assigned a practicing physician-mentor who introduces them to the concepts of patient care and practice management through clinical experiences and regular office-based consultations.

The PEP coordinator in the College of Medicine is a source of information on opportunities for medical research experience and volunteer/employment possibilities in the health sciences or health policy fields. On a monthly basis, students receive listings from this office about special educational offerings within the College of Medicine and the Academic Medical Center. PEP students also participate in practice interviews with members of the University of Vermont Pre-Medical Committee. In their junior year, PEP students can apply to the University of Vermont’s College of Medicine. More information is available in the graduate and professional school section of the Career Center’s website.

### Law

Many UVM students consider attending law school immediately following graduation or after a few years of full-time employment. UVM has successfully placed its graduates in leading law programs around the country, including at Yale, New York University, Columbia, and the University of Michigan.

The University of Vermont (UVM) and Vermont Law and Graduate School (VLGS) offer unique 3+2 and 3+3 dual-degree programs. These dual-degree programs allow highly focused students to earn both a bachelor’s and a J.D. from two distinguished institutions in less time and at less cost. In addition to these dual-degree programs, VLGS offers a guaranteed admission program for UVM graduates.

Unlike pre-medical programs, where students must take a prescribed set of courses, there is no pre-law curriculum. “What law schools seek in their entering students is not accomplishment in mere memorization,” states the Association of American Law Schools, “but accomplishment in understanding, the capacity to think for themselves, and the ability to express their thoughts with clarity and force.” The Association suggests a broad-based education in the liberal arts that includes work in English, humanities, logic, mathematics, social sciences, history, philosophy, and the natural

sciences. The University of Vermont provides guidance to its pre-law students through the Career Center and faculty and staff advisors in the College of Arts and Sciences.

### Graduate Study in Other Fields

Students in the College of Arts and Sciences pursue graduate education in a variety of fields ranging from ethnomusicology and history to journalism and immunology. Recent UVM College of Arts and Sciences graduates have been accepted to institutions such as the University of Wisconsin, Brandeis, Harvard, University of Michigan, Yale, New York University, Princeton, Cornell, Berkeley, Tufts, Duke, London School of Economics, University College London, and University of Toronto.

### Secondary Teaching

Students in the College of Arts and Sciences interested in becoming certified to teach in secondary grades (7-12) should review the College of Education and Social Services section titled Teacher Education. All requirements must be fulfilled as listed in the CESS Secondary Education State Approved program and not simply the sequence of professional courses.

Students interested in a career in secondary education can also pursue the Accelerated Master's Pathway in Secondary Education that prepares them for the classroom and enables them to earn a bachelor's degree and a Master of Arts in Teaching in five years.

## MAJORS

Anthropology B.A. (p. 271)

Anthropology B.S. (p. 272)

Art History B.A. (p. 275)

Art: Studio Art B.A. (p. 276)

Asian Studies B.A. (p. 318)

Biochemistry B.S. (p. 282)

Biological Science B.S. (p. 286)

Biology B.A. (p. 284)

Chemistry B.A. (p. 294)

Chemistry B.S. (p. 295)

Chinese B.A. (p. 278)

Classics B.A. (p. 298)

Computer Science B.A. (p. 300)

Dance B.A. (p. 360)

Economics B.A. (p. 302)

Economics B.S. (p. 302)

English B.A. (p. 304)

Environmental Studies B.A. (p. 307)

Film and Television Studies B.A. (p. 305)

French B.A. (p. 309)

Gender, Sexuality, and Women's Studies B.A. (p. 312)

Geography B.A. (p. 314)

German B.A. (p. 316)

Global Studies B.A. (p. 319)

Health and Society B.A. (p. 327)

History B.A. (p. 330)

Individually Designed B.A. (p. 292)

Japanese B.A. (p. 279)

Linguistics B.A. (p. 334)

Mathematics B.A. (p. 335)

Music B.A. (p. 336)

Neuroscience B.A. (p. 342)

Neuroscience B.S. (p. 343)

Philosophy B.A. (p. 345)

Physics B.A. (p. 346)

Plant Biology B.S. (p. 347)

Political Science B.A. (p. 348)

Psychological Science B.A. (p. 351)

Psychological Science B.S. (p. 352)

Religion B.A. (p. 354)

Russian B.A. (p. 316)

Sociology B.A. (p. 356)

Spanish B.A. (p. 358)

Theatre B.A. (p. 361)

Zoology B.A. (p. 288)

Zoology B.S. (p. 289)

## MINORS AND CERTIFICATES

African Studies (p. 322)

Anthropology (p. 274)

Art (p. 276)

Art History (p. 277)

Asian Studies (p. 322)  
 Biochemistry (p. 283)  
 Biology (p. 290)  
 Canadian Studies (p. 323)  
 Chemistry (p. 296)  
 Chinese (p. 280)  
 Classics (p. 298)  
 Community Music: Organ (p. 339) - Undergraduate Certificate  
 Critical Race and Ethnic Studies (p. 301)  
 Dance (p. 362)  
 Economics (p. 303)  
 English (p. 305)  
 Environmental Studies (p. 308)  
 European Studies (p. 323)  
 Film and Television Studies (p. 306)  
 French (p. 310)  
 Gender, Sexuality, and Women's Studies (p. 312)  
 Geography (p. 314)  
 Geospatial Technologies (p. 315)  
 German (p. 317)  
 Global Studies (p. 324)  
 Health and Society (p. 329)  
 History (p. 332)  
 Holocaust Studies (p. 333)  
 Individually Designed (p. 292)  
 International Politics (p. 349)  
 Italian Studies (p. 311)  
 Japanese (p. 281)  
 Jewish Studies (p. 355)  
 Latin American and Caribbean Studies (p. 325)  
 Law and Society (p. 357)  
 Linguistics (p. 334)  
 Middle East Studies (p. 325)  
 Music (p. 340)

Music Technology and Business (p. 340)  
 Musical Theatre (p. 341)  
 Neuroscience (p. 344)  
 Philosophy (p. 345)  
 Physical Activity Promotion in Children and Youth (p. 353) - Undergraduate Certificate  
 Political Science (p. 350)  
 Psychological Science (p. 353)  
 Public Policy Analysis (p. 350)  
 Religion (p. 355)  
 Religious Literacy in Professions (p. 355) - Undergraduate Certificate  
 Reporting and Documentary Storytelling (p. 293)  
 Russian (p. 317)  
 Russian/East European Studies (p. 326)  
 Sexuality and Gender Identity Studies (p. 313)  
 Sociology (p. 357)  
 Spanish (p. 359)  
 Teaching English to Speakers of Other Languages (p. 334) - Undergraduate Certificate  
 Theatre (p. 362)  
 Writing (p. 307)  
 Zoology (p. 290)

## REQUIREMENTS

Degree Requirements (p. 267)  
 Second Bachelor's Degree (p. 269)  
 Laptop Requirement (p. 269)

## DEGREE REQUIREMENTS

### CATALOG EDITION

Students must comply with the degree requirements as stated in a single catalogue edition in place during the time they are enrolled. The catalogue edition to be followed is the one in effect at the time the student matriculates at UVM, unless the student requests in writing to follow an edition that is published subsequently during their enrollment at UVM. Students may not mix requirements from different catalogues.

Students who do not complete the degree within 7 years must comply with the requirements in the catalogue current at the date of

readmission. Disputed rulings may be appealed to the Committee on Academic Standing.

### CREDITS AND GPA

A student must earn a cumulative grade point average (GPA) of 2.00 in a program comprised of a minimum of 120 semester credits.

Of the 120 credits required, students electing a minor offered by the college must complete 96 credits in courses offered by departments and programs in the College of Arts and Sciences. The remaining 24 credits may be taken in courses offered by any academic unit at the University of Vermont.

Students electing certain approved majors within the college, a dual degree, or a minor offered by another school or college of the university must complete 84 credits in courses offered by the departments and programs in the College of Arts and Sciences. The remaining 36 credits may be taken in courses offered by any academic unit of the University of Vermont.

If a student combines a major offered by the college that calls for 96 credits in college courses with a second major offered by the college that calls for 84 credits in college courses, 84 credits in college courses will be required.

There are limits on the number of certain types of credit that can be applied to the 120 credits required to graduate with a degree from the College of Arts and Sciences:

- Up to 8 credits of Physical Education (PEAC).
- Up to 18 credits of Military Studies (MS).
- Up to 12 credits of Internship courses, which include all courses numbered x991 or that include "Internship" in the catalog title, CAS 2920, CAS 3922, and NFS 3890. Student Teaching Internships are exempt from this rule.

### RESIDENCY

A student must be matriculated in the College of Arts and Sciences and enrolled in coursework at UVM during the period in which they earn 30 of the last 45 credits applied toward the degree.

### DISTRIBUTION REQUIREMENTS

Students must complete coursework that, when combined, meets the university's Catamount Core Curriculum (p. 201) (CCC) requirements and the College of Arts and Sciences requirements. In most cases, completing the college requirements will result in completing the university requirements as well. Courses used to satisfy these requirements may not be taken on a pass/no pass basis.

- FOUNDATIONAL WRITING. 1 course with a WIL1 designation
- ARTS. 3 credits in courses with an AH1 Arts designation
- LITERATURE. 1 course with an AH2 designation
- HUMANITIES. 2 courses with an AH3 designation
- SOCIAL SCIENCES. 2 courses with an S1 designation

- NATURAL SCIENCES. 1 course with an N1 designation and 1 course with an N2 designation; or 2 courses with an N2 designation
- QUANTITATIVE REASONING: 1 course with an MA designation and 1 course with a QD designation
- COMMON GROUND VALUES: 1 course with a D1 designation, 1 course with a D2 designation, and 1 course with an SU designation
- LANGUAGE: 2 courses/at least 6 credits in the same foreign language at the appropriate level, as determined by the offering department. Typically, these courses carry GC2, OC, and/or WIL2 designations.

The language sequences are designed specifically to train students in the four skills of speaking, listening, reading, and writing. Students with previous experience in the language will be placed according to their level of attainment, regardless of how many or how few years they may have studied it. For placement in advanced language courses (3000 or above), first-year students should consult with the program that offers the language they wish to pursue. Students may not take a language course lower than the level most recently attained except with the permission of the department. This expectation does not apply to literature or civilization courses.

Students electing to study French or Spanish must take an online placement exam to be able to register for courses used to satisfy this requirement, even if they have not formally studied the language in the past. See program websites for access to online placement exams.

### MAJOR

A student must complete an approved major in the College of Arts and Sciences by satisfying the requirements specified by the department or program supervising the major and by maintaining a cumulative GPA of 2.00 in the major field. Unless specifically required, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation with a Bachelor of Arts degree, and no more than 50 for a Bachelor of Science degree. At least one-half of the credits used toward the major requirements must be taken at the University of Vermont. Application of credits earned elsewhere to completion of the major is subject to approval by the appropriate department chair or program director. No courses applied toward satisfaction of major requirements may be taken on a pass/no pass basis.

### Minor

A student pursuing a Bachelor of Arts degree must complete a minor. A student pursuing a Bachelor of Science degree has the option of completing a minor.

Minors must be approved by the College of Arts and Sciences; a student's minor must be in a field other than the major. Students must complete the minor by satisfying the requirements specified by the department or program supervising the minor.

Only 1 course may be applied toward completion of both a major and a minor requirement, or to two majors, or two minors. At least one-half of the credits used toward completion of the minor requirements must be taken at the University of Vermont, and application of credits earned elsewhere toward completion of the minor is subject to approval by the appropriate department chair or program director.

A student must maintain a cumulative GPA of 2.00 in the minor field. Students may choose any set of applicable courses from the transcript to satisfy the minor requirements. The GPA of these chosen courses must be at least 2.00. Courses used to satisfy a minor may not be taken pass/no pass.

Completion of a second major in CAS will satisfy the minor requirement for Bachelor of Arts students. Completion of a second degree in CAS or another unit at UVM will satisfy the minor requirement, and multiple courses can overlap from one degree to another.

## SECOND BACHELOR'S DEGREE

The Bachelor of Arts and the Bachelor of Science in the College of Arts and Sciences are not tagged degrees that include the major as part of the formal name of the degree. Consequently, someone who has completed either a B.A. or a B.S. in Arts and Sciences will not receive a second degree should they complete an additional major within the same degree.

If a B.A. or B.S. graduate of Arts and Sciences is readmitted and/or completes an additional major beyond the one used toward the original diploma, the additional major and course work will be added to the transcript. A second degree will only be awarded when the additional course work completed satisfies the requirements for a different degree with a different major from the one initially awarded (i.e., B.A. graduate with major in anthropology completes requirements for B.S. with major in chemistry).

Students who do not complete the degree within 7 years must comply with the requirements in the catalogue current at the time of readmission. Students readmitted to complete a second degree, or to complete an additional major within the same degree must also comply with this rule.

## LAPTOP REQUIREMENT

Beginning with the Fall 2020 semester, all undergraduate students are required to have a laptop computer that meets the minimum specifications determined annually by the university. Students are not required to purchase a new laptop if they have an existing laptop that meets the established specifications. If students need to purchase a laptop, they are not required to purchase it through UVM.

## REGULATIONS

### GOVERNING INDEPENDENT STUDY

College of Arts and Sciences students can receive credit for a project or program of independent study which is supervised by a faculty member from an academic department or program within the university. In general, these projects are carried out under courses designated as either independent studies or, sometimes, internships.

Projects of this nature must conform to university guidelines for independent study. There is no limit on the number of independent study credits that may be earned over the course of a degree program, though there are some limits within specific majors. Prior approval by the Committee on Honors and Individual Studies is required for those students wishing to select 9 or more such credits in a single semester.

### GOVERNING COLLEGE HONORS

1. The College Honors program provides high achieving undergraduates who possess unusual initiative and intellectual curiosity with opportunities to pursue two semesters (6 credits) of independent research or a creative project under the direction of a faculty sponsor. Students in the College of Arts and Sciences may apply for College Honors if they have a cumulative grade point average (GPA) of 3.40 or higher at the time the application is submitted. The research or project must have been approved by the sponsoring department and by the College Honors Committee. All application materials must be turned in to the committee by the deadlines posted on the College Honors website, typically during the first semester of the candidate's senior year. In completing College Honors, students must present a satisfactory thesis or creative project and pass an oral exam upon completion of the Honors project. Students who wish to consider undertaking a College Honors project during the junior year should contact the office of the dean for information concerning an exception.
2. Some departments/programs in the college, including Economics, English, Geography, Global and Regional Studies, History, Mathematics, and Political Science, sponsor departmental Honors programs. Participation in these programs is limited to those students who are specifically recommended by their department/program. Each department/program will define what is required to earn departmental Honors. Students who successfully complete these programs are granted degrees with departmental/program Honors. Since these programs are administered directly by sponsoring departments/programs, students should consult their faculty advisors or department chairs/program directors for further information.

### GOVERNING STUDY ABROAD

Students should refer to the general university regulations and procedures pertaining to study abroad. For Arts and Sciences students, the following additional policies pertain to the application of credit earned in a study abroad program:

1. Students must complete 30 of their last 45 credits for their degrees while in residence at UVM. One-half of the credits applied toward the satisfaction of major requirements must be completed at the University of Vermont. One-half of the credits applied toward the satisfaction of minor requirements must be completed at the University of Vermont.

## GOVERNING TRANSFER INTO THE COLLEGE

Students who wish to internally transfer into the College of Arts and Sciences from another UVM college must be in good academic standing, which is defined by the following:

1. the student cannot have any incomplete (I) or missing (M) grades; and
2. the student must have a cumulative GPA of 2.0 or higher (in at least 12 credits completed at UVM and within their most recently completed semester)

If the student's cumulative GPA is above 2.0 but the most recent semester GPA is below 2.0, a student might be admitted to the college but placed on academic probation.

If a prospective transfer student has junior or senior standing, that student will be required to meet with a College of Arts and Sciences Student Services advisor prior to the transfer.

## GOVERNING ACADEMIC STANDARDS

The following criteria for academic probation and dismissal, while making allowances for the student in the first semester, are designed to encourage academic work of quality at least equal to the minimum standard required for graduation.

### PROBATION

1. A student who earns a semester grade point average higher than that which merits dismissal, but below 2.00, is placed on probation. To avoid dismissal from the university, a student who has been placed on probation must earn a 2.0 semester average in 12 credit hours (either during the subsequent semester or over multiple semesters) and enroll in all courses for a letter grade. No student will be removed from probation until the required 12 credits have been completed and both the semester and cumulative averages are at least 2.00. A student who is on probation may not enroll in any university-sanctioned study abroad program.
2. First-Year Students. Following the first semester of enrollment, a student who earns a semester grade point average higher than that which merits dismissal, but below 1.67, is placed on probation and must, in the following semester, satisfy the same probationary requirements as described above. All first-year students who have a cumulative grade point average that is below 2.00 after completion of the second semester will be placed on probation.

### DISMISSAL

A student who does not satisfy the condition of probation, or who earns a semester grade point average of 1.00 or lower, or who earns failing grades in one-half of the semester credit hours attempted (excluding courses in physical education and military studies) will be reviewed for consideration of dismissal for low scholarship. Dismissed students may apply for re-entry directly to the College of Arts and Sciences after one year. The re-entry application must include an official transcript demonstrating the completion of 12-15 credit hours with a grade point average of 3.0 or above completed outside of UVM.

## RE-ENTRY FOLLOWING DISMISSAL

A dismissed student who presents evidence of their ability to perform satisfactorily may be considered for re-entry on probation following a one-year separation from the university. Dismissed students may apply for re-entry directly to the College of Arts and Sciences and must demonstrate the completion of at least 12-15 credit hours of course work outside of UVM and earn a grade point average of 3.0. A student who has been dismissed for a second time will not be considered for re-entry on probation until at least three years have elapsed and the above re-entry conditions have been met. Further information regarding re-entry may be obtained from the College of Arts and Sciences Dean's office by contacting [cas@uvm.edu](mailto:cas@uvm.edu) or 802-656-3344.

## SCHOOLS, DEPARTMENTS, AND PROGRAMS

Anthropology (p. 271)

Art and Art History (p. 275)

Arts, School of the (p. 277)

Asian Languages and Literatures (p. 277)

Biochemistry (p. 281)

Biology (p. 283)

CAS College-wide Curriculum (p. 291)

Center for Research on Vermont (p. 293)

Chemistry (p. 294)

Classics (p. 297)

Computer Science (p. 299)

Critical Race and Ethnic Studies (p. 301)

Economics (p. 301)

English (p. 304)

Environmental Studies (p. 307)

Film and Television Studies (p. 304)

French and Italian (p. 309)

Gender, Sexuality and Women's Studies (p. 311)

Geography and Geosciences (p. 313)

German, Russian, and Hebrew (p. 316)

Global and Regional Studies (p. 318)

Health and Society (p. 327)

History (p. 330)

Holocaust Studies (p. 332)

Linguistics (p. 333)

Mathematics and Statistics (p. 334)

Music (p. 336)

Neuroscience (p. 341)

Philosophy (p. 344)

Physics (p. 346)

Plant Biology (p. 347)

Political Science (p. 348)

Psychological Science (p. 351)

Religion (p. 354)

Sociology (p. 356)

Spanish (p. 358)

Theatre and Dance (p. 359)

World Languages and Cultures, School of (p. 363)

## DEPARTMENT OF ANTHROPOLOGY

<https://www.uvm.edu/cas/anthropology>

The mission of the Department of Anthropology at the University of Vermont is to produce influential research in anthropology integrated with an outstanding undergraduate liberal arts education. Drawing on the interdisciplinary four-field tradition, which includes archaeological, biological, cultural and linguistic anthropologies, we emphasize strong training in contemporary anthropological theory, research methods, and ethical practices, with the goal of preparing students to think critically and act as engaged citizens for the common good. Together as students and faculty, our scholarly community mobilizes anthropological knowledge to address questions of culture and its role in a diverse and changing world. The department offers both B.A. and B.S. majors in Anthropology, with optional concentrations in Global Health and in Archaeology and Heritage Management.

### MAJORS

#### ANTHROPOLOGY MAJORS

Anthropology B.A. (p. 271)

Anthropology B.S. (p. 272)

### MINORS

#### ANTHROPOLOGY MINOR

Anthropology (p. 274)

#### ANTHROPOLOGY B.A.

All students must meet the Degree and University Requirements (p. 473).

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

Specific requirements for an optional concentration are included on this page:

Concentration in Anthropology of Global Health (p. 272)

Concentration in Archaeology and Heritage Management (p. 272)

### MAJOR REQUIREMENTS

31 credits in major courses, including:

FOUNDATIONS		
ANTH 1100	Cultural Anthropology	3
ANTH 1400	Biological Anthropology	3
ANTH 1600	Linguistic Anthropology	3
ANTH 1800	Prehistoric Archaeology	3
PROSEMINAR		
Both of these courses are recommended, but majors must take at least one of the following:		1
ANTH 2000	Introduction to the Major (best taken as a first-year student or sophomore)	
ANTH 3000	Advanced Proseminar in Anthro (best taken as a junior or senior)	
INTERMEDIATE LEVEL		
2-3 additional courses/6-9 credits from the following:		6-9
ANTH numbered 2100 to 2989, or 3100 to 3959		
LING 2210, LING 2220, LING 2560, LING 2630		
REL 2050, REL 2652		
Special Topics: ANTH 2990, ANTH 3990, ANTH 4990		
Up to 3 additional credits from the following, in any combination:		0-3
Internship: ANTH 2991, ANTH 4991		
Teaching Assistantship: ANTH 2994		
Independent Study: ANTH 2993, ANTH 4993		
Undergraduate Research: ANTH 2995, ANTH 4995		
Honors: ANTH 4996		
ADVANCED LEVEL		
3 additional credits from the following:		3
ANTH numbered 3100 to 3965		
Special Topics: ANTH 3990, ANTH 4990		

1 additional course/3 credits from the following:	3
ANTH numbered 3100 to 3959	
Special Topics: ANTH 3990	
<b>OPEN LEVEL</b>	
1 additional course/3 credits from the following:	3
ANTH numbered 1010 to 1989, or 2100 to 2989, or 3100 to 3959	
LING 1100, LING 2210, LING 2220, LING 2560, LING 2630	
REL 1650, REL 2050, REL 2652	
Special Topics: ANTH 1990, ANTH 2990, ANTH 3990	
<b>RESTRICTIONS AND NOTES</b>	
With departmental permission, students may apply internships, independent studies, teaching assistantships, undergraduate research, and honors to other level-appropriate requirements in the major. No more than 6 credits of UVM archaeological field school (ANTH 3965) may count toward the major; no more than 3 credits of internship and/or teaching assistantship may count; and no more than 3 credits of independent study, undergraduate research, or honors may count.	
Students planning to pursue a graduate degree in Anthropology are encouraged to take an appropriate mixture of methods and theory courses at the advanced level, as well as undertake research. Please consult your advisor for recommendations tailored to your particular graduate school objectives.	

### CONCENTRATION IN ANTHROPOLOGY OF GLOBAL HEALTH

12 credits, including:

<b>COURSE REQUIREMENTS</b>		
2-4 courses/6-12 credits from the following:		6-12
ANTH 1190	Global Health Devel & Diversit	
ANTH numbered 2170 to 2219		
ANTH 3192	Anthro Research Global Health	
ANTH 3475	Research in Hum Biol Diversity	
Up to 2 courses/6 credits from the following:		0-6
ANTH 1470	Parenting and Childhood	
REL 1650	Religion, Health, & Healing	
ANTH 2242	People, Poison, Place	
ANTH 2410	Topics in Biological Anthro	
ANTH 3560	Human Osteology	
With student projects approved by the concentration advisor:		
ANTH 3130	Ethnographic Field Methods	
ANTH 3145	Anthropology of Food and Labor	
<b>LEVEL REQUIREMENTS</b>		

At least 6 credits must be at the 2000-level or above.	
At least 3 credits must be at the 3000-level or above.	
<b>NOTES</b>	
All requirements for the Anthropology B.A. major must also be fulfilled. Students should take ANTH 1100 and ANTH 1400 early on, as they provide an important foundation for the concentration.	

### CONCENTRATION IN ARCHAEOLOGY AND HERITAGE MANAGEMENT

12 credits, including:

<b>COURSE REQUIREMENTS</b>		
3-4 courses/9-12 credits from the following:		9-12
ANTH 2310	North American Indians	
ANTH numbered 2800 to 2959		
ANTH 3115	Museum Anthropology	
ANTH 3560	Human Osteology	
ANTH numbered 3800 to 3959		
Up to 3 additional credits of ANTH 3965: Field Work in Archaeology		0-3
Internships and Special Topics courses may be counted toward the concentration with the approval of the concentration advisor.		
<b>LEVEL REQUIREMENTS</b>		
At least 6 credits must be at the 2000-level or above.		
At least 3 credits must be at the 3000-level or above.		
<b>NOTES</b>		
All requirements for the Anthropology B.A. major must also be fulfilled.		

### RESTRICTIONS

Students completing the B.A. in Anthropology may not also receive the B.S. in Anthropology.

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

### ANTHROPOLOGY B.S.

All students must meet the Degree and University Requirements. (p. 473)



All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

Specific requirements for an optional concentration are included on this page:

Concentration in Anthropology of Global Health (p. 273)

Concentration in Archaeology and Heritage Management (p. 274)

### MAJOR REQUIREMENTS

At least 42 credits in major courses, plus 14 credits in ancillary courses, including:

<b>FOUNDATIONS</b>		
ANTH 1100	Cultural Anthropology	3
ANTH 1400	Biological Anthropology	3
ANTH 1600	Linguistic Anthropology	3
ANTH 1800	Prehistoric Archaeology	3
<b>PROSEMINARS</b>		
ANTH 2000	Introduction to the Major	1
ANTH 3000	Advanced Proseminar in Anthro	1
<b>INTERMEDIATE LEVEL</b>		
Scientific and/or Medical Anthropology. 3 additional courses/9 credits from the following:		9
ANTH numbered 2170 to 2191, or 2410 to 2440, or 2810 to 2959		
ANTH 2205	Gender Sex Race & the Body	
ANTH 2242	People, Poison, Place	
3 additional credits from the following:		3
ANTH numbered 2100 to 2990		
LING 2210, LING 2220, LING 2560, LING 2630		
REL 2050, REL 2652		
Internship: ANTH 2991, ANTH 4991		
Teaching Assistantship: ANTH 2994		
Independent Study: ANTH 2993, ANTH 4993		
Undergraduate Research: ANTH 2995, ANTH 4995		
Honors: ANTH 4996		
<b>ADVANCED LEVEL</b>		
2 additional courses/6-8 credits from the following:		6-8
ANTH 3115	Museum Anthropology	

ANTH 3130	Ethnographic Field Methods	
ANTH 3192	Anthro Research Global Health	
ANTH 3475	Research in Hum Biol Diversity	
ANTH 3560	Human Osteology	
ANTH 3820	Archaeological Theory	
ANTH 3832	Topics in Lab Archaeology	
3 additional credits from the following:		3
ANTH numbered 3100 to 3965 or ANTH 3990		
<b>OPEN LEVEL</b>		
Scientific and/or Medical Anthropology. 1 additional course/3 credits from the following:		3
ANTH 1190	Global Health Devel & Diversit	
ANTH 1470	Parenting and Childhood	
ANTH numbered 2170 to 2191, or 2410 to 2440, or 2810 to 2930		
3 additional credits from the following:		3
ANTH numbered 1010 to 1990, or 2100 to 2990, or 3100 to 3965, or ANTH 3990		
LING 1100, LING 2210, LING 2220, LING 2560, LING 2630		
REL 1650, REL 2050, REL 2652		
<b>ANCILLARY REQUIREMENTS</b>		
NATURAL SCIENCES. In consultation with an advisor in Anthropology, choose two 4-credit laboratory courses in BCOR, BIOL, CHEM, and/or GEOL.		8
STATISTICS.		6
STAT 1410	Basic Statistical Methods 1	
Choose 1 of the following:		
STAT 2830	Basic Statistical Methods 2	
STAT 3000	Med Biostat&Epidemiology	
Alternative coursework in statistics may be substituted with the approval of an advisor in Anthropology.		
<b>RESTRICTIONS AND NOTES</b>		
With departmental permission, students may apply internships, independent studies, teaching assistantships, undergraduate research, and honors to to other level-appropriate requirements in the major. No more than 6 credits of UVM archaeological field school (ANTH 3965) may count toward the major; no more than 3 credits of internship and/or teaching assistantship may count; and no more than 3 credits of independent study, undergraduate research, or honors may count.		

### CONCENTRATION IN ANTHROPOLOGY OF GLOBAL HEALTH

18 credits, including:

INTRODUCTORY COURSES. Up to 1 course/3 credits from the following:		0-3
ANTH 1190	Global Health Devel & Diversit	
ANTH 1470	Parenting and Childhood	
REL 1650	Religion, Health, & Healing	
ADVANCED METHODS COURSES. At least 6 credits from the following:		6
ANTH 3192	Anthro Research Global Health	
ANTH 3475	Research in Hum Biol Diversity	
ANTH 3560	Human Osteology	
With student projects approved by the concentration advisor:		
ANTH 3130	Ethnographic Field Methods	
All students are take one of the classes designed to teach ethnographic methods (ANTH 3130 or ANTH 3192).		
For students interested in paleopathology, it is strongly encouraged that you take ANTH 3560 and a field school to obtain foundational training for research.		
ADDITIONAL COURSES. 3-4 additional courses/9-12 credits from the following:		9-12
ANTH 2170	Culture, Health and Healing	
ANTH 2181	Aging in Cross-Cultural Persp	
ANTH 2191	Foundations of Global Health	
ANTH 2205	Gender Sex Race & the Body	
ANTH 2242	People, Poison, Place	
ANTH 2410	Topics in Biological Anthro	
With student projects approved by the concentration advisor:		
ANTH 3145	Anthropology of Food and Labor	
It is highly recommended that majors seek one or more relevant capstone experiences, such as an internship, practicum, or other research experiences involving the application of biological or medical anthropology. These experiences can be applied to the concentration with the approval of the concentration advisor.		
Special Topics courses may be counted toward the concentration with the approval of the concentration advisor.		
All requirements for the Anthropology B.S. major must also be fulfilled. Students should take ANTH 1100 and ANTH 1400 early on, as they provide an important foundation for the concentration.		

**Concentration in Archaeology and Heritage Management**

18 credits, including:

INTERMEDIATE COURSES. 4 courses/12 credits from the following:		12
ANTH numbered 2800 to 2959		

ANTH 2410	Topics in Biological Anthro	
ADVANCED COURSES. 2 courses/6 credits from the following:		6
ANTH numbered 3800 to 3959		
ANTH 3115	Museum Anthropology	
ANTH 3560	Human Osteology	
With the approval of the concentration advisor, ANTH 3965: Field Work in Archaeology, ANTH 4991: Internship, ANTH 3990: Special Topics, and ANTH 4990: Special Topics may be applied to the concentration as Advanced Courses.		
Beyond the coursework described above, it is also highly recommended that majors seek 1 or more relevant capstone experiences, such as an internship, practicum, or other research experiences involving the application of archaeology or heritage management. It is strongly encouraged that you take a field school to obtain foundational training for research and meet the basic requirements for employment in archaeology.		
All requirements for the Anthropology B.S. major must also be fulfilled.		

**RESTRICTIONS**

Students completing the B.S. in Anthropology may not also receive the B.A. in Anthropology.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Science degree, no more than 50 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**ANTHROPOLOGY MINOR REQUIREMENTS**

18 credits in minor courses, including:

FOUNDATIONS. Choose 2 of the following:		6
ANTH 1100	Cultural Anthropology	
ANTH 1400	Biological Anthropology	
ANTH 1600	Linguistic Anthropology	
ANTH 1800	Prehistoric Archaeology	
OPEN LEVEL. 1 additional course/3 credits from the following:		3
ANTH numbered 1010 to 1990, or 2100 to 2990, or 3100 to 3959, or ANTH 3990		
LING 1100, LING 2210, LING 2220, LING 2560, LING 2630		
REL 1650, REL 2050, REL 2652		

INTERMEDIATE LEVEL OR ABOVE. 3-9 additional credits from the following:	3-9
ANTH numbered 2100 to 2990, or 3100 to 3959, or ANTH 3990	
LING 2210, LING 2220, LING 2560, LING 2630	
REL 2050, REL 2652	
Up to 6 additional credits of ANTH 3965: Field Work in Archaeology	0-6

## RESTRICTIONS

Ineligible Major: Anthropology

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## ART AND ART HISTORY PROGRAM

<https://www.uvm.edu/cas/art>

The Art and Art History Program offers three programs: Studio Art, Art History, and Art Education. A major in one of the first two leads to a Bachelor of Arts degree in the College of Arts and Sciences, and the Art Education program leads to a Bachelor of Science degree in the College of Education and Social Services. Studio Art and Art History are chosen as majors by students who see either of these programs as an excellent foundation for a liberal arts education, by those who have aspirations to continue on to graduate study, and by students who are interested in a career in the arts. Art Education integrates an interest in art with the option of a teaching career in elementary, secondary, or alternative environments. At UVM, these three programs are closely intertwined. Art History and Studio Art major requirements include courses from both program areas and Art Education combines courses from Studio Art and Art History with offerings from the College of Education and Social Services. Thus, students in degree programs in the program can pursue their specific interests while developing a multi-faceted understanding of art.

## STUDIO ART

The Studio Art program emphasizes art making as a process of creative inquiry grounded within broad historical and cultural contexts. Courses lead to the B.A. in Studio Art or a minor in Art.

## ART HISTORY

The Art History program initially surveys a broad range of expressive forms before continuing with courses specific to a variety of ancient, western, non-western, and contemporary topics. Courses lead to the B.A. in Art History, a minor in Art History, or a minor in Art.

## ART EDUCATION

The Art Education program is for students with a strong interest in art as well as the desire to become art teachers. Completion of the Art Education major leads to the B.S. in Art Education and to Vermont Department of Education licensure for teaching art in grades K-12.

## MAJORS

### ART AND ART HISTORY MAJORS

Art Education (p. 378) - The Art Education major is administered by the College of Education and Social Services

Art History B.A. (p. 275)

Art: Studio Art B.A. (p. 276)

## MINORS

### ART AND ART HISTORY MINORS

Art (p. 276)

Art History (p. 277)

## ART HISTORY B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

30 credits in major courses, plus 7 credits in ancillary courses, including:

CORE COURSES		
ARTH 1410	Art History I	3
ARTH 1420	Art History II	3
1 course/3 credits in ARTH numbered 2100 to 2399		3
1 course/3 credits in ARTH numbered 2400 to 2599		3
1 course/3 credits in ARTH numbered 2600 to 2899		3
ARTH 3000	Topics In: Senior Seminar	3
ANCILLARY COURSES		
STUDIO ART. 7 credits in ARTS numbered 1000 to 3990		7
The study of French or German through 2100 or 2200 is strongly recommended for students considering eventual graduate work in art history.		
ELECTIVE COURSES		
OPEN LEVEL. 1 additional course/3 credits from the following:		3
ARTH numbered 1000 to 1990, or 2000 to 2990, or ARTH 3990, or ARTH 4990		

INTERMEDIATE LEVEL. 1 additional course/3 credits from the following:		3
ARTH numbered 2100 to 2990		
<b>OTHER ELECTIVES</b>		
3 additional credits from the following:		3
ARTH numbered 1000 to 1990, or 2000 to 2990, or ARTH 3990, or ARTH 4990		
ARTH 3991	Internship	
3 additional credits from the following:		3
ARTH numbered 1000 to 1990, or 2000 to 2990, or ARTH 3990, or ARTH 4990		
ARTH 3993	Independent Study	
ARTH 3995	Undergraduate Research	
ARTH 4996	Honors	

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**ART: STUDIO ART B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

29 credits in major courses, plus 6 credits in ancillary courses, including:

<b>FOUNDATIONS: Studio Art</b>		
ARTS 1100	Drawing	4
ARTS 1400	Perspectives on Art Making	4
<b>FOUNDATIONS: Art History</b>		
ARTH 1410	Art History I	3
ARTH 1420	Art History II	3
<b>INTERMEDIATE COURSES</b>		
AREA I: Drawing, Painting, Printmaking, Graphic Design. 1 course/3 credits in ARTS numbered 2100 to 2499		3

AREA II: Photography, Film and Video, Digital Art. 1 course/3 credits in ARTS numbered 2500 to 2699		3
AREA III: Ceramics, Sculpture. 1 course/3 credits in ARTS numbered 2700 to 2799		3
ELECTIVES. 2 additional courses/6 credits in ARTS numbered 2000 to 2799 or ARTS 2990		6
ART HISTORY. 1 course/3 credits in ARTH numbered 2100 to 2990		3
<b>ADVANCED COURSES</b>		
1 additional course/3 credits from:		3
ARTS numbered 3100 to 3899 or ARTS 3990		
ARTS 3991	Internship	
ARTS 3993	Independent Study	
ARTS 3995: Undergraduate Research, ARTS 4994: Teaching Assistantship, and ARTS 4996: Honors cannot be counted toward major requirements.		

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**ART MINOR**

**REQUIREMENTS**

19 credits in minor courses, including:

<b>FOUNDATIONS</b>		
STUDIO ART. Choose 1 of the following:		4
ARTS 1100	Drawing	
ARTS 1400	Perspectives on Art Making	
ART HISTORY. Choose 1 of the following:		3
ARTH 1410	Art History I	
ARTH 1420	Art History II	
<b>ELECTIVES</b>		
INTERMEDIATE LEVEL OR ABOVE. 3 courses/9 credits from:		9
ARTS numbered 2100 to 2799 or ARTS 2990		
ARTS numbered 3100 to 3990		
OPEN LEVEL. 1 additional course/3 credits from:		3
ARTS numbered 1010 to 1990		

ARTS numbered 2100 to 2799 or ARTS 2990	
ARTS numbered 3100 to 3990	

## RESTRICTIONS

Ineligible Majors: Art Education, Studio Art

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## ART HISTORY MINOR

### REQUIREMENTS

18 credits in minor courses, including:

ARTH 1410	Art History I	3
ARTH 1420	Art History II	3
4 courses/12 credits from the following:		12
ARTH numbered 2000 to 2990		
Special Topics: ARTH 3990 or ARTH 4990		

## RESTRICTIONS

Ineligible Major: Art History

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## SCHOOL OF THE ARTS

The UVM School of the Arts is a welcoming community of students, faculty, and staff members in the areas of Art and Art History, Dance, Music, and Theatre, and affiliated programs in Film and Television Studies and Creative Writing, as well as the Fleming Museum and the Lane Series. The school is dedicated to creating a vibrant hub for learning, discovery, collaboration, inclusivity, innovation in creative practice, and above all to giving voices to future artists, historians and theoreticians of the arts, and arts educators.

The faculty train and mentor students to prepare for real world challenges as makers, cultural producers and consumers, and informed global citizens. They integrate a diversity of artistic practices and creative voices into the academic mission of the university through mobilization of resources, faculty and student support, collaborations with other disciplines, programs and academic units, and through partnerships and outreach to the UVM community and beyond.

## SCHOOL OF THE ARTS PROGRAMS

Art and Art History (p. 275)

Music (p. 336)

Theatre and Dance (p. 359)

## AFFILIATED PROGRAMS

Creative Writing in the English Department

Film and Television Studies (p. 304)

## MAJORS

Art History B.A. (p. 275)

Art: Studio Art B.A. (p. 276)

Dance B.A. (p. 360)

Music B.A. (p. 336)

Theatre B.A. (p. 361)

## MINORS

Art (p. 276)

Art History (p. 277)

Community Music: Organ Undergraduate Certificate (p. 339)

Dance (p. 362)

Music (p. 340)

Music Technology and Business (p. 340)

Musical Theatre (p. 341)

Theatre (p. 362)

## ASIAN LANGUAGES AND LITERATURES PROGRAM

<https://www.uvm.edu/cas/asian>

The Asian Languages and Literatures Program's goal is to provide the best possible instruction for Asian languages and literatures and to increase the understanding and the ability to function in that world. The program's Chinese and Japanese language and literature classes will provide students with the means to read, write, speak, and understand these major languages of Asia, and give students knowledge and appreciation of the rich literary heritage of Asian

civilizations. The program currently offers majors and minors in Chinese and Japanese.

**MAJORS**

**ASIAN LANGUAGES AND LITERATURES MAJORS**

Chinese B.A. (p. 278)

Japanese B.A. (p. 279)

**MINORS**

**ASIAN LANGUAGES AND LITERATURES MINORS**

Chinese (p. 280)

Japanese (p. 281)

**CHINESE B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

Track 1 is aimed at students who begin their study of the Chinese language at the college level in the fall semester of their freshmen year; Track 2 is for students who begin their study of the Chinese language in the fall semester of their sophomore year; Track 3 is for students who have taken the Chinese AP Test and scored 4 or have passed the Chinese Language Placement Test 1 given by the Chinese Program; Track 4 is for students who scored 5 in the Chinese AP Test or have passed the Chinese Language Placement Test 2 given by the Chinese Program.

Choose 1 of the following tracks:

**Track 1**

34 credits, including:

<b>LANGUAGE</b>		
Language Sequence. 28 credits in Chinese language.		28
CHIN 1100, CHIN 1200, CHIN 2100, CHIN 2200, CHIN 3100, CHIN 3200, CHIN 4100, CHIN 4200		
<b>LITERATURE, HISTORY, AND CULTURE</b>		
WLIT 2310	Classical Chinese Lit in Tr	3
1 course/3 credits from the following: (CHIN 1070 or CHIN 1012), HST 1440, PHIL 1750		3

**Track 2**

34 credits, including:

<b>LANGUAGE</b>		
Language Sequence. 22 credits in Chinese language.		22
CHIN 1100, CHIN 1200, CHIN 2100, CHIN 2200, CHIN 3100, CHIN 3200		
Advanced Translation. Choose 1 of the following:		3
CHIN 4020	Translation: Global Awareness	
CHIN 4030	Fiction Reading & Translation	
3 additional credits in Chinese language from the following, in any combination:		3
Conversation: CHIN 3110, CHIN 3210		
Special Topics: CHIN 3990, CHIN 4990		
Independent Study: CHIN 3993, CHIN 4993		
<b>LITERATURE, HISTORY, AND CULTURE</b>		
WLIT 2310	Classical Chinese Lit in Tr	3
1 course/3 credits from the following: (CHIN 1070 or CHIN 1012), HST 1440, PHIL 1750		3

**Track 3**

34 credits, including:

<b>LANGUAGE</b>		
Language Sequence. 20 credits in Chinese language.		20
CHIN 2100, CHIN 2200, CHIN 3100, CHIN 3200, CHIN 4100, CHIN 4200		
<b>LITERATURE, HISTORY, AND CULTURE</b>		
WLIT 2310	Classical Chinese Lit in Tr	3
1 course/3 credits from the following: (CHIN 1070 or CHIN 1012), HST 1440, PHIL 1750		3
<b>ELECTIVES</b>		
8 additional credits from the following, in any combination:		8
Conversation: CHIN 3110, CHIN 3210		
Literature, History, and Culture: (CHIN 1070 or CHIN 1012), HST 1440, HST 2443, HST 4443, PHIL 1750, PHIL 2760, REL 2220		
Special Topics: CHIN 3990, CHIN 4990		
Internship: CHIN 3991, CHIN 4991		
Independent Study: CHIN 3993, CHIN 4993		
Teaching Assistantship: CHIN 3994, CHIN 4994		
Undergraduate Research: CHIN 4995		
Honors: CHIN 4996		

**Track 4**

34 credits, including:

LANGUAGE		
Language Sequence. 12 credits in Chinese language.		12
CHIN 3100, CHIN 3200, CHIN 4100, CHIN 4200		
Advanced Translation. 6 credits.		6
CHIN 4020	Translation: Global Awareness	
CHIN 4030	Fiction Reading & Translation	
LITERATURE, HISTORY, AND CULTURE		
WLIT 2310	Classical Chinese Lit in Tr	3
1 course/3 credits from the following: (CHIN 1070 or CHIN 1012), HST 1440, PHIL 1750		3
ELECTIVES		
10 additional credits from the following, in any combination:		10
Conversation: CHIN 3110, CHIN 3210		
Literature, History, and Culture: (CHIN 1070 or CHIN 1012), HST 1440, HST 2443, HST 4443, PHIL 1750, PHIL 2760, REL 2220		
Special Topics: CHIN 3990, CHIN 4990		
Internship: CHIN 3991, CHIN 4991		
Independent Study: CHIN 3993, CHIN 4993		
Teaching Assistantship: CHIN 3994, CHIN 4994		
Undergraduate Research: CHIN 4995		
Honors: CHIN 4996		

**PRE/CO-REQUISITES**

For Track 3, Chinese language through CHIN 1200: 1st Year College Chinese II or the equivalent.

For Track 4, Chinese language through CHIN 2200: 2nd Year College Chinese II or the equivalent.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**JAPANESE B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

Students majoring in Japanese should select the appropriate track after consulting with the program director. Track 1 is aimed at students who begin their study of the Japanese language at the college level in the fall semester of their first year or the fall semester of their sophomore year; Track 2 is for students who have scored 4 in the Japanese AP Test or have scored enough points in the placement test given by the Japanese Program; Track 3 is for students who scored 5 in the Japanese AP Test or have passed the Japanese Language Placement given by the Japanese Program. All course work for each track should be chosen in consultation with the student's major advisor.

Choose 1 of the following tracks:

**Track 1**

34 credits, including:

LANGUAGE		
Language Sequence. 22 credits.		22
JAPN 1100, JAPN 1200, JAPN 2100, JAPN 2200, JAPN 3100, JAPN 3200		
Choose 1 of the following:		3
JAPN 4100	Studies of Japanese Texts I	
JAPN 4200	Studies of Japanese Texts II	
additional Japanese language coursework at the 4000-level		
LITERATURE, HISTORY, AND CULTURE		
2 courses/6 credits from the following:		6
WLIT 2360, WLIT 2370, WLIT 2375, HST 1440		
ELECTIVES		
Advanced Language Electives. 3 additional credits from the following, in any combination:		3
Conversation: JAPN 3110, JAPN 3210, JAPN 4110, JAPN 4210		
Kanji: JAPN 3150, JAPN 3250		
Special Topics: JAPN 3990, JAPN 4990		
additional Japanese language coursework at the 3000-level or above		

**Track 2**

34 credits, including:

<b>LANGUAGE</b>		
Language Sequence. 14 credits.		14
JAPN 2100, JAPN 2200, JAPN 3100, JAPN 3200		
Choose 1 of the following:		3
JAPN 4100	Studies of Japanese Texts I	
JAPN 4200	Studies of Japanese Texts II	
additional Japanese language coursework at the 4000-level		
<b>LITERATURE, HISTORY, AND CULTURE</b>		
2 courses/6 credits from the following:		6
WLIT 2360, WLIT 2370, WLIT 2375, HST 1440		
<b>ELECTIVES. 11 credits.</b>		
Advanced Language Electives. 3-11 additional credits from the following, in any combination:		3-11
Conversation: JAPN 3110, JAPN 3210, JAPN 4110, JAPN 4210		
Kanji: JAPN 3150, JAPN 3250		
Special Topics: JAPN 3990, JAPN 4990		
additional Japanese language coursework at the 3000-level or above		
Additional Language Electives. Up to 8 additional credits from the following, in any combination:		0-8
Internship: JAPN 3991, JAPN 4991		
Independent Study: JAPN 3993, JAPN 4994		
Teaching Assistantship: JAPN 3993, JAPN 4994		
Honors: JAPN 4996		
Literature, History, and Culture Electives. Up to 8 additional credits from the following, in any combination:		0-8
HST 1440, HST 2447, HST 2448, HST 4447, POLS 2715, WLIT 1350, WLIT 2350, WLIT 2360, WLIT 2370, WLIT 2375		

**Track 3**

34 credits, including:

<b>LANGUAGE</b>		
Language Sequence. 6 credits.		6
JAPN 3100, JAPN 3200		
Choose 1 of the following:		3
JAPN 4100	Studies of Japanese Texts I	
JAPN 4200	Studies of Japanese Texts II	
additional Japanese language coursework at the 4000-level		
<b>LITERATURE, HISTORY, AND CULTURE</b>		
2 courses/6 credits from the following:		6

WLIT 2360, WLIT 2370, WLIT 2375, HST 1440		
<b>ELECTIVES. 19 credits.</b>		
Advanced Language Electives. 3-19 additional credits from the following, in any combination:		3-19
Conversation: JAPN 3110, JAPN 3210, JAPN 4110, JAPN 4210		
Kanji: JAPN 3150, JAPN 3250		
Special Topics: JAPN 3990, JAPN 4990		
additional Japanese language coursework at the 3000-level or above		
Additional Language Electives. Up to 7 additional credits from the following, in any combination:		0-7
Internship: JAPN 3991, JAPN 4991		
Independent Study: JAPN 3993, JAPN 4994		
Teaching Assistantship: JAPN 3993, JAPN 4994		
Honors: JAPN 4996		
Literature, History, and Culture Electives. Up to 9 additional credits from the following, in any combination:		0-9
HST 1440, HST 2447, HST 2448, HST 4447, POLS 2715, WLIT 1350, WLIT 2350, WLIT 2360, WLIT 2370, WLIT 2375		

**PRE/CO-REQUISITES**

For Track 2, Japanese language through JAPN 1200: Elementary Japanese II or the equivalent.

For Track 3, Japanese language through JAPN 2200: Intermediate Japanese II or the equivalent.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**CHINESE MINOR**

**REQUIREMENTS**

15 credits in minor courses, including:

6 credits in CHIN language numbered 2100 or above		6
CHIN 3100	3rd Year College Chinese I	3
CHIN 3200	3rd Year College Chinese II	3
3 additional credits from the following:		3



CHIN numbered 3000 or above		
WLIT 2310	Classical Chinese Lit in Tr	

## RESTRICTIONS

Ineligible Major: Chinese

## PRE/CO-REQUISITES

Chinese language through at least CHIN 1200: Elementary II or the equivalent; some credits of CHIN 2100: Intermediate I can be applied toward the minor.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## JAPANESE MINOR

### REQUIREMENTS

15 credits in minor courses, including:

6 credits in JAPN language numbered 2100 or above		6
JAPN 3100	Advanced Japanese I	3
JAPN 3200	Advanced Japanese II	3
3 additional credits from the following:		3
JAPN numbered 3000 or above		
WLIT 2350	Topics in Japanese Lit in Tr	
WLIT 2360	Japanese Lit in Tr: Premodern	
WLIT 2370	Japanese Lit in Tr: Modern	
WLIT 2375	Japanese Contemporary Fiction	

## RESTRICTIONS

Ineligible Major: Japanese

## PRE/CO-REQUISITES

Japanese language through at least JAPN 1200: Elementary II or the equivalent; some credits of JAPN 2100: Intermediate I can be applied toward the minor.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## BIOCHEMISTRY IN THE COLLEGE OF ARTS AND SCIENCES

<https://www.uvm.edu/biochemistry>

The interdisciplinary Biochemistry program is administered by the College of Agriculture and Life Sciences (CALS) and the College of Arts and Sciences (CAS) in conjunction with the Larner College of Medicine (LCOM). The Bachelor of Science in Biochemistry can be pursued through the College of Agriculture and Life Sciences or through the College of Arts and Sciences.

### CAS BIOCHEMISTRY MAJOR

Biochemistry is the basic science that explores the chemical and physical properties of living organisms and the chemical changes that occur in these organisms. It is integral to the study of a variety of scientific disciplines, including biology, chemistry, microbiology, genetics, anatomy, physiology, and pharmacology. The Bachelor of Science degree in Biochemistry is an interdisciplinary undergraduate degree program offered through the College of Arts and Sciences (CAS), the College of Agriculture and Life Sciences (CALS) and the Larner College of Medicine (LCOM). It draws upon a broad set of University resources from all three colleges to provide students with a modern science-based education, emphasizing fundamental knowledge of chemistry and biology along with advanced courses specializing in biochemistry and biomedical sciences.

The Biochemistry curriculum is challenging, offering students with strong academic abilities in science an opportunity to explore upper-level courses in areas of modern biochemistry. Many students pursue undergraduate research projects with research advisors from the Biochemistry, Chemistry, or Microbiology & Molecular Genetics departments. These students gain invaluable research experience that will prepare them for future pursuits in industry or academia. Thus, the Biochemistry degree is designed to meet the needs of students wishing to compete in the job market at the B.S. degree level as well as students planning to continue with advanced studies in a graduate or professional degree program.

## MAJORS

### BIOCHEMISTRY MAJOR

Biochemistry B.S. (p. 282)

## MINORS

### BIOCHEMISTRY MINOR

Biochemistry (p. 283)

**GRADUATE**

Biochemistry AMP

Biochemistry M.S.

Cellular, Molecular and Biomedical Sciences M.S.

Cellular, Molecular and Biomedical Sciences Ph.D.

See the online Graduate Catalogue for more information

**BIOCHEMISTRY B.S.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

Students who are pursuing the B.S. in Biochemistry in the College of Arts and Sciences are required to take at least 84 credits of coursework in the College of Arts and Sciences.

At least 46 credits in major courses, plus 23-27 credits in ancillary courses, including:

<b>ANCILLARY REQUIREMENTS. At least 23 credits.</b>		
INTRODUCTORY BIOLOGY. Choose 1 of the following options:		4-8
Option A (recommended):		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
MATHEMATICS. Choose 1 of the following options:		8
Option A (recommended):		
MATH 1234 & MATH 1248	Calculus I and Calculus II	
Option B:		
MATH 1212 & MATH 1242	Fundamentals of Calculus I and Transitional Calculus	
STATISTICS.		3
STAT 1410	Basic Statistical Methods 1	
PHYSICS. Choose 1 of the following options:		8
Option A (recommended):		

PHYS 1600 & PHYS 1650	Fundamentals of Physics I and Fundamentals of Physics II	
Option B:		
PHYS 1400 & PHYS 1450	Elementary Physics I and Elementary Physics II	
<b>CORE REQUIREMENTS. At least 32 credits.</b>		
INTERMEDIATE BIOLOGY.		7
BCOR 2300	Genetics	
BCOR 2500	Molecular & Cell Biology w/lab	
GENERAL CHEMISTRY. Choose 1 of the following options:		5-8
Option A (recommended):		
CHEM 1410 & CHEM 1460 & CHEM 2400	Exploring Chemistry 1 and Exploring Chemistry 2 and Inorganic Chemistry	
Option B:		
CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	
ORGANIC CHEMISTRY. Choose 1 of the following options:		8
Option A (recommended):		
CHEM 1500 & CHEM 1550	Organic Chemistry for Majors 1 and Organic Chemistry for Majors 2	
Option B:		
CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2	
PHYSICAL CHEMISTRY.		3
CHEM 2600	Intro Physical Chemistry	
BIOCHEMISTRY.		9
BIOC 3005	Biochemistry I	
BIOC 3006	Biochemistry II	
BIOC 3007	Biochemistry Lab	
<b>ADVANCED COURSES. 14 credits.</b>		
INTERMEDIATE LABORATORY ELECTIVE. Choose 1 of the following:		4
CHEM 2310	Quantitative Analysis	
MMG 2040	Intro Molecular Genetics	
MMG 3010	Applied Cell & Mol Bio Lab	
BIOL 4630	Adv Genetics Laboratory	
BIOL 4635	Adv Genetics & Proteomics Lab	
ADVANCED BIOCHEMISTRY ELECTIVES. 5-9 additional credits from the Undergraduate and/or Graduate Elective lists below, in any combination.		5-9

Undergraduate Elective Courses: ASCI 3180, BIOC 3063, BIOC 3075, BIOL 3500, BIOL 3505, BIOL 3535, BIOL 3560, BIOL 3565, BIOL 4135, BIOL 4405, CHEM 3320, CHEM 3400, CHEM 3600, CHEM 4580, MMG 3110, MMG 3230, MMG 3250, MMG 3300, MMG 3310, MMG 3320, MMG 3330, NFS 3243, NSCI 3250, PHRM 3010, PHRM 3720, PHRM 3900, PHYS 3700, PSYS 3250, STAT 3210		
RESEARCH. Up to 4 credits from the following: BIOC 3995, BIOC 4996, CHEM 3995, or MMG 3995. Research credits in other related disciplines may be applied with the approval of the Biochemistry Directors.		0-4
Graduate Elective Courses Requiring Instructor Permission: BIOC 6051, BIOC 6072, CHEM 6410, CHEM 6460, CHEM 6560, CHEM 6580, CHEM 6590, CHEM 6610, CHEM 6620, CLBI 6010, MMG 6200, MPBP 6010, MPBP 6100, NSCI 5230, NSCI 6020, PHRM 5400, STAT 5310		
SENIOR PROJECT. Choose 1 of the following:		1
BIOC 4084	Biochemistry Senior Seminar	
BIOC 4996	Honors	
Additional courses, including graduate-level courses, may be accepted as electives with prior approval from the Biochemistry Directors.		

## RESTRICTIONS

Students completing the B.S. in Biochemistry may not also receive the B.A. in Chemistry or the B.S. in Chemistry.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Science degree, no more than 50 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## BIOCHEMISTRY MINOR

### REQUIREMENTS

17 credits in minor courses, including:

Choose 1 of the following options:		8
Option A:		
CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2	
Option B:		
CHEM 1500 & CHEM 1550	Organic Chemistry for Majors 1 and Organic Chemistry for Majors 2	
BIOC 3005	Biochemistry I	3

BIOC 3006	Biochemistry II	3
BIOC 3007	Biochemistry Lab	3

## RESTRICTIONS

Ineligible Major: Chemistry (B.A., B.S.)

Ineligible Minor: Chemistry

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## DEPARTMENT OF BIOLOGY

<http://www.uvm.edu/cas/biology>

The Department of Biology is the general biology research and teaching department at the University of Vermont. The department is committed to the active pursuit of scientific understanding through integrative, cutting-edge research in neuroscience, cell biology, genetics, ecology, and evolution. The Biology Department administers several majors, including B.A. degrees in Biology and Zoology and B.S. degrees in Biological Sciences and Zoology. Students pursuing the Biology B.A. degree choose between structured concentrations in Cell and Developmental Biology, Ecology and Evolutionary Biology, or General Biology. All majors provide excellent preparation for many careers and graduate programs, including programs in health and medicine and veterinary science. The department's focus, most particularly in advanced courses, is on learning primarily through smaller classes, analysis of primary literature, hands-on research, and close faculty interaction. UVM Biology professors are respected, internationally known scientists and recipients of important grants each year from organizations including the National Science Foundation, the National Institutes of Health, and the Environmental Protection Agency. Student research is encouraged and is supported by departmental and university awards. Students consult regularly with departmental faculty advisors to choose a structured set of elective courses to meet their interests and professional goals.

## MAJORS

### BIOLOGY MAJORS

Biology B.A. (p. 284)

Biological Science B.S. (p. 286)

Zoology B.A. (p. 288)

Zoology B.S. (p. 289)

**MINORS****BIOLOGY MINORS**

Biology (p. 290)

Zoology (p. 290)

**GRADUATE**

Biology AMP

Biology M.S.

Biology M.S.T.

Biology Ph.D.

See the online Graduate Catalogue for more information

**BIOLOGY B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

In the Bachelor of Arts program, Biology majors may choose from 3 concentrations:

Concentration in General Biology (p. 284)

Concentration in Ecology and Evolutionary Biology (p. 285)

Concentration in Cell and Developmental Biology (p. 285)

**MAJOR REQUIREMENTS**

The Bachelor of Arts in Biology offers three concentrations. Students with an interest in studying the breadth of biology should declare a concentration in General Biology. Students wishing to focus on ecosystems and evolutionary principles should declare an Ecology and Evolution concentration. Students wishing to focus on courses in cell biology and developmental biology, including genetics and neurobiology, should declare a Cell and Developmental Biology concentration. Pre-health students can declare any of the three concentrations and are advised to consult the pre-health website and their academic advisor for specific course selections in order to complete all required courses for a given pre-health professional program.

**Concentration in General Biology**

At least 31 credits in major courses, plus 18-23 credits in ancillary courses, including:

FOUNDATIONS		
BIOL 1070	First-year Biology Seminar	1
Fundamental Biology. Choose 1 of the following options:		4-8
Option A:		

BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
Fundamental Chemistry. Choose 1 of the following options:		12-16
Option A:		
CHEM 1400 & CHEM 1450 & CHEM 1580	General Chemistry 1 and General Chemistry 2 and Intro Organic Chemistry w/lab	
Option B:		
CHEM 1400 & CHEM 1450 & CHEM 2580 & CHEM 2585	General Chemistry 1 and General Chemistry 2 and Organic Chemistry 1 and Organic Chemistry 2	
Calculus. Choose 1 of the following:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
STAT 1410	Basic Statistical Methods 1	3
<b>CORE COURSES</b>		
BCOR 2100	Ecology and Evolution	4
BCOR 2300	Genetics	3
BCOR 2500	Molecular & Cell Biology w/lab	4
BIOL 4405	Comparative Physiology	4
BIOL 4070	Sr Seminar in General Biology	1
<b>ADVANCED ELECTIVES</b>		
At least two of the Advanced Elective courses must be from the BIOL prefix. Only one of the courses may be at the 2000-level.		
Category A (lecture only). 1 additional course/3 credits from the following:		3
BIOL numbered 3100 to 3699		
ASCI 3180, ASCI 3070, BHSC 3420, BHSC 3810, BIOC 3001, BIOC 3005, BIOC 3006, BIOC 3063, BIOC 3075, MMG 3050, MMG 3060, MMG 3110, MMG 3200, MMG 3230, MMG 3250, MMG 3300, MMG 3320, MMG 3330, NR 3200, NR 3280, PBIO 3090, PBIO 3410, PBIO 3610, PHRM 3000, PHRM 3720, PHRM 3900, PSYS 3250, PSYS 3205, WFB 3240, WFB 4320, WFB 4750		
BIOL numbered 2100 to 2699		
ANTH 2152, ANTH 2170, ANTH 2191, ANTH 2410, ANTH 2440, ASCI 2600, ECON 2240, GEOG 2205, NSCI 2105, PATH 2010, PBIO 2510, PSYS 2100, PSYS 2200, SOC 2450, WFB 2300		

Category B (lecture with lab). 1 additional course/4 credits from the following:	4
BIOL numbered 4100 to 4699	
MLS 3200, MMG 3010, (MMG 3060 and MMG 3070), MMG 3220, NR 4500, NR 4800, PSYS 3200, WFB 4830	
CSD 2010, MMG 2010, PBIO 2040, PBIO 2080, PBIO 2090, PBIO 2170, PBIO 2770, WFB 2410	
1 additional course/3-4 credits from Category A or Category B	3-4
Additional courses, including Special Topics and graduate-level courses, may be accepted as electives with prior approval from the Biology Department. Graduate courses are often open to upper-level undergraduate students with instructor permission.	

### Concentration in Ecology and Evolution

At least 29 credits in major courses, plus 14-26 credits in ancillary courses, including:

<b>FOUNDATIONS</b>		
BIOL 1070	First-year Biology Seminar	1
Fundamental Biology. Choose 1 of the following options:		4-8
Option A:		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
Fundamental Chemistry. Choose 1 of the following options:		8-16
Option A:		
CHEM 1100 & CHEM 1580	Outline: General Chem w/lab and Intro Organic Chemistry w/lab	
Option B:		
CHEM 1400 & CHEM 1450 & CHEM 1580	General Chemistry 1 and General Chemistry 2 and Intro Organic Chemistry w/lab	
Option C:		
CHEM 1400 & CHEM 1450 & CHEM 2580 & CHEM 2585	General Chemistry 1 and General Chemistry 2 and Organic Chemistry 1 and Organic Chemistry 2	
Calculus. Choose 1 of the following:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
Statistics.		6

STAT 1410	Basic Statistical Methods 1	
Choose 1 of the following:		
STAT 2830	Basic Statistical Methods 2	
STAT 2870	Basics of Data Science	
STAT 3010	Stat Computing&Data Analysis	
<b>CORE COURSES</b>		
BCOR 2100	Ecology and Evolution	4
BCOR 2300	Genetics	3
BIOL 3105	Community Ecology	3
BIOL 3165	Evolution	3
BIOL 4075	Sr Seminar in Eco and Evo	1
<b>ADVANCED ELECTIVES</b>		
At least two of the Advanced Elective courses must be from the BIOL prefix. Only one of the courses may be at the 2000-level.		
Category A (lecture only). 1 additional course/3 credits from the following:		3
BIOL numbered 3100 to 3499		
MMG 3200, MMG 3300, MMG 3320, MMG 3300, NR 3200, NR 3280, PBIO 3090, PBIO 3410, PBIO 3610, WFB 3240, WFB 4320, WFB 4750		
BIOL numbered 2100 to 2499		
ANTH 2152, ANTH 2170, ANTH 2191, ANTH 2410, ANTH 2440, ASCI 2600, ECON 2240, PBIO 2510, SOC 2450, WFB 2300		
Category B (lecture with lab). 1 additional course/4 credits from the following:		4
BIOL numbered 4100 to 4499		
NR 4500, NR 4800, WFB 4830		
MMG 2010, PBIO 2040, PBIO 2080, PBIO 2090, PBIO 2770		
1 additional course/3-4 credits from Category A or Category B		3-4
Additional courses, including graduate-level courses, may be accepted as electives with prior approval from the Biology Department. Graduate courses are often open to upper-level undergraduate students with instructor permission.		

### Concentration in Cell and Developmental Biology

At least 29 credits in major courses, plus 18-23 credits in ancillary courses, including:

<b>FOUNDATIONS</b>		
BIOL 1070	First-year Biology Seminar	1
Fundamental Biology. Choose 1 of the following options:		4-8
Option A:		

BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
Fundamental Chemistry. Choose 1 of the following options:		12-16
Option A:		
CHEM 1400 & CHEM 1450 & CHEM 1580	General Chemistry 1 and General Chemistry 2 and Intro Organic Chemistry w/lab	
Option B:		
CHEM 1400 & CHEM 1450 & CHEM 2580 & CHEM 2585	General Chemistry 1 and General Chemistry 2 and Organic Chemistry 1 and Organic Chemistry 2	
Calculus. Choose 1 of the following:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
STAT 1410	Basic Statistical Methods 1	3
<b>CORE COURSES</b>		
BCOR 2300	Genetics	3
BCOR 2500	Molecular & Cell Biology w/lab	4
BIOL 3530	Cell Biology and Disease	3
BIOL 3560	Developmental Biology	3
BIOL 4080	Sr Seminar in Cell and Dev	1
<b>ADVANCED ELECTIVES</b>		
At least two of the Advanced Elective courses must be from the BIOL prefix. Only one of the courses may be at the 2000-level.		
Category A (Cell Biology). 1 additional course/3 credits from the following:		3
BIOL numbered 3530 to 3559		
BIOL 3505, BIOL 4635, ASCI 3180, BHSC 3420, BHSC 3810, BIOC 3001, MMG 2010, MMG 3010, MMG 3110, MMG 3230, MMG 3250, MMG 3300, MMG 3330, NSCI 3220, PHRM 3720, PHRM 3990		
Category B (Developmental Biology). 1 additional course/4 credits from the following:		4
BIOL numbered 3560 to 3589		
BIOL 3500, BIOL 3510, BIOL 4630, PBIO 3610		
1 additional course/3-4 credits from the following:		3-4

the Category A list		
the Category B list		
BIOL numbered 4400 to 4699		
BIOL 3400	Topics in General Biology	
BIOL 3600	Topics in Cell & Developmental	
Additional courses, including graduate-level courses, may be accepted as electives with prior approval from the Biology Department. Graduate courses are often open to upper-level undergraduate students with instructor permission.		

## RESTRICTIONS

Students completing the B.A. in Biology may not also receive the B.S. in Biological Science in either the College of Arts & Sciences or the College of Agriculture & Life Sciences, the B.S. in Neuroscience, or the B.S. in Zoology.

## PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the major as Advanced Electives.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## BIOLOGICAL SCIENCE B.S.

All students must meet the University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

Students who are pursuing the B.S. in Biological Science in the College of Arts and Sciences are required to take at least 84 credits of coursework in the College of Arts and Sciences.

At least 41 credits in major courses, plus 33-35 credits in ancillary courses, including:

<b>CORE REQUIREMENTS. At least 15 credits.</b>		
INTRODUCTORY BIOLOGY. Choose 1 of the following options:		4-8
Option A:		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	

Option B:		
BCOR 1425	Accelerated Biology	
BCOR 2100	Ecology and Evolution	4
BCOR 2300	Genetics	3
BCOR 2500	Molecular & Cell Biology w/lab	4
<b>ANCILLARY REQUIREMENTS. At least 33 credits.</b>		
CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 2580	Organic Chemistry 1	4
CHEM 2585	Organic Chemistry 2	4
CALCULUS I. Choose 1 of the following:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
CALCULUS II. Choose 1 of the following:		3-4
MATH 1224	Fundamentals of Calculus II	
MATH 1242	Transitional Calculus	
MATH 1248	Calculus II	
STATISTICS. Choose 1 of the following:		3
STAT 1410	Basic Statistical Methods 1	
STAT 2430	Statistics for Engineering	
STAT 3210	Advanced Statistical Methods	
PHYSICS. Choose 1 of the following options:		8
Option A:		
PHYS 1400 & PHYS 1450	Elementary Physics I and Elementary Physics II	
Option B:		
PHYS 1600 & PHYS 1650	Fundamentals of Physics I and Fundamentals of Physics II	
<b>ELECTIVES. 26 credits.</b>		
Students should meet with an academic advisor during their second year to map a plan of study for completing their Advanced Electives.		
CATEGORY A (courses at the 3000-level or above): 8-26 additional credits from the following:		8-26
BIOL numbered 3000 to 3990, or 4000 to 4990		
PBIO numbered 3000 to 3990, or 4000 to 4990		
MMG numbered 3000 to 3990, or 4000 to 4990		

<p>ANTH 3475, ASCI 3040, ASCI 3070, ASCI 3150, ASCI 3180, ASCI 3200, ASCI 3600, BHSC 3420, BHSC 3440, BHSC 3810, BHSC 3820, BIOC 3001, BIOC 3005, BIOC 3006, BIOC 3007, BIOC 3063, BIOC 3075, BIOC 3990, CSD 3810, ENSC 4010, ENSC 4740, FOR 3230, FOR 4280, MLS 3200, MLS 3300, NFS 3203, NFS 3204, NFS 3243, NR 3200, NR 3280, NR 4500, NR 4680, NR 4800, NSCI 3220, NSCI 3250, NSCI 3500, NSCI 4500, PHRM 3000, PHRM 3010, PHRM 3720, PHRM 3900, PSS 3120, PSS 3250, PSS 3320, PSS 3680, PSYS 3200, PSYS 3205, PSYS 3210, PSYS 3250, STAT 3000, WFB 3240, WFB 3610, WFB 4320, WFB 4610, WFB 4750, WFB 4830</p>		
<b>RESEARCH AND OTHER EXPERIENCES</b>		
Advanced Undergraduate Research. Up to 3 additional credits from the following, in any combination: ASCI 3995, BCOR 3995, BHSC 3995, BIOC 3995, BIOL 3995, BIOL 4996, FOR 3995, MMG 3995, NSCI 3995, PBIO 3995, PBIO 4996, PHRM 3995, PSS 3995, WFB 3995, or, with the approval of a major advisor, from another biological discipline		0-3
Undergraduate Research: Up to 3 additional credits from the following, in any combination: ASCI 2995, BCOR 2995, BHSC 2995, BIOC 2995, BIOL 2995, FOR 2995, MMG 2995, NSCI 2995, PBIO 2995, PHRM 2995, PSS 2995, PSYS 2995, WFB 2995, ASCI 3995, BCOR 3995, BHSC 3995, BIOC 3995, BIOL 3995, BIOL 4996, FOR 3995, MMG 3995, NSCI 3995, PBIO 3995, PBIO 4996, PHRM 3995, PSS 3995, WFB 3995, or, with the approval of a major advisor, from another biological discipline		0-3
Biology in Practice. Up to 2 additional credits of BCOR 3000		0-2
Teaching Assistantship. Up to 2 additional credits from the following, in any combination: ASCI 2994, ASCI 3994, BCOR 4994, BHSC 2994, BHSC 3994, BIOC 2994, BIOC 3994, BIOL 4994, FOR 2994, FOR 3994, MMG 2994, MMG 3994, NSCI 4994, PBIO 2994, PBIO 3994, PHRM 2994, PHRM 3994, PSS 2994, PSS 3994, PSYS 3994, WFB 2994, WFB 3994, or, with the approval of a major advisor, from another biological discipline		0-2
CATEGORY B (courses at the 2000-level): Up to 8 additional credits from the following:		0-8
BIOL numbered 2000 to 2990		
PBIO numbered 2000 to 2990		
MMG numbered 2000 to 2990		
<p>ASCI 2110, ASCI 2120, ASCI 2160, ASCI 2180, ASCI 2240, ASCI 2700, ENSC 2480, ENSC 3600, MMG 2010, MMG 2040, MMG 2060, MMG 2993, MMG 2994, NFS 2143, NFS 2163, NSCI 2100, NSCI 2105, PBIO 2040, PBIO 2080, PBIO 2090, PBIO 2170, PBIO 2330, PBIO 2510, PBIO 2770, PBIO 2990, PBIO 2993, PSS 2060, PSS 2120, PSS 2170, PSS 2380, PSS 2430, PSS 2540, PSS 2560, PSYS 2200, WFB 2300, WFB 2310, WFB 2410, WFB 2740, WFB 2990</p>		
Additional courses, including Special Topics and graduate-level courses, may be accepted as electives with prior approval from a Biological Sciences advisor. Graduate courses are often open to upper-level undergraduate students with instructor permission.		

**RESTRICTIONS**

Students completing the B.S. in Biological Science in the College of Arts & Sciences may not also receive the B.A. in Biology, the B.A.

or B.S. in Neuroscience, the B.A. or B.S. in Zoology, or the B.S. in Biological Science in the College of Agriculture & Life Sciences.

## PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the major as Advanced Electives.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Science degree, no more than 50 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## ZOOLOGY B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

At least 29 credits in major courses, plus 18-23 credits in ancillary courses, including:

<b>CORE REQUIREMENTS. At least 11 credits.</b>		
BIOLOGY. Choose 1 of the following options:		4-8
Option A (recommended):		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
BCOR 2300	Genetics	3
Choose 1 of the following:		4
BCOR 2100	Ecology and Evolution	
BCOR 2500	Molecular & Cell Biology w/lab	
<b>ANCILLARY REQUIREMENTS. At least 18 credits.</b>		
CHEMISTRY. Choose 1 of the following:		12-16
Option A:		

CHEM 1400 & CHEM 1450 & CHEM 1580	General Chemistry 1 and General Chemistry 2 and Intro Organic Chemistry w/lab	
Option B (recommended for pre-health students):		
CHEM 1400 & CHEM 1450 & CHEM 2580 & CHEM 2585	General Chemistry 1 and General Chemistry 2 and Organic Chemistry 1 and Organic Chemistry 2	
CALCULUS. Choose 1 of the following:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
QUANTITATIVE DISCIPLINES. At least 1 additional course/3 credits with a MA or QD Catamount Core Curriculum designation		3
<b>ADVANCED ELECTIVES. At least 18 credits.</b>		
CATEGORY A (recommended courses in animal biology): 11-18 additional credits from the following:		11-18
BIOL numbered 3100 to 3699		
BIOL numbered 4100 to 4699		
ANTH 3560, ASCI 3150, ASCI 3160, ASCI 3180, ASCI 3200, ASCI 3600, MMG 3230, PSYS 3200, WFB 3240, WFB 4320, WFB 4750, WFB 4830		
Up to 1 additional course/3-4 credits from the following:		0-4
BIOL numbered 2100 to 2699		
BCOR 2100, BCOR 2500, ANTH 2440, ASCI 2600, GEOG 2205, WFB 2300, WFB 2310, WFB 2410		
CATEGORY B (other eligible courses): Up to 4 additional credits from the following:		0-4
BIOC 3001, BIOC 3005, BIOC 3006, BIOC 3007, MMG 3010, MMG 3050, MMG 3060, MMG 3070, MMG 3200, MMG 3220, MMG 3250, MMG 3300, MMG 3320, MMG 3330, NR 3280, NR 4500		
Pre-health students should consult the pre-health checklist for requirements for professional schools (e.g., medicine, dentistry, veterinary, physical therapy).		
Additional courses, including Special Topics and graduate-level courses, may be accepted as electives with prior approval from the Biology Department. Graduate courses are often open to upper-level undergraduate students with instructor permission.		

## RESTRICTIONS

Students completing the B.A. in Zoology may not also receive the B.S. in Biological Science in either the College of Arts & Sciences or the College of Agriculture & Life Sciences, or the B.S. in Zoology.

## PRE-/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the major for the quantitative requirement or as Advanced Electives.



## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## ZOOLOGY B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

Students who are pursuing the B.S. in Zoology are required to take at least 84 credits of coursework in the College of Arts and Sciences.

At least 41 credits in major courses, plus 34-35 credits in ancillary courses, including:

<b>CORE REQUIREMENTS. At least 11 credits.</b>		
BIOLOGY. Choose 1 of the following options:		4-8
Option A (recommended):		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
BCOR 2300	Genetics	3
Choose 1 of the following:		4
BCOR 2100	Ecology and Evolution	
BCOR 2500	Molecular & Cell Biology w/lab	
<b>ANCILLARY REQUIREMENTS. At least 34 credits.</b>		
CHEMISTRY.		16
CHEM 1400 & CHEM 1450 & CHEM 2580 & CHEM 2585	General Chemistry 1 and General Chemistry 2 and Organic Chemistry 1 and Organic Chemistry 2	
CALCULUS. Choose 1 of the following:		3-4
MATH 1212	Fundamentals of Calculus I	

MATH 1234	Calculus I	
QUANTITATIVE DISCIPLINES. 12-15 additional credits with a MA or QD Catamount Core Curriculum designation		12-15
Up to 1 additional course/3 credits from the following:		0-3
GEOG 2510	Geog Info:Cncpts & Applic	
GEOG 2520	Remote Sensing	
GEOG 3505	Spatial Analysis	
GEOL 2525	Geocomputing	
Note that most professional schools (e.g., medicine, dentistry, veterinary, physical therapy) require the equivalent of PHYS 1450 or PHYS 1650.		
<b>ELECTIVES. At least 26 credits.</b>		
Students should meet with an academic advisor during their second year to map a plan of study for completing their Advanced Electives.		
CATEGORY A (recommended courses in animal biology): 5-30 additional credits from the following:		5-30
BIOL numbered 3100 to 3699		
BIOL numbered 4100 to 4699		
ANTH 3560, ASCI 3040, ASCI 3070, ASCI 3080, ASCI 3150, ASCI 3160, ASCI 3180, ASCI 3200, ASCI 3470, ASCI 3490, ASCI 3600, MMG 3230, PSYS 3200, WFB 3240, WFB 4320, WFB 4750, WFB 4830		
Up to 8 additional credits from the following:		0-8
BIOL numbered 2100 to 2699		
BCOR 2100, BCOR 2500, ANTH 2440, ASCI 2040, ASCI 2110, ASCI 2120, ASCI 2180, ASCI 2480, ASCI 2600, ASCI 2700, GEOG 2205, WFB 2300, WFB 2310, WFB 2410		
CATEGORY B (other eligible courses): Up to 8 additional credits from the following:		0-8
BIOC 3001, BIOC 3005, BIOC 3006, BIOC 3007, MMG 3010, MMG 3050, MMG 3060, MMG 3070, MMG 3200, MMG 3220, MMG 3250, MMG 3300, MMG 3320, MMG 3330, NR 3280, NR 4500		
<b>RESEARCH</b>		
Advanced Research. Up to 3 additional credits from the following, in any combination:		0-3
Undergraduate Research: BIOL 3995, WFB 3995		
Honors: BIOL 4996		
Undergraduate Research. Up to 3 additional credits from the following, in any combination:		0-3
Undergraduate Research: BIOL 2995, BIOL 3995, WFB 2995, WFB 3995		
Honors: BIOL 4996		

Additional courses, including Special Topics and graduate-level courses, may be accepted as electives with prior approval from the Biology Department. Graduate courses are often open to upper-level undergraduate students with instructor permission.	
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### RESTRICTIONS

Students completing the B.S. in Zoology may not also receive the B.A. in Biology, the B.A. in Zoology, or the B.S. in Biological Sciences in either the College of Arts & Sciences or the College of Agriculture & Life Sciences.

### PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the major for the quantitative requirement or as Advanced Electives.

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Science degree, no more than 50 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## BIOLOGY MINOR

### REQUIREMENTS

At least 17 credits in minor courses, including:

<b>CORE REQUIREMENTS. At least 4 credits.</b>		
Choose 1 of the following options:		4-8
Option A (recommended):		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
<b>ELECTIVES. At least 10 credits.</b>		
CATEGORY A (lecture only). 1 additional course/3 credits from the following:		3
BIOL numbered 2100 to 2699		
BIOL numbered 3100 to 3699		
ANTH 2152, ANTH 2170, ANTH 2191, ANTH 2410, ANTH 2440, ASCI 2600, ASCI 3180, ASCI 3070, BHSC 3420, BHSC 3810, BIOC 3001, BIOC 3005, BIOC 3006, BIOC 3063, BIOC 3075, ECON 2240, GEOG 2205, MMG 3050, MMG 3060, MMG 3110, MMG 3200, MMG 3230, MMG 3250, MMG 3300,		

MMG 3320, MMG 3330, NR 3200, NR 3280, NSCI 2105, PATH 2010, PBIO 2510, PBIO 3090, PBIO 3410, PBIO 3610, PHRM 3000, PHRM 3720, PHRM 3900, PSYS 2100, PSYS 2200, PSYS 3250, PSYS 3205, SOC 2450, WFB 2300, WFB 3240, WFB 4320, WFB 4750	
CATEGORY B (lecture with lab). 1 additional course/4 credits from the following:	4
BIOL numbered 4100 to 4699	
CSD 2010, MLS 3200, MMG 2010, MMG 3010, (MMG 3060 and MMG 3070), MMG 3220, NR 4500, NR 4800, PBIO 2040, PBIO 2080, PBIO 2090, PBIO 2170, PBIO 2770, PSYS 3200, WFB 2410, WFB 4830	
1 additional course/3-4 credits from Category A or Category B	3-4
Up to 1 additional course/3-4 credits from Category A or Category B	0-4

### RESTRICTIONS

Ineligible Majors: Biology (B.A.), Biological Science (B.S. in CAS or CALS), Plant Biology (B.S. in CAS or CALS), Zoology (B.A., B.S.)

### PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor as electives. The following courses are the most common requirements: CHEM 1400, CHEM 1450, CHEM 2580, CHEM 2585, MATH 1212, MATH 1234.

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## ZOOLOGY MINOR

### REQUIREMENTS

At least 17 credits in minor courses, including:

<b>CORE REQUIREMENTS. At least 4 credits.</b>		
Choose 1 of the following options:		4-8
Option A (recommended):		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		

BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
<b>ELECTIVES. At least 10 credits.</b>		
CATEGORY A Lecture Courses (recommended courses in animal biology). At least 2 additional courses/6-8 credits from the following:		6-8
BIOL numbered 2100 to 2699		
BIOL numbered 3100 to 3699		
BCOR 2300, ANTH 2440, ASCI 2600, ASCI 3150, ASCI 3160, ASCI 3180, ASCI 3200, ASCI 3600, GEOG 2205, MMG 3230, WFB 2300, WFB 2310, WFB 4320, WFB 4750		
CATEGORY A Lab Courses. 1 additional course/4 credits from the following:		4
BIOL numbered 4100 to 4699		
BCOR 2100, BCOR 2500, ANTH 3560, PSYS 3200, WFB 2410, WFB 3240, WFB 4830		
CATEGORY B (other eligible courses). Up to 1 additional course/3-4 credits from the following:		0-4
BIOC 3001, BIOC 3005, BIOC 3006, BIOC 3007, MMG 3010, MMG 3050, MMG 3060, MMG 3070, MMG 3200, MMG 3220, MMG 3250, MMG 3300, MMG 3320, MMG 3330, NR 3280, NR 4500		
Up to 1 additional course/3-4 credits from Category A lecture or lab courses		0-4

## RESTRICTIONS

Ineligible Majors: Biology (B.A.), Biological Science (B.S. in CAS or CALS), Plant Biology (B.S.), Wildlife and Fisheries Biology (B.S.), Zoology (B.A., B.S.)

## PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor as electives. The following courses are the most common requirements: CHEM 1400, CHEM 1450, CHEM 2580, CHEM 2585, MATH 1212, MATH 1234.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## CAS COLLEGE-WIDE CURRICULUM

### OVERVIEW

Courses offered under the Arts and Sciences (CAS) prefix are not associated with a single academic department. Courses with the CAS prefix are typically considered to be elective credit but may be counted toward a student's major or minor with departmental or program permission.

### INTERDISCIPLINARY COURSES

The College of Arts and Sciences offers courses that bridge two or more academic disciplines or cover a broad disciplinary area (humanities, social sciences, arts, or natural sciences). Interdisciplinary courses encourage students to break down artificial silos and connect with a broad range of scholars regardless of departmental affiliation. Interdisciplinary course topics will vary and may be offered in periodic intervals depending on faculty and student interest.

### ACADEMIC SUPPORT COURSES

These courses are designed to help students at all stages of their educational journey find their path and achieve academic success. Courses will help students to strengthen essential skills (time-management, note taking, testing, goal setting, etc.), explore potential majors, minors, and academic interests, and connect to important campus resources.

<https://www.uvm.edu/cas/internships>

### INTERNSHIPS

The College offers elective internship credit to students in any major who complete a qualifying internship experience as defined by UVM's Policy on Academic Internships. Internship courses award credit for successful participation in specific programs (such as The Washington Center, Semester in the City, Communities of Practice, Community News Service) as well as for successful completion of independent internships arranged by the student. In some cases, internship credit can be applied to the major or minor with departmental permission.

[https://www.uvm.edu/cas/individually\\_designed\\_major/minor\\_idm](https://www.uvm.edu/cas/individually_designed_major/minor_idm)

### INDIVIDUALLY DESIGNED MAJOR AND MINOR

The IDMajor and IDMinor are non-departmental, interdisciplinary majors and minors for students whose academic interests are not met by current program offerings. Proposals for an IDM must be developed in concert with a faculty advisor, and then go through a formal review process at the Dean's office. CAS-prefix courses that award credit for research, teaching assistantships, independent studies, and honors theses may count toward the IDMajor and IDMinor with faculty sponsor approval.

**MAJORS**

**INDIVIDUALLY DESIGNED MAJOR**

Individually Designed B.A. (p. 292)

**MINORS**

**INDIVIDUALLY DESIGNED MINOR**

Individually Designed (p. 292)

**INDIVIDUALLY DESIGNED B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

The Individually Designed Major (IDM) is a nondepartmental, interdisciplinary major for those College of Arts and Sciences Bachelor of Arts candidates whose academic interests are not met by the major programs currently offered by the college. An IDM may not be a program of narrow professional training, nor should it consist of a grouping of loosely associated courses. Rather, it should be a carefully crafted, coherent curriculum allowing the student to concentrate in a unique area of study. An application to pursue an IDM is required; see details in the table below. For more information, contact [cas@uvm.edu](mailto:cas@uvm.edu).

At least 36 credits in major courses, including:

<b>APPLICATION</b>	
An application to pursue an IDM should be approved by the CAS associate dean responsible for IDM advising, subject to the oversight of the CAS Curriculum Committee, before the end of the candidate's junior year and before 18 credits of the proposed major are completed or begun.	
To accommodate the possibility that selected courses may not be offered at a given time, a student's application should include 1 alternate course in the core and 2 alternate courses in the elective list.	
<b>FACULTY SPONSOR.</b> Students must have a faculty sponsor to have their application for an IDM approved. The sponsor will serve as faculty supervisor of the senior project. The department of the student's faculty sponsor shall be considered the home department of the student's major.	
<b>COURSES</b>	
CORE. At least 15 credits at the 2000-level or above.	15
ELECTIVES. At least 15 credits.	15
SENIOR PROJECT. Choose 1 of the following:	3-6
6 credits of CAS 4996: Honors	

3 credits of Undergraduate Research (x995) in the faculty sponsor's department, in which the student submits to a committee of 3 or more professors a paper or an equivalent project that demonstrates the essential coherence of the IDM. The evaluation committee will include the student's advisor and at least 1 representative from another academic department with courses included in the core of the IDM.	
ADDITIONAL CREDITS. Up to 12 additional credits.	0-12
<b>COURSE RESTRICTIONS</b>	
At least 6 credits must be at the 3000-level or above.	
No more than 6 credits of Internship (x991), Independent Study (x993), and/or Undergraduate Research (x995) may be included in the major.	
No more than 12 credits may come from subject prefixes offered outside the College of Arts and Sciences.	

**PRE/CO-REQUISITES**

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the major.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**INDIVIDUALLY DESIGNED MINOR**

The Individually Designed Minor (IDM) is a nondepartmental, interdisciplinary minor for students with academic interests that are not met by the minors currently offered by the college. An IDM may not be a program of narrow professional training. Rather, it must lead to an intensive investigation of some broad area of human knowledge which is not covered by a single departmental discipline. At the same time, an IDM should not consist of a grouping of loosely associated courses; rather it should be a carefully crafted, coherent curriculum allowing the student to concentrate in a unique area of study. An application to pursue an IDM is required; see details in the table below. For more information, contact [cas@uvm.edu](mailto:cas@uvm.edu).

**REQUIREMENTS**

18-20 credits in minor courses, including:

<b>APPLICATION</b>	
An application to pursue an IDM should be approved by the CAS associate dean responsible for IDM advising, subject to the oversight of the CAS Curriculum Committee, before the end of the candidate's junior year and before 9 credits of the proposed major are completed or begun.	

To accommodate the possibility that selected courses may not be offered at a given time, a student’s application should include 1 alternate course in the core and 1 alternate course in the elective list.	
FACULTY SPONSOR. Students must have a faculty sponsor to have their application for an IDM approved.	
<b>COURSES</b>	
CORE. At least 9 credits at the 2000-level or above.	9
ELECTIVES. At least 9 credits.	9
ADDITIONAL CREDITS. Up to 2 additional credits.	0-2
<b>COURSE RESTRICTIONS</b>	
No more than 6 credits of Internship (x991), Independent Study (x993), and/or Undergraduate Research (x995) may be included in the minor.	
No more than 6 credits may come from subject prefixes offered outside the College of Arts and Sciences.	

**PRE/CO-REQUISITES**

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**CENTER FOR RESEARCH ON VERMONT**

<https://www.uvm.edu/cas/vermontresearch>

The Center for Research on Vermont highlights research from the Vermont “laboratory” – research that provides original knowledge to the world through examining the state's social, economic, cultural, and physical environment.

**REPORTING & DOCUMENTARY STORYTELLING**

The center is home to the interdisciplinary Reporting & Documentary Storytelling Minor. In the minor, students study the practice and theory of telling socially and culturally engaged stories in print journalism and nonfiction writing, video, image, audio, and mixed media formats. Students in the minor also explore ideas, issues, problems, and theories related to media, journalism, and nonfiction storytelling, developing vital skills in media literacy, critical thinking, ethical awareness, creativity, and problem solving.

**MINORS**

**CENTER FOR RESEARCH ON VERMONT MINORS**

Reporting and Documentary Storytelling (p. 293)

**REPORTING AND DOCUMENTARY STORYTELLING MINOR**

**REQUIREMENTS**

18 credits in minor courses, including:

CORE WRITING. Choose 1 of the following:		3
ENGL 1700	Topics in Introductory Writing	
ENGL 1702	Topics in Intro Writing: Arts	
ENGL 1705	Topics in Intro Writing: Sust	
ENGL 1740	The Art of the Essay	
MEDIA HISTORY/THEORY. Choose 1 of the following:		3
CDAE 2230	Media-Policy-Action	
CDAE 2450	Propaganda, Media, & Cit Respn	
FTS 1400	History of Television	
FTS 1420	Classical Cinema	
FTS 1430	Contemporary Cinema	
FTS 2430	Topics in Doc & Avt Garde Film	
PRACTICE. 3 courses/9 credits chosen from the following:		9
Journalism, the Essay, Digital Composing, Screenwriting		
CDAE 2130	Activist Journalism	
CDAE 2210	News Writing Across Media	
ENGL 2700	Topics in Writing	
ENGL 2702	Topics in Writing: Arts	
ENGL 2740	Writing Creative Nonfiction	
ENGL 3780	Topics in Comp & Rhetoric	
FTS 2700	Topics In Screenwriting I	
FTS 3700	Topics in Screenwriting II	
Documentary Video		
ARTS 2640	Introduction to Video Art	
CDAE 2140	Doc. Film for Social Change	
CDAE 2440	Community Media Production	
FTS 2600	Topics in Production w/lab	
FTS 2605	Topics in Production	
FTS 2650	Production Foundations w/lab	

FTS 2655	Production Foundations	
FTS 2670	Film Theory and Practice	
FTS 3600	Topics in Production II w/lab	
FTS 3605	Topics in Production II	
Photography, Digital Image, and Design		
ARTS 2510	Photography	
ARTS 2520	Color Photography	
INTERNSHIP. 3 credits chosen from the following:		3
CAS 3922	Community News Service	
with an appropriate placement approved by an RDS advisor: CAS 2920, CAS 2991, FTS 3991, VS 3991		
NOTE: Additional courses may be counted toward the minor with the approval of the directors.		

## PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach the courses at the 2000-level or above applicable to the minor.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## DEPARTMENT OF CHEMISTRY

<http://www.uvm.edu/cas/chemistry>

Chemistry is the center of science. Chemists seek understanding of all aspects of the physical and biological worlds at the molecular level, developing methodologies to probe the structure of molecules and chemical reactions. These techniques are critical to solving biological and biomedical problems and also provide tools to address important problems in materials science, geology, and in the environmental sciences.

Chemistry students gain the intellectual skills needed to confront and solve difficult problems and develop a rigorous lifelong commitment to learning. In conjunction with the Chemistry Department's active Ph.D. program, undergraduate Chemistry majors work with faculty members and graduate students engaged in cutting-edge research. This participation brings state-of-the-art perspectives to undergraduate learning that can only be obtained at a modern research university.

Chemistry students learn to be creative thinkers, scientists, and clear communicators, under the guidance of internationally recognized faculty who are deeply committed to teaching, advising, and research. Faculty regularly garner funding from the National Science Foundation, National Institutes of Health, and the U.S. Department of Energy, among others, for research in areas that include biomedical applications and drug development, environmental science, and materials science.

## MAJORS

### CHEMISTRY MAJORS

Chemistry B.A. (p. 294)

Chemistry B.S. (p. 295)

## MINORS

### CHEMISTRY MINOR

Chemistry (p. 296)

## GRADUATE

Chemistry AMP

Chemistry M.S.

Chemistry Ph.D.

See the online Graduate Catalogue for more information.

## CHEMISTRY B.A.

All students must meet the Degree and University Requirements. (p. 473). (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

Students pursuing a Bachelor of Arts degree with a major in Chemistry complete a set of courses representing the traditional chemical subdisciplines and have great flexibility in the focus of their upper level coursework. Students may elect a major that is certified by the American Chemical Society by completing CHEM 2605, CHEM 3320, CHEM 3325, BIOC 3005, and 3 credits of CHEM 3991, CHEM 2995, or CHEM 3995. The B.A. Chemistry major degree provides students a solid foundation in chemistry to pursue careers in a range of fields.

## MAJOR REQUIREMENTS

At least 38 credits in major courses, plus 14-16 credits in ancillary courses, including:

<b>FOUNDATIONS. At least 10 credits.</b>		
GENERAL CHEMISTRY. Choose 1 of the following options:		2-8
Option A (recommended):		
CHEM 1410 & CHEM 1460	Exploring Chemistry 1 and Exploring Chemistry 2	

Option B:		
CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	
ORGANIC CHEMISTRY. Choose 1 of the following options:		8
Option A (recommended):		
CHEM 1500 & CHEM 1550	Organic Chemistry for Majors 1 and Organic Chemistry for Majors 2	
Option B:		
CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2	
<b>ANCILLARY COURSES. At least 14 credits.</b>		
MATHEMATICS. Choose 1 of the following options:		6-8
Option A:		
MATH 1234 & MATH 1248	Calculus I and Calculus II	
Option B:		
MATH 1212 & MATH 1242	Fundamentals of Calculus I and Transitional Calculus	
Option C:		
MATH 1212 & MATH 1224	Fundamentals of Calculus I and Fundamentals of Calculus II	
PHYSICS. Choose 1 of the following options:		8
Option A:		
PHYS 1600 & PHYS 1650	Fundamentals of Physics I and Fundamentals of Physics II	
Option B:		
PHYS 1400 & PHYS 1450	Elementary Physics I and Elementary Physics II	
<b>CORE COURSES. 16 credits.</b>		
CHEM 2010	2nd Year Seminar: Writing	1
CHEM 2012	2nd Year Seminar: Presentation	1
CHEM 2014	Professional Development	1
CHEM 2050	Advanced Synthesis Techniques	3
CHEM 2310	Quantitative Analysis	4
CHEM 2600	Intro Physical Chemistry	3
CHEM 3400	Advanced Inorganic Chemistry	3
<b>ADVANCED ELECTIVES. 12 credits.</b>		
6-12 additional credits from the following:		6-12
CHEM numbered 3000 to 3990		
CHEM numbered 4000 to 4990		

BIOC 3005, BIOC 3006, BIOC 3007, BIOC 3063, BIOC 3075, GEOL 4405, PHRM 3010, PHRM 5400, PHRM 3720, PHRM 3900, PSS 3640		
With department permission, CHEM numbered 6000 to 6990		
Up to 6 additional credits from the following:		0-6
CHEM 3991	Internship	
CHEM 3995	Undergraduate Research	
CHEM 4996	Honors	
Additional courses, including graduate-level courses, may be accepted as electives with prior approval from the Chemistry Department. Graduate courses are often open to upper-level undergraduate students with instructor permission.		

## RESTRICTIONS

Students completing the B.A. in Chemistry may not also receive the B.S. in Biochemistry or the B.S. in Chemistry.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## CHEMISTRY B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

Students pursuing a Bachelor of Science degree with a major in Chemistry complete an extensive set of courses representing the traditional chemical subdisciplines and engage in research. The B.S. degree Chemistry major is certified by the American Chemical Society, and it is particularly good preparation for graduate study in chemistry.

## MAJOR REQUIREMENTS

At least 47 credits in major courses, plus 16 credits in ancillary courses, including:

<b>FOUNDATIONS. At least 10 credits.</b>		
GENERAL CHEMISTRY. Choose 1 of the following options:		2-8
Option A (recommended):		
CHEM 1410 & CHEM 1460	Exploring Chemistry 1 and Exploring Chemistry 2	

Option B:		
CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	
ORGANIC CHEMISTRY. Choose 1 of the following options:		8
Option A (recommended):		
CHEM 1500 & CHEM 1550	Organic Chemistry for Majors 1 and Organic Chemistry for Majors 2	
Option B:		
CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2	
<b>ANCILLARY COURSES. 16 credits.</b>		
MATHEMATICS. Choose 1 of the following options:		8
Option A (recommended):		
MATH 1234 & MATH 1248	Calculus I and Calculus II	
Option B:		
MATH 1212 & MATH 1242	Fundamentals of Calculus I and Transitional Calculus	
PHYS 1600	Fundamentals of Physics I	4
PHYS 1650	Fundamentals of Physics II	4
<b>CORE COURSES. At least 31 credits.</b>		
CHEM 2010	2nd Year Seminar: Writing	1
CHEM 2012	2nd Year Seminar: Presentation	1
CHEM 2014	Professional Development	1
CHEM 2050	Advanced Synthesis Techniques	3
CHEM 2310	Quantitative Analysis	4
CHEM 2600	Intro Physical Chemistry	3
CHEM 2605	Physical Chemistry Lab	1
Choose 1 of the following:		1-4
CHEM 3602	Physical Chemistry Preparation	
MATH 2248	Calculus III	
BIOC 3005	Biochemistry I	3
CHEM 3320	Instrumental Analysis	3
CHEM 3325	Instrumental Analysis Lab	1
CHEM 3400	Advanced Inorganic Chemistry	3
CHEM 3600	Advanced Physical Chemistry	3
UNDERGRADUATE RESEARCH. 3 credits from the following, in any combination:		3
CHEM 2995	Undergraduate Research	

CHEM 3991	Internship	
CHEM 3995	Undergraduate Research	
CHEM 4996	Honors	
<b>ADVANCED ELECTIVES. 6 credits.</b>		
3-6 additional credits from the following:		3-6
CHEM numbered 4000 to 4989		
BIOC 3006, BIOC 3007, BIOC 3063, BIOC 3075, GEOL 4405, PHRM 3010, PHRM 5400, PHRM 3720, PHRM 3900, PSS 3640		
Special Topics: CHEM 3990, CHEM 4990		
With department permission, CHEM numbered 6000 to 6990		
Up to 3 additional credits from the following:		0-3
CHEM 3991	Internship	
CHEM 3995	Undergraduate Research	
CHEM 4996	Honors	
Additional courses, including graduate-level courses, may be accepted as electives with prior approval from the Chemistry Department. Graduate courses are often open to upper-level undergraduate students with instructor permission.		

## RESTRICTIONS

Students completing the B.S. in Chemistry may not also receive the B.A. in Chemistry or the B.S. in Biochemistry.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Science degree, no more than 50 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## CHEMISTRY MINOR REQUIREMENTS

Choose 1 of the following tracks:

### TRACK 1

For students who are more interested in a broader chemistry background, this track emphasizes organic chemistry.

At least 19 credits in minor courses, plus 0-12 credits in prerequisite courses, including:

CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 2580	Organic Chemistry 1	4



CHEM 2585	Organic Chemistry 2	4
Choose 1 of the following:		3-4
CHEM 2310	Quantitative Analysis	
CHEM 2400	Inorganic Chemistry	
CHEM 2600	Intro Physical Chemistry	

**TRACK 2**

For students who are interested in a more quantitative chemistry background, this track emphasizes physical chemistry and mathematics.

At least 19 credits in minor courses, plus 0-12 credits in prerequisite courses, including:

CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 2600	Intro Physical Chemistry	3
CHEM 3600	Advanced Physical Chemistry	3
CHEM 3602	Physical Chemistry Preparation	1-4
or MATH 2248	Calculus III	
Choose 1 of the following:		4
CHEM 1580	Intro Organic Chemistry w/lab	
CHEM 2580	Organic Chemistry 1	

**RESTRICTIONS**

Ineligible Majors: Chemistry (B.A., B.S.), Biochemistry (B.S.)

Ineligible Minor: Biochemistry

**PRE/CO-REQUISITES**

For students who choose to take CHEM 2600, the following prerequisites are required:

CALCULUS. Choose 1 of the following options:		6-8
Option A:		
MATH 1234 & MATH 1248	Calculus I and Calculus II	
Option B:		
MATH 1212 & MATH 1242	Fundamentals of Calculus I and Transitional Calculus	
Option C:		
MATH 1212 & MATH 1224	Fundamentals of Calculus I and Fundamentals of Calculus II	
PHYSICS. Choose 1 of the following:		4

PHYS 1600	Fundamentals of Physics I	
PHYS 1400	Elementary Physics I	

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**CLASSICS PROGRAM**

<https://www.uvm.edu/cas/classics>

Classics, the study of Greek and Roman civilization in the broadest sense, is the original and quintessential liberal arts degree. The field is inherently multidisciplinary and provides access to a cultural continuum spanning over three millennia up to and including the present day.

The program offers language instruction in Latin and ancient Greek and an array of English-language courses that cover a wide area: mythology, epic and lyric poetry, drama, satire, art and architecture, historiography, political theory, and philosophy. The special research interests of UVM's Classics faculty shape and enrich the department's curriculum, integrating in-depth work in topics such as oral tradition studies; the history of writing, books and printing; ancient farming and technology; ancient music; ancient Near Eastern history and literature; historical linguistics and etymology; Greek and Roman philosophy; Roman history; topography, and myth; and women in antiquity.

Students pursuing a major or minor in Classics have the option of concentrating their studies on languages or Classical studies more generally, and it is also possible to choose one of those concentrations for the major and pair it with a minor that focuses on the other concentration. The program also offers graduate-level study, with a M.A. and Accelerated Master's Program and a certificate of graduate study in Greek and Latin Languages.

**MAJORS****CLASSICS MAJORS**

Classics B.A. (p. 298)

**MINORS****CLASSICS MINORS**

Classics (p. 298)

**GRADUATE**

Greek and Latin Languages (GKLT) CGS

Greek and Latin AMP

Greek and Latin M.A.

Greek and Latin M.A.T.

See the online Graduate Catalogue for more information.

## CLASSICS B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

In the Bachelor of Arts program, Classics majors may choose from 2 concentrations:

Concentration in Classical Studies (p. 298)

Concentration in Classical Languages (p. 298)

## MAJOR REQUIREMENTS

### Concentration in Classical Studies

33 credits, including:

COURSE REQUIREMENTS		
Classical Language. Choose from the following:		6
6 credits in GRK		
6 credits in LAT		
CLAS 1320	Greek History/Civilization I	3
or CLAS 2320	Greek History/Civilization II	
CLAS 1360	Roman History/Civilization I	3
or CLAS 2360	Roman History/Civilization II	
ARTH 2100	Topics in Ancient Art	3
12 additional credits in CLAS		12
6 additional credits in CLAS, GRK, or LAT in any combination		6
Course offerings for Classics vary frequently and often include courses from other prefixes and the Honors College. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.		
LEVEL REQUIREMENT		
At least 12 credits must be at the 2000-level or above		

### Concentration in Classical Languages

33 credits, including:

COURSE REQUIREMENTS		
Classical Studies. 2 courses/6 credits from the following:		6
CLAS numbered 1010 or above		
ARTH 2100	Topics in Ancient Art	
Greek. 9 credits in GRK		9
Latin. 9 credits in LAT		9
Advanced Language. 1 additional course/3 credits from the following:		3
GRK numbered 4100 or above		
LAT numbered 4100 or above		
6 additional credits in GRK or LAT in any combination		6
LEVEL REQUIREMENT		
At least 12 credits must be at the 2000-level or above		

## RESTRICTIONS

Students completing the B.A. in Classics with a concentration in Classical Studies may not also receive the minor in Classics with a track in Classical Studies.

Students completing the B.A. in Classics with a concentration in Classical Languages may not also receive the minor in Classics with a track in Classical Languages.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## CLASSICS MINOR

### REQUIREMENTS

Choose 1 of the following tracks:

#### Track 1: Classical Studies

18 credits in minor courses, including:

COURSE REQUIREMENTS		
Classical Language. Choose from the following:		3
3 credits in GRK		
3 credits in LAT		
Classical Studies. 5 courses/15 credits from the following:		15
CLAS numbered 1010 or above		

ARTH 2100 Topics in Ancient Art	
Course offerings for Classics vary frequently and often include courses from other prefixes and the Honors College. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.	
<b>LEVEL REQUIREMENT</b>	
At least 12 credits must be at the 2000-level or above	

## Track 2: Classical Languages

18 credits in minor courses, including:

<b>CLASSICAL STUDIES</b>		
1 courses/3 credits from the following:		3
CLAS numbered 1010 or above		
ARTH 2100	Topics in Ancient Art	
<b>CLASSICAL LANGUAGES</b>		
9-15 credits in GRK and/or LAT at the 2000-level or above		9-15
Up to 6 credits in GRK and/or LAT at any level		0-6

## RESTRICTIONS

Students completing minor in Classics with a track in Classical Studies may not also receive the the B.A. in Classics with a concentration in Classical Studies.

Students completing minor in Classics with a track in Classical Languages may not also receive the the B.A. in Classics with a concentration in Classical Languages.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## COMPUTER SCIENCE IN THE COLLEGE OF ARTS AND SCIENCES

<https://www.uvm.edu/cems/cs>

The Department of Computer Science resides in the College of Engineering and Mathematics Sciences (CEMS). The College of Arts and Sciences (CAS) offers a B.A. with a major in Computer Science. CEMS offers two B.S. programs in the discipline of computer science.

Edsgar Dijkstra (a renowned computer scientist, 1930-2002) is reputed to have said "Computer Science is no more about computers, than astronomy is about telescopes." Rather, Computer Science (CS) is aptly defined as the Science of Problem Solving. CS thus requires a combination of logical thinking, creativity, problem decomposition, implementation, verification and validation, and teamwork.

CS is a vibrant subject with academic depth, enormous growth, and universal economic impact. Computers are now ubiquitous in society and influence the way we learn, the way we do business, and the way we understand our world. Whether your passion is to help fight global warming, uncover the secrets of the human genome, evolve intelligent robots, bring history to life through mobile apps, prevent terrorism, study human social phenomena, understand financial markets, create digital art, improve healthcare, find useful patterns in Big Data, or invent the technologies of the future, computing is central to these and virtually all modern endeavors. Because of this, computing-related careers are among the most versatile, creative, satisfying, lucrative, and in-demand. The demand for computer scientists continues to grow at an incredible pace and shows no sign of slowing down.

At the undergraduate level, UVM Computer Science offers 3 bachelor's degrees, an accelerated M.S. degree, and a minor:

- **B.S.CS.:** The Bachelor of Science in Computer Science provides the most depth in computer science, complemented by breadth in math, science, humanities, and social sciences. The B.S.CS. is offered through the College of Engineering and Mathematical Sciences.
- **B.S.:** The Bachelor of Science in Computer Science and Information Systems is an interdisciplinary degree that combines computer science with business, offering a competitive combination of skills and knowledge. The B.S. is offered through the College of Engineering and Mathematical Sciences, in cooperation with the Grossman School of Business.
- **B.A.:** The Bachelor of Arts in Computer Science provides a computer science major in the context of a liberal education, and has sufficient flexibility to facilitate a double major in another field such as mathematics, biology, or music. The B.A. is offered through the College of Arts and Sciences.
- **Accelerated M.S.:** CS juniors who are academically strong may enter our accelerated M.S. program. This allows them to apply two of their upper division courses towards both a bachelor's and master's degree, enabling completion of the M.S. in as little as one additional year beyond their bachelor's degree.
- **CS minor:** We offer a flexible 6-course minor in Computer Science, which is a great complement to virtually any other major and adds marketable skills.

UVM CS courses provide a mixture of lecture-based and hands-on experiential learning exercises. Our curricula provide a solid foundation in both applied and theoretical aspects of computing, preparing students for future careers and/or graduate study in computing. Many of our students complete paid internships during their summers, and UVM CS alumni survey respondents typically

report 100 percent employment or graduate student status one year after graduation.

**MAJORS**

**COMPUTER SCIENCE MAJOR**

Computer Science B.A. (p. 300)

**MINORS**

**COMPUTER SCIENCE MINOR**

This minor is administered by the College of Engineering and Mathematical Sciences.

Computer Science (p. 421)

**GRADUATE**

Computer Science AMP

Computer Science M.S.

Computer Science Ph.D.

See the online Graduate Catalogue for more information.

**COMPUTER SCIENCE B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

41 credits in major courses, plus 14 credits in ancillary courses, including:

<b>CORE COURSES. 26 credits.</b>		
CS 1210	Computer Programming I	3
CS 2100	Intermediate Programming	4
Concurrent enrollment in CS 1500: Seminar for New CS Majors is recommended for students enrolled in CS 1210 or CS 2100.		
CS 1640	Discrete Structures	3
CS 2210	Computer Organization	3
CS 2240	Data Struc & Algorithms	3
CS 2250	Computability & Complexity	3
CS 2300	Advanced Programming	3
CS 3240	Algorithm Design & Analysis	3
CS 3920	Senior Seminar	1
<b>ELECTIVES. 15 credits.</b>		
OPEN LEVEL. 3 additional credits from the following:		3

CS numbered 1000 to 1990		
CS numbered 2000 to 2990		
CS numbered 3000 to 3990		
Independent Study: CS 1993, CS 2993, CS 3993		
Teaching Assistantship: CS 2994, CS 3994		
Undergraduate Research: CS 2995, CS 3995		
INTERMEDIATE LEVEL OR ABOVE. 3 additional credits from the following:		3
CS numbered 2000 to 2990		
CS numbered 3000 to 3990		
Independent Study: CS 2993, CS 3993		
Teaching Assistantship: CS 2994, CS 3994		
Undergraduate Research: CS 2995, CS 3995		
ADVANCED LEVEL. 3-9 additional credits from the following:		3-9
CS numbered 3000 to 3990		
Independent Study: CS 3993		
Teaching Assistantship: CS 3994		
Undergraduate Research: CS 3995		
Up to 6 additional credits from the following:		0-6
CS 4996	Undergraduate Honors Thesis	
<b>ANCILLARY COURSES. 14 credits.</b>		
Choose 1 of the following:		8
Option A (recommended):		
MATH 1234 & MATH 1248	Calculus I and Calculus II	
Option B:		
MATH 1212 & MATH 1242	Fundamentals of Calculus I and Transitional Calculus	
STAT 2430	Statistics for Engineering	3
STAT 2510	Applied Probability	3
It is recommended that the Natural Sciences Catamount Core Curriculum requirement be fulfilled with a 2-semester laboratory science sequence.		
Internship credit (x991) cannot be counted toward the major.		

**RESTRICTIONS**

Students completing the B.A. in Computer Science may not also receive the B.S. in Computer Science.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**CRITICAL RACE AND ETHNIC STUDIES**

**OVERVIEW**

<https://www.uvm.edu/cas/ethnicstudies>

The aim of the Critical Race and Ethnic Studies Program is to enable students to understand that race and ethnicity are not stable categories: they are ever-changing processes that are radically contingent on history, politics, geography, culture, and multiple other factors.

The “critical” in critical race and ethnic studies indicates the deliberate complexity at the heart of the program’s approach: while the program is dedicated to the investigation of race and ethnicity as realities in the daily lives of people all over the globe, the program views these categories as inherently flawed and insufficient. Ultimately, race and ethnicity are not categories that translate seamlessly from culture to culture, even within the United States; these terms take on radically different meanings that depend on one’s vantage point. Neither do they develop independently; race and ethnicity are inherently relational and intersectional. One factor that has been consistent in every incarnation of racial and ethnic identity, however, is power. In the program, students come to appreciate the centrality of power relations in the development of identity of marginalized peoples.

**MINOR**

**CRITICAL RACE AND ETHNIC STUDIES MINOR**

Critical Race and Ethnic Studies (p. 301)

**CRITICAL RACE AND ETHNIC STUDIES MINOR**

**REQUIREMENTS**

Students should consult with a Critical Race and Ethnic Studies program advisor in devising their course of study.

18 credits in minor courses, including:

<p>Course offerings for the CRES minor vary frequently and often include Special Topics and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students’ degree audits. The courses listed below are always eligible and should automatically be applied in degree audits.</p>	
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<p>INTRODUCTORY LEVEL. Up to 3 courses/9 credits at the 1000-level chosen from eligible courses, which regularly include:</p>	0-9
<p>BIOL 1200, CDAE 1040, ECLD 1560, EDFS 1010, ENGL 1210, ENGL 1215, ENGL 1220, ENGR 1100, GEOG 1770, HSCI 1200, HST 1525, LING 1200, MU 1120, MU 1140, MU 1147, PHIL 1548, REL 1355, SOC 1370, SOC 1372, SOC 1375, SPCH 1610, SWSS 1010, SWSS 1600, THE 1510</p>	
<p>INTERMEDIATE LEVEL OR ABOVE. 3-6 courses/9-18 credits at the 2000-level or above chosen from eligible courses, which regularly include:</p>	9-18
<p>ANTH 2205, ANTH 2250, ANTH 2310, ANTH 2325, ANTH 2894, ANTH 2895, ARTH 2885, CLAS 3505, DNCE 2500, ECON 3640, ECON 4640, ENGL 2210, ENGL 2216, ENGL 2222, ENGL 2223, FTS 2450, GEOG 2720, HDF 2410, HSCI 2600, HST 2644, HST 4210, LING 2230, MU 2120, POLS 2370, POLS 2470, PSYS 3405, REL 2350, REL 2355, SOC 2370, SOC 3300, SOC 3370, SOC 3380, SPAN 3102, SPAN 4665</p>	
<p>With the approval of a CRES advisor, up to 6 credits of Internships (x991), Independent Study (x993), and/or Undergraduate Research (x995) on relevant topics may be counted toward the minor.</p>	

**PRE/CO-REQUISITES**

Introductory and intermediate courses for various subject areas may be necessary to reach the courses at the 2000-level or above applicable to the minor.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**DEPARTMENT OF ECONOMICS**

<https://www.uvm.edu/cas/economics>

Economics is the study of how individuals and societies provide for material needs and wants. Economic thinking comes into play in a wide range of settings, from business decision-making to the argument of legal cases in the courts.

Students majoring in economics explore a broad array of issues that bear directly on human welfare, including economic growth and development, unemployment, the relationship between the environment and the economy, international trade, technological change, the role of race and gender in the economy, and poverty and the distribution of income.

Program offerings develop expertise with tools used in analyzing economic issues, including quantitative empirical analysis and modeling; historical and institutional analysis; and conceptual analysis.

**MAJORS**

**ECONOMICS MAJOR**

Economics B.A. (p. 302)

Economics B.S. (p. 302)

**MINORS**

**ECONOMICS MINOR**

Economics (p. 303)

Public Policy Analysis (p. 350)

**ECONOMICS B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

33 credits in major courses, plus 3-4 credits in ancillary courses, including:

<b>FOUNDATIONS</b>		
ECON 1400	Principles of Macroeconomics	3
ECON 1450	Principles of Microeconomics	3
Mathematics. Take 1 of the following early in the program:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
STAT 1410	Basic Statistical Methods 1	3
Methods and Theory Courses, which must be taken at UVM:		6
ECON 2400	Macroeconomic Theory	
ECON 2450	Microeconomic Theory	
<b>ELECTIVES</b>		
OPEN LEVEL. 1 additional course/3 credits from the following:		3
ECON numbered 1010 to 1990		
ECON numbered 2100 to 2990		
ECON numbered 3000 to 3990		
ECON numbered 4000 to 4990		
INTERMEDIATE LEVEL. 2 additional courses/6 credits from the following:		6
ECON numbered 2100 to 2990		
ADVANCED LEVEL. 1-3 additional courses/3-9 credits from the following:		3-9

ECON numbered 4000 to 4990		
Up to 2 additional courses/6 credits from the following:		0-6
ECON numbered 3000 to 3990		
Up to 3 additional credits from the following, in any combination:		0-3
ECON 3991	Internship	
ECON 3993	Independent Study	
ECON 3995	Undergraduate Research	
ECON 4996	Honors	

**RESTRICTIONS**

Students completing the B.A. in Economics may not also receive the B.S. in Economics.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**ECONOMICS B.S.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

42 credits in major courses, plus 22 credits in ancillary courses, including:

<b>FOUNDATIONS</b>		
ECON 1400	Principles of Macroeconomics	3
ECON 1450	Principles of Microeconomics	3
STAT 1410	Basic Statistical Methods 1	3
<b>ANCILLARY COURSES</b>		
Choose 1 of the following:		8
Option A (recommended):		
MATH 1234 & MATH 1248	Calculus I and Calculus II	
Option B:		

MATH 1212 & MATH 1242	Fundamentals of Calculus I and Transitional Calculus	
MATH 2248	Calculus III	4
MATH 2522	Applied Linear Algebra	3
or MATH 2544	Linear Algebra	
CS 1210	Computer Programming I	3
CS 2100	Intermediate Programming	4
<b>CORE COURSES</b>		
Methods and Theory Courses, which must be taken at UVM:		6
ECON 2400	Macroeconomic Theory	
ECON 2450	Microeconomic Theory	
ECON 3500	Econometrics	3
ECON 4500	Advanced Economic Analysis	3
<b>ELECTIVES</b>		
OPEN LEVEL. 3 additional credits from the following:		3
ECON numbered 1010 to 1990		
ECON numbered 2100 to 2990		
ECON numbered 3000 to 3990		
ECON numbered 4000 to 4990		
INTERMEDIATE LEVEL. 3 additional courses/9 credits from the following:		9
ECON numbered 2100 to 2990		
ADVANCED LEVEL. 2-3 additional courses/6-9 credits from the following:		6-9
ECON numbered 3000 to 3990		
ECON numbered 4000 to 4990		
Up to 3 additional credits from the following, in any combination:		0-3
ECON 3991	Internship	
ECON 3993	Independent Study	
ECON 3995	Undergraduate Research	
ECON 4996	Honors	

## RESTRICTIONS

Students completing the B.S. in Economics may not also receive the B.A. in Economics.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Science degree, no more than 50 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## ECONOMICS MINOR REQUIREMENTS

18 credits in minor courses, plus 3 credits in prerequisite courses, including:

ECON 1400	Principles of Macroeconomics	3
ECON 1450	Principles of Microeconomics	3
Choose 1 of the following, which must be taken at UVM:		3
ECON 2400	Macroeconomic Theory	
ECON 2450	Microeconomic Theory	
1 additional course/3 credits from the following:		3
ECON numbered 1010 to 1990		
ECON numbered 2100 to 2990		
1-2 additional courses/3-6 credits from the following:		3-6
ECON numbered 2100 to 2990		
ECON numbered 3000 to 3990		
ECON numbered 4000 to 4990		
Up to 3 additional credits from the following:		0-3
ECON 3991	Internship	
ECON 3993	Independent Study	
ECON 3995	Undergraduate Research	

## RESTRICTIONS

Ineligible Major: Economics

## PRE/CO-REQUISITES

The prerequisite for ECON 2400 and ECON 2450 is MATH 1212 or MATH 1234.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## DEPARTMENT OF ENGLISH

<https://www.uvm.edu/cas/english>

### ENGLISH

The English Department offers instruction in a wide range of topics related to the critical study of literature, including courses in rhetorical analysis, literary history with special focus on literary periods (from medieval to postmodern), major genres (poetry, prose fiction, drama), and major authors (Geoffrey Chaucer, William Shakespeare, Jane Austen, Toni Morrison, among many others) and literary theory. The department also offers instruction in various types of creative writing (poetry, prose fiction, dramatic writing, non-fiction writing including journalism) as well as in cultural studies, rhetoric and composition, and film and television studies.

<https://www.uvm.edu/cas/filmtv>

### FILM AND TELEVISION STUDIES

Located in the English Department, Film and Television Studies (FTS) offers a major and minor. FTS courses have all been designed to explore aesthetic, technological, historical, theoretical, and cultural developments. FTS students also study film and television as an international art form. Basic introductory courses expose students to the concepts needed to begin studying film and television as well as its historical and theoretical concerns. The intermediate level courses concentrate on contemporary issues, genre history, and theory as well as film and video production. The advanced level seminars attempt to bring together all the student's knowledge through a course that explores the depths of one topic (such as studying the works of one director, global and European cinema, women in film, race and television, or violence in film).

### SPEECH AND DEBATE

Located in the Department of English, the Speech & Debate program offers courses that explore theories of human communication and practical instruction in communication skills, including public speaking, argument and advocacy, communication criticism, and decision-making through communication processes such as debates. The program also houses the Lawrence Debate Union, the University's intercollegiate debate team, which provides students with additional opportunities for public performance, individually designed study, and international performance, competition and training for which students can earn course credits.

### MAJORS

#### ENGLISH MAJORS

English B.A. (p. 304)

Film and Television Studies B.A. (p. 305)

### MINORS

#### ENGLISH MINORS

English (p. 305)

Film and Television Studies (p. 306)

Writing (p. 307)

### GRADUATE

English AMP

English M.A.

See the online Graduate Catalogue for more information.

### ENGLISH B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

### MAJOR REQUIREMENTS

30 credits in major courses, including:

CORE COURSES		
ENGL 1500	Intro to Literary Studies	3
ENGL 2000	Literary Theory	3
Literature produced before 1700. 1 course/3 credits from the following:		3
ENGL numbered 2300 to 2339		
ENGL 3300	Topics in Literature to 1800	
Literature produced between 1700 and 1900. 1 course/3 credits from the following:		3
ENGL numbered 2340 to 2399		
ENGL 2222	Topics in AfAm Lit&Cul to 1900	
ENGL 3350	Topics in 19th Century Lit	
Senior Seminar. 1 additional course/3 credits from the following:		3
ENGL numbered 3000 to 3799		
FTS numbered 4400 to 4500		
ELECTIVES		
Intermediate Level or Above. 1-3 additional courses/3-9 credits from the following:		3-9
ENGL numbered 2060 to 2799, or 3000 to 3880		
FTS numbered 2050 to 2989, or 3000 to 3989, or 4400 to 4989		
Up to 6 additional credits from the following, in any combination:		0-6
Internship: ENGL 3991, FTS 3991		
Independent Study: ENGL 3993, FTS 3993		
Undergraduate Research: ENGL 3995, FTS 3995		
Teaching Assistantship: ENGL 4994, FTS 4994		



Open Level. 6 additional credits from the following:	6
ENGL numbered 1010 to 1799, or 2060 to 2799, or 3000 to 3880	
FTS numbered 1010 to 1600, or 2050 to 2989, or 3000 to 3989, or 4400 to 4989	
<b>RESTRICTIONS AND NOTES</b>	
No more than 9 credits in Film & Television Studies (FTS) may count toward the major.	
No more than 12 credits in writing courses may count toward the major. Writing courses include ENGL 1017, ENGL 1027, ENGL courses numbered 1700 to 1799, 2700 to 2799, and 3700 to 3799; and FTS 2700 and FTS 3700.	
ENGL 1001, ENGL 1002, ENGL 4996, and FTS 4996 cannot be counted toward the major.	
With the approval of the English Department, Special Topics courses (x990) in ENGL and FTS may be counted toward the major.	

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**FILM AND TELEVISION STUDIES B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

31 credits in major courses, including:

<b>INTRODUCTORY COURSES</b>		
Choose 2 of the following:		6
FTS 1400	History of Television	
FTS 1420	Classical Cinema	
FTS 1430	Contemporary Cinema	
<b>INTERMEDIATE COURSES</b>		
FTS 2050	Film/TV Theory	3
Global Cinema. 1 course/3 credits in FTS numbered 2060 to 2069		3
Critical Studies. 1 course/3 credits in FTS numbered 2400 to 2499		3
Creative Practice. 1 course/3 credits in FTS numbered 2600 to 2799		3

<b>CAPSTONE EXPERIENCES</b>		
FTS 4500	Topics In: Senior Seminar	3
FTS 4550	Comprehensive Exam	1
<b>ELECTIVES</b>		
OPEN LEVEL. 1 additional course/3 credits from the following:		3
FTS numbered 1010 to 1600		
FTS numbered 2060 to 2700		
FTS numbered 3400 to 3700		
FTS numbered 4400 to 4700		
Special Topics: FTS 1990, FTS 2990, FTS 3990, FTS 4990		
ARTS 1600, ARTS 2630, ARTS 2640, ARTS 2660, ARTS 3650		
INTERMEDIATE LEVEL OR ABOVE: 6 additional credits from the following, in any combination:		6
FTS numbered 2060 to 2700		
FTS numbered 3400 to 3700		
FTS numbered 4400 to 4700		
Special Topics: FTS 2990, FTS 3990, FTS 4990		
FTS 3991	Internship	
FTS 3993	Independent Study	
FTS 3995	Undergraduate Research	
FTS 4994	Teaching Assistantship	
FTS 4996	Honors	
Course offerings for Film & Television Studies vary frequently. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.		

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**ENGLISH MINOR**

**REQUIREMENTS**

18 credits in minor courses, including:

CORE COURSES		
ENGL 1500	Intro to Literary Studies	3
ENGL 2000	Literary Theory	3
ELECTIVES		
Intermediate Level or Above. 2-3 courses/6-9 credits from the following:		6-9
ENGL numbered 2060 to 2799, or 3000 to 3880		
FTS numbered 2050 to 2989, or 3000 to 3989, or 4400 to 4989		
Up to 3 additional credits from the following:		0-3
Internship: ENGL 3991, FTS 3991		
Independent Study: ENGL 3993, FTS 3993		
Undergraduate Research: ENGL 3995, FTS 3995		
Teaching Assistantship: ENGL 4994, FTS 4994		
Open Level. 1 course/3 additional credits from the following:		3
ENGL numbered 1010 to 1799, or 2060 to 2799, or 3000 to 3880		
FTS numbered 1010 to 1600, or 2050 to 2989, or 3000 to 3989, or 4400 to 4989		
RESTRICTIONS AND NOTES		
No more than 3 credits in Film & Television Studies (FTS) may count toward the minor.		
No more than 3 credits in writing courses may count toward the minor. Writing courses include ENGL 1017, ENGL 1027, ENGL courses numbered 1700 to 1799, 2700 to 2799, and 3700 to 3799; and FTS 2700 and FTS 3700.		
With the approval of the English Department, Special Topics courses (x990) in ENGL and FTS may be counted toward the minor.		

## RESTRICTIONS

Ineligible Major: English

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## FILM AND TELEVISION STUDIES MINOR REQUIREMENTS

18 credits in minor courses, including:

CORE COURSES		
Choose 1 of the following:		3
FTS 1400	History of Television	
FTS 1420	Classical Cinema	
FTS 1430	Contemporary Cinema	
FTS 2050	Film/TV Theory	3
Global Cinema. 1 course/3 credits in FTS numbered 2060 to 2069		3
ELECTIVES		
OPEN LEVEL. 2 additional courses/6 credits from the following:		6
FTS numbered 1010 to 1600		
FTS numbered 2060 to 2700		
FTS numbered 3400 to 3700		
FTS numbered 4400 to 4700		
Special Topics: FTS 1990, FTS 2990, FTS 3990, FTS 4990		
ARTS 1600, ARTS 2630, ARTS 2640, ARTS 2660, ARTS 3650		
INTERMEDIATE LEVEL OR ABOVE. 1 additional course/3 credits from the following:		3
FTS numbered 2060 to 2700		
FTS numbered 3400 to 3700		
FTS numbered 4400 to 4700		
Special Topics: FTS 2990, FTS 3990, FTS 4990		
Course offerings for Film & Television Studies vary frequently. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.		

## RESTRICTIONS

Ineligible Major: Film and Television Studies

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## WRITING MINOR

### REQUIREMENTS

18 credits in minor courses, including:

Introductory Writing. 2 courses/6 credits from the following:	6
ENGL numbered 1700 to 1799	
Note that ENGL 1730 is a prerequisite for courses in poetry, playwriting, and fiction at the 2000-level and above.	
Intermediate or Advanced Writing. 2 courses/6 credits from the following:	6
ENGL numbered 2700 to 2799, or 3700 to 3799	
Writing and Literature. 1 additional course/3 credits from the following:	3
ENGL numbered 2060 to 2799, or 3000 to 3880	
Elective. 1 additional course/3 credits from the following:	3
ENGL numbered 1010 to 1799, or 2060 to 2799, or 3000 to 3880	
Screenwriting: FTS 2700, FTS 3700	
Special Topics: ENGL 1990, ENGL 2990, ENGL 3990, ENGL 4990, FTS 1990, FTS 2990, FTS 3990, FTS 4990	

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## ENVIRONMENTAL SCIENCES IN THE COLLEGE OF ARTS AND SCIENCES

This program is not currently accepting students via the College of Arts and Sciences. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

### MAJORS

#### ENVIRONMENTAL SCIENCES MAJOR

This program is not currently accepting students via the College of Arts and Sciences. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

#### ENVIRONMENTAL SCIENCES B.S.

This program is not currently accepting students via the College of Arts and Sciences. Please see the Rubenstein School of Environment

and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

## ENVIRONMENTAL STUDIES IN THE COLLEGE OF ARTS AND SCIENCES

<https://www.uvm.edu/cas/ba-major-environmental-studies>

There are many pathways to study the environment at UVM. The College of Arts and Sciences collaborates with the Rubenstein School of Environment and Natural Resources and the College of Agriculture and Life Sciences to offer an interdisciplinary major in Environmental Studies.

### CAS ENVIRONMENTAL STUDIES MAJOR

The Environmental Studies Program at University of Vermont was established in 1972 to understand the ecological and cultural systems that support life on Earth. The Environmental Program established the Environmental Studies major, one of the first in the nation, which drew on faculty expertise and courses from many different disciplines. Currently, the College of Arts and Sciences continues the tradition and offers an Environmental Studies major which draws on the sciences, social sciences, and humanities to create an interdisciplinary community for learning, one that addresses local and global issues with equal concern. The program emphasizes collaborative problem-solving and the power of human imagination to create a sustainable future.

### MAJORS

#### ENVIRONMENTAL STUDIES MAJOR

Environmental Studies B.A. (p. 307)

### MINORS

#### ENVIRONMENTAL STUDIES MINOR

Environmental Studies (p. 308)

#### ENVIRONMENTAL STUDIES B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

### MAJOR REQUIREMENTS

Students who are pursuing the B.A. in Environmental Studies are required to take at least 84 credits of coursework in the College of Arts and Sciences.

At least 31 credits in major courses, including:

Course offerings for Environmental Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.		
<b>INTRODUCTORY COURSES</b>		
ENVS 1500	Intro to Environmental Studies	4
ADDITIONAL INTRODUCTORY COURSE. 1 course/3-4 credits chosen from eligible courses in either Category A or Category B. Consult with your advisor on your selection.		3-4
CATEGORY A: Environment-Focused Courses. The list of eligible courses regularly includes:		
ANTH 1100, BIOL 1205, CDAE 1020, CDAE 1040, CDAE 1060, DNCE 1550, ECON 1280, ENGL 1205, ENGL 1702, ENSC 1490, ENVS 1010, ENVS 1020, ENVS 1510, ENVS 1990, FOR 1010, FOR 1210, GEOG 1200, GEOG 1760, GEOG 1780, GEOL 1020, GEOL 1400, HST 1370, NR 1610, NFS 1073, PBIO 1060, PHIL 1635, PHIL 1630, PRT 1100, PSS 1210, PSS 1370, REL 1700, WFB 1740		
CATEGORY B: Prerequisite Courses. These courses serve as prerequisites for intermediate and advanced courses in the major. The list of eligible courses regularly includes:		
BIOL 1400, BIOL 1450, CDAE 1610, CHEM 1400, CHEM 1450, ECON 1400, ECON 1450, GEOG 1500, GEOL 1055, GRS 1500, PBIO 1040, POLS 1300, POLS 1500, SOC 1500		
<b>BREADTH REQUIREMENTS</b>		
ENVIRONMENTAL HUMANITIES. 1 additional course/3 credits chosen from eligible courses, which regularly include:		3
ARTS 2600, CDAE 2130, CDAE 2140, CLAS 2581, DNCE 2520, ENGL 2206, GEOG 2774, HST 2510, NR 2650, PHIL 2630, REL 2700		
ENVIRONMENTAL NATURAL SCIENCES. 1 additional course/3 credits chosen from eligible courses, which regularly include:		3
ASCI 2700, ASCI 2600, BCOR 2100, BIOL 2105, CHEM 2990, CEE 2120, ENSC 2490, FOR 2110, FOR 2120, GEOG 2230, GEOG 2250, GEOG 2235, GEOL 3410, GEOL 3515, GEOL 2405, NR 2020, NR 2030, NR 2880, PSS 2120, PSS 2170, PSS 2560, PSS 2370, PSS 2540, PSS 2610, PSS 2620, PBIO 2090, PBIO 2170, PBIO 2330, PBIO 2770, WFB 2300, WFB 2410, WFB 2740		
ENVIRONMENTAL SOCIAL SCIENCES. 1 additional course/3 credits chosen from eligible courses, which regularly include:		3
ANTH 2930, ANTH 2110, ANTH 2152, CDAE 2680, ECON 2800, FS 2010/NFS 2113, FS 2030/NFS 2114, GEOG 2760, GEOG 2790, GEOG 2780, NR 2070, NR 2410, NR 2530, NR 2810, POLS 2460, POLS 2560, POLS 2610, SOC 2460, SOC 2405, SOC 2450		
<b>EXPERIENTIAL LEARNING</b>		
3 additional credits from the following:		3
ENVS 2980	Environmental Field Studies	
NR 4080	Birding to Change the World	

POLS 4310	VT Legislative Research Srvc	
PSS 2371	Landscape Design Studio	
PSS 3380	Ecological Landscape Design	
Internship: ENVS 2991, ENVS 3991		
Independent Study: ENVS 3993		
Undergraduate Research: ENVS 3995		
Teaching Assistantship: ENVS 4994		
Honors: ENVS 4996		
An ENVS advisor-approved environment-related study abroad course, internship, service learning course, or other field-based course		
<b>ELECTIVES</b>		
Students should meet with an academic advisor during their second year to map a plan of study for completing their Advanced Electives.		
ADVANCED LEVEL. 6 credits.		6
3-6 additional credits chosen from eligible courses, which regularly include: CDAE 3070, CDAE 3370, ENVS 4500, ECON 3800, GEOG 3760, GEOG 3780, HST 4110, HST 4510, NR 3010, NR 3360, NR 3370, NR 3930, NR 3940, NR 3950, NR 4080, POLS 4310, PSS 3120, PSS 3380, SOC 3450, SOC 3460		
Up to 3 additional credits of ENVS 4996		
OPEN LEVEL. 6 additional credits at any level chosen from eligible courses and experiences, which regularly include everything listed in this table except ENVS 4996.		6

**PRE/CO-REQUISITES**

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the major.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**ENVIRONMENTAL STUDIES MINOR REQUIREMENTS**

At least 16 credits in minor courses, including:

Course offerings for Environmental Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.		
<b>INTRODUCTORY COURSES</b>		
ENVS 1500	Intro to Environmental Studies	4
ADDITIONAL INTRODUCTORY COURSE. 1 course/3-4 credits chosen from eligible courses in either Category A or Category B. Consult with your advisor on your selection.		3-4
CATEGORY A: Environment-Focused Courses. The list of eligible courses regularly includes:		
ANTH 1100, BIOL 1205, CDAE 1020, CDAE 1040, CDAE 1060, DNCE 1550, ECON 1280, ENGL 1205, ENGL 1702, ENSC 1490, ENVS 1010, ENVS 1020, ENVS 1510, ENVS 1990, FOR 1010, FOR 1210, GEOG 1200, GEOG 1760, GEOG 1780, GEOL 1020, GEOL 1400, HST 1370, NR 1610, NFS 1073, PBIO 1060, PHIL 1635, PHIL 1630, PRT 1100, PSS 1210, PSS 1370, REL 1700, WFB 1740		
CATEGORY B: Prerequisite Courses. These courses serve as prerequisites for intermediate and advanced courses in the minor. The list of eligible courses regularly includes:		
BIOL 1400, BIOL 1450, CDAE 1610, CHEM 1400, CHEM 1450, ECON 1400, ECON 1450, GEOG 1500, GEOL 1055, GRS 1500, PBIO 1040, POLS 1300, POLS 1500, SOC 1500		
<b>ELECTIVES</b>		
3 additional courses/9 credits chosen from eligible courses, which regularly include:		9
Environmental Humanities: ARTS 2600, CDAE 2130, CDAE 2140, CLAS 2581, DNCE 2520, ENGL 2206, GEOG 2774, HST 2510, NR 2650, PHIL 2630, REL 2700		
Environmental Natural Science: ASCI 2700, ASCI 2600, BCOR 2100, BIOL 2105, CHEM 2990, CEE 2120, ENSC 2490, FOR 2110, FOR 2120, GEOG 2230, GEOG 2250, GEOG 2235, GEOL 3410, GEOL 3515, GEOL 2405, NR 2020, NR 2030, NR 2880, PSS 2120, PSS 2170, PSS 2560, PSS 2370, PSS 2540, PSS 2610, PSS 2620, PBIO 2090, PBIO 2170, PBIO 2330, PBIO 2770, WFB 2300, WFB 2410, WFB 2740		
Environmental Social Sciences: ANTH 2930, ANTH 2110, ANTH 2152, CDAE 2680, ECON 2800, FS 2010/NFS 2113, FS 2030/NFS 2114, GEOG 2760, GEOG 2790, GEOG 2780, NR 2070, NR 2410, NR 2530, NR 2810, POLS 2460, POLS 2560, POLS 2610, SOC 2460, SOC 2405, SOC 2450		
Experiential Learning: ENVS 2980, NR 4080, POLS 4310, PSS 2371, PSS 3380, ENVS 2991, ENVS 3991, ENVS 3993, ENVS 4994, ENVS 3995; an ENVS advisor-approved environment-related study abroad course, internship, service learning course, or other field-based course		
Advanced Electives: CDAE 3070, CDAE 3370, ENVS 4500, ECON 3800, GEOG 3760, GEOG 3780, HST 4110, HST 4510, NR 3010, NR 3360, NR 3370, NR 3930, NR 3940, NR 3950, NR 4080, POLS 4310, PSS 3120, PSS 3380, SOC 3450, SOC 3460		

## RESTRICTIONS

Ineligible Major: Environmental Studies

## PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach the courses at the 2000-level or above applicable to the minor.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## FRENCH AND ITALIAN PROGRAM

The professors in the French and Italian Program combine excellence in teaching with active research, allowing students the opportunity to expand their language skills while also deepening their knowledge of the cultures and literatures of the places where these languages are spoken. Program offerings range from elementary and intermediate language courses to advanced courses in culture, literature, and film of all periods. Many students take advantage of the opportunity to study abroad and then return to the program to continue to develop their knowledge and skills.

Courses in French are offered on a broad panorama of topics, including topics such as Québec literature and culture, French literature of the Holocaust, the turn-of-the-century "Belle Epoque," French and Francophone cinema, medieval literature and culture, and writers of French-speaking Africa and the Caribbean. Vermont's French-Canadian heritage and proximity to French-speaking Québec give students special opportunities to put learning into practice.

Courses in Italian include topics such as Dante, contemporary Italian food culture, Italian cinema, and the representation of marginal figures in early and contemporary Italy.

## MAJORS

French B.A. (p. 309)

## MINORS

French (p. 310)

Italian Studies (p. 311)

## FRENCH B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

### MAJOR REQUIREMENTS

30 credits in major courses, including:

CORE COURSES		
FREN 3110	Writing Workshop	3
FREN 3400	Topics in Culture	3
FREN 3410	Contemporary France	3
FREN 3610	French Lit in Context I	3
FREN 3620	French Lit in Context II	3
1 course/3 credits in FREN numbered 4550 to 4699		3
ELECTIVES		
Intermediate Level or Above. 6-9 additional credits from the following:		6-9
FREN numbered 3100 to 3700, or FREN 3990		
FREN numbered 4100 to 4700, or FREN 4990		
Up to 3 additional credits from the following:		0-3
Internship: FREN 3991, FREN 4991		
Teaching Assistantship: FREN 3994, FREN 4994		
Undergraduate Research: FREN 3995, FREN 4995		
Honors: FREN 4996		
Advanced Level. 3 additional credits from the following:		3
FREN numbered 4100 to 4700, or FREN 4990		

### PRE/CO-REQUISITES

French language through FREN 2200: Intermediate II or the equivalent.

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

### FRENCH MINOR REQUIREMENTS

Choose 1 of the following tracks:

#### Track 1

Recommended for students who enter UVM having previously studied French at an intermediate or advanced level.

18 credits in minor courses, including:

CORE COURSES		
FREN 3110	Writing Workshop	3
Choose 1 of the following:		3
FREN 3400	Topics in Culture	
FREN 3410	Contemporary France	
Choose 1 of the following:		3
FREN 3610	French Lit in Context I	
FREN 3620	French Lit in Context II	
ELECTIVES		
Intermediate Level or Above. 3-6 additional credits from the following:		3-6
FREN numbered 3100 to 3700, or FREN 3990		
FREN numbered 4100 to 4700, or FREN 4990		
Up to 3 additional credits from the following:		0-3
Internship: FREN 3991, FREN 4991		
Teaching Assistantship: FREN 3994, FREN 4994		
Undergraduate Research: FREN 3995, FREN 4995		
Advanced Level. 3 additional credits from the following:		3
FREN numbered 4100 to 4700 or FREN 4990		

#### Track 2

Recommended for beginners and students who enter UVM having previously studied French at an introductory level.

18 credits in minor courses, including:

LANGUAGE OPTIONS		
Choose 1 of the following options:		6
Option A:		
FREN 2100 & FREN 2200	Intermediate French I and Intermediate French II	
Option B:		
FREN 2200	Intermediate French II	
and 3 additional credits from the following:		
FREN numbered 3100 to 3700, or FREN 3990		
FREN numbered 4100 to 4700, or FREN 4990		
Internship: FREN 3991, FREN 4991		

Teaching Assistantship: FREN 3994, FREN 4994		
<b>ADDITIONAL COURSES</b>		
FREN 3110	Writing Workshop	3
Choose 1 of the following:		3
FREN 3400	Topics in Culture	
FREN 3410	Contemporary France	
Choose 1 of the following:		3
FREN 3610	French Lit in Context I	
FREN 3620	French Lit in Context II	
Advanced Level. 3 additional credits from the following:		3
FREN numbered 4100 to 4700, or FREN 4990		
With the approval of a minor advisor, FREN 2108 may be substituted for FREN 2100, and FREN 2208 may be substituted for FREN 2200. FREN 2109 and FREN 2209 cannot be counted toward the minor.		

## RESTRICTIONS

Ineligible Major: French

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## ITALIAN STUDIES MINOR

### REQUIREMENTS

18 credits in minor courses, including:

<b>COURSE REQUIREMENTS</b>		
CATEGORY A: Courses in Italian. At least 6 credits in ITAL numbered 3100 to 3990		6-18
CATEGORY B: Significant Italian Content. Up to 6 additional credits from the following:		0-6
ITAL 2100	Intermediate Italian I	
ITAL 2200	Intermediate Italian II	
CLAS 1360, CLAS 1620, CLAS 2360, HST 2721, REL 2550, THE 2519, WLIT 1155, WLIT 1450, WLIT 2450		
Up to 6 additional credits from the following:		0-6
the Category B list		

LAT numbered 1100 to 1400, LAT 2100, LAT 2200, LAT 3100, or LAT numbered 4100 to 4650	
CATEGORY C: Partial Italian Content. Up to 3 additional credits from the following:	0-3
ARTH 1410, ARTH 1420, HST 1170, HST 1310, HST 1315, HST 1710, HST 1715, MU 2110, MU 2112, MU 2114	
<b>LEVEL REQUIREMENT</b>	
At least 9 credits must be at the 2000-level or above	
<b>DISCIPLINARY REQUIREMENT</b>	
Among the courses outside the ITAL prefix, no more than 6 credits from any single prefix can be applied to the minor.	
<b>NOTES</b>	
Course offerings for Italian Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.	
With the approval of a minor advisor, ITAL 2108 may be substituted for ITAL 2100, and ITAL 2208 may be substituted for ITAL 2200. ITAL 2109 and ITAL 2209 cannot be counted toward the minor.	

## PRE/CO-REQUISITES

Italian language through ITAL 1200: Elementary II or the equivalent.

Introductory and intermediate courses for various subject areas may be necessary to reach the courses at the 2000-level or above applicable to the minor.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## GENDER, SEXUALITY, AND WOMEN'S STUDIES PROGRAM

<https://www.uvm.edu/cas/genderstudies>

The Gender, Sexuality, and Women's Studies program (GSWS) offers a unique and wide-ranging way of studying and engaging with the world. Concepts of study include sex, gender, and sexuality; identities such as female, male, gay, lesbian, bisexual, trans, and queer; the intersections of these identities with race, class, (dis)ability, and other kinds of differences among people; areas of academic study including women's history, the history of sexuality, trans identities

and politics, the sociology of the family, economic inequality, feminist and queer theory, feminist and queer literary studies, sex and politics, and biological approaches to sex and gender. GSWS is both an academic discipline and a meeting place for students and faculty in every discipline who want to explore these critically important issues. The program is scholarly, and it is fully engaged with the world in which we live.

**MAJORS**

**GENDER, SEXUALITY, AND WOMEN'S STUDIES MAJOR**

Gender, Sexuality, and Women's Studies B.A. (p. 312)

**MINORS**

**GENDER, SEXUALITY, AND WOMEN'S STUDIES MINORS**

Gender, Sexuality, and Women's Studies (p. 312)

Sexuality and Gender Identity Studies (p. 313)

**GENDER, SEXUALITY, AND WOMEN'S STUDIES B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

30 credits in major courses, including:

<b>CORE COURSES. 15 credits.</b>		
GSWS 1500	Gender Sexuality Women's Stdy	3
or GSWS 1010	FYS Gender Sexuality Wn's Stdy	
GSWS 2050	Gender and Feminism(s)	3
GSWS 2070	LGBT Politics and History	3
GSWS 3050	Internship: GSWS Core	3
GSWS 4050	Topics In: GSWS Senior Seminar	3
<b>ELECTIVES. 15 credits.</b>		
Course offerings for GSWS vary frequently and often include Special Topics and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed below are always eligible and should automatically be applied in degree audits.		
INTERMEDIATE LEVEL OR ABOVE. 2-5 additional courses/6-15 credits at the 2000-level or above chosen from eligible courses, which regularly include:		6-15

ANTH 2205, CLAS 3540, DNCE 2510, ECON 2670, ECON 3670, ECON 4670, ENGL 2206, ENGL 2357, ENGL 2407, GEOG 2774, GSWS 2801, GSWS 2990, GSWS 3990, GSWS 4990, HST 2120, HST 2642, HST 4120, LING 2220, PHIL 2545, POLS 2450, POLS 2455, POLS 2650, POLS 3350, PSYS 3420, PSYS 3425, SOC 2335, SOC 2355, SOC 3300, SOC 3332, SOC 3335, SOC 3350		
OPEN LEVEL. Up to 3 additional credits chosen from eligible courses, which regularly include:		0-3
ENGL 1270, ENGL 1280, GSWS 1020, GSWS 1990, POLS 1026, SOC 1330, SOC 1350		
GSWS 3991	Internship	
HONORS. Up to 6 additional credits from the following:		0-6
GSWS 4996	Honors	

**PRE/CO-REQUISITES**

Introductory and intermediate courses for various subject areas may be necessary to reach the courses at the 2000-level or above applicable to the major.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**GENDER, SEXUALITY, AND WOMEN'S STUDIES MINOR**

**REQUIREMENTS**

18 credits in minor courses, including:

<b>CORE COURSES.</b>		
GSWS 1500	Gender Sexuality Women's Stdy	3
or GSWS 1010	FYS Gender Sexuality Wn's Stdy	
GSWS 2050	Gender and Feminism(s)	3
GSWS 4050	Topics In: GSWS Senior Seminar	3
<b>ELECTIVES.</b>		
Course offerings for GSWS vary frequently and often include Special Topics and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed below are always eligible and should automatically be applied in degree audits.		
INTERMEDIATE LEVEL OR ABOVE. 6-9 additional credits at the 2000-level or above chosen from eligible courses, which regularly include:		6-9



GSWS 2050	Gender and Feminism(s)	
GSWS 2070	LGBT Politics and History	
GSWS 2801	Communicating Masculinities	
GSWS 3050	Internship: GSWS Core	
Special Topics: GSWS 2990, GSWS 3990, GSWS 4990		
ANTH 2205, CLAS 3540, DNCE 2510, ECON 2670, ECON 3670, ECON 4670, ENGL 2206, ENGL 2357, ENGL 2407, GEOG 2774, HST 2120, HST 2642, HST 4120, LING 2220, PHIL 2545, POLS 2450, POLS 2455, POLS 2650, POLS 3350, PSYS 3420, PSYS 3425, SOC 2335, SOC 2355, SOC 3300, SOC 3332, SOC 3335, SOC 3350		
OPEN LEVEL. Up to 3 additional credits chosen from eligible courses, which regularly include:		0-3
GSWS 3991	Internship	
ENGL 1270, ENGL 1280, GSWS 1020, GSWS 1990, POLS 1026, SOC 1330, SOC 1350		

**RESTRICTIONS**

Ineligible Major: Gender, Sexuality, and Women’s Studies

Ineligible Minor: Sexuality and Gender Identity Studies

**PRE/CO-REQUISITES**

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor as electives.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**SEXUALITY AND GENDER IDENTITY STUDIES MINOR**

**REQUIREMENTS**

18 credits in minor courses, including:

<b>CORE COURSES. 6 credits.</b>		
GSWS 1500	Gender Sexuality Women's Stdy	3
or GSWS 1010	FYS Gender Sexuality Wn's Stdy	
GSWS 2070	LGBT Politics and History	3
<b>ELECTIVES. 12 credits.</b>		

Course offerings for the SGIS minor vary frequently and often include Special Topics courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students’ degree audits. The courses listed below are always eligible and should automatically be applied in degree audits.		
OPEN LEVEL. Up to 3 additional credits chosen from eligible courses, which regularly include:		0-3
GSWS 3050	Internship: GSWS Core	
GSWS 3991	Internship	
ENGL 1270, ENGL 1280, GSWS 1020, GSWS 1990, POLS 1026, SOC 1330, SOC 1350		
INTERMEDIATE LEVEL. Up to 9 additional credits chosen from eligible courses, which regularly include:		0-9
GSWS 2050	Gender and Feminism(s)	
GSWS 2801	Communicating Masculinities	
ANTH 2205, CLAS 3540, DNCE 2510, ECON 2670, ENGL 2206, ENGL 2357, ENGL 2407, GEOG 2774, GSWS 2990, HST 2120, HST 2642, LING 2220, PHIL 2545, POLS 2455, POLS 2650, SOC 2335, SOC 2355		
ADVANCED LEVEL. 3-12 additional credits chosen from eligible courses, which regularly include:		3-12
ECON 3670, ECON 4670, GSWS 3990, GSWS 4990, HST 4120, POLS 3350, PSYS 3420, PSYS 3425, SOC 3300, SOC 3332, SOC 3335, SOC 3350		

**RESTRICTIONS**

Ineligible Major: Gender, Sexuality, and Women’s Studies

Ineligible Minor: Gender, Sexuality, and Women’s Studies

**PRE/CO-REQUISITES**

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor as electives.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**DEPARTMENT OF GEOGRAPHY AND GEOSCIENCES**

**OVERVIEW**

<https://www.uvm.edu/cas/geography>

Undergraduate and graduate students in the Department of Geography & Geosciences are travelers of the world, lovers of the outdoors, appreciators of diverse cultures, and close observers of our environs. Students and faculty have an insatiable curiosity for human behavior, the natural world, and their interconnectivity. The work of students and faculty in the department spans the physical, social, and human sciences, and Geography & Geosciences students pursue careers in fields as diverse as their passions.

Graduates go on to be scientists and scholars, humanitarians and government officials, environmental organizers and activists, innovators and business leaders. They are working around the globe today, tackling urgent challenges like climate change, biodiversity, natural disaster, human migration, and geopolitical conflict. Some are getting their hands dirty in the field and others are crafting public policy in the halls of Congress.

**MAJORS**

**GEOGRAPHY AND GEOSCIENCES MAJOR**

Geography B.A. (p. 314)

**MINORS**

**GEOGRAPHY AND GEOSCIENCES MINORS**

Geography Minor (p. 314)

Geospatial Technologies Minor (p. 315)

**GRADUATE**

Geology M.S.

See the online Graduate Catalogue for more information

**GEOGRAPHY B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

30 credits in major courses, including:

<b>FOUNDATIONS. 12 credits.</b>		
GEOG 1200	Weather, Climate & Landscapes	3
GEOG 1760	Global Environments & Cultures	3
GEOG 1780	Society, Place, and Power	3
Geographic Methods: 1 course/3 credits from the following:		3
GEOG numbered 1500 to 1599		
GEOG numbered 2500 to 2599		
GEOG numbered 3500 to 3599		

<b>INTERMEDIATE LEVEL OR ABOVE. 9 credits.</b>		
1-3 additional courses/3-9 credits from the following:		3-9
GEOG numbered 2000 to 2990		
GEOG numbered 3000 to 3990 or GEOG 4990		
GEOG 3410	Geomorphology	
Up to 3 additional credits from the following:		0-3
GEOG 3991	Internship	
Up to 3 additional credits from the following, in any combination:		0-3
GEOG 3993	Independent Study	
GEOG 3995	Undergraduate Research	
<b>ADVANCED LEVEL. 6 credits.</b>		
1-2 courses/3-6 credits from the following:		3-6
GEOG numbered 3000 to 3990 or GEOG 4990		
Up to 3 additional credits from the following:		0-3
GEOG 4996	Honors	
<b>OPEN LEVEL. 3 credits.</b>		
1 additional course/3 credits from the following:		3
GEOG numbered 1000 to 1990		
GEOG numbered 2000 to 2990		
GEOG numbered 3000 to 3990 or GEOG 4990		
GEOG 3410	Geomorphology	
GEOG 1770: Geography/Race&Ethnicity in US is strongly recommended as part of the planned curriculum for Geography majors.		

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**GEOGRAPHY MINOR**

**REQUIREMENTS**

18 credits in minor courses, including:

<b>FOUNDATIONS. 9 credits.</b>		
Choose 2 of the following:		6
GEOG 1200	Weather, Climate & Landscapes	

GEOG 1760	Global Environments & Cultures	
GEOG 1780	Society, Place, and Power	
Geographic Methods: 1 course/3 credits from the following:		3
GEOG numbered 1500 to 1599		
GEOG numbered 2500 to 2599		
GEOG numbered 3500 to 3599		
<b>INTERMEDIATE LEVEL OR ABOVE. 6 credits.</b>		
3-6 additional credits from the following:		3-6
GEOG numbered 2000 to 2990		
GEOG numbered 3000 to 3990 or GEOG 4990		
GEOG 3410	Geomorphology	
Up to 3 additional credits from the following:		0-3
GEOG 3991	Internship	
Up to 3 additional credits from the following, in any combination:		0-3
GEOG 3993	Independent Study	
GEOG 3995	Undergraduate Research	
<b>OPEN LEVEL. 3 credits.</b>		
1 additional course/3 credits from the following:		3
GEOG numbered 1000 to 1990		
GEOG numbered 2000 to 2990		
GEOG numbered 3000 to 3990 or GEOG 4990		
GEOG 3410	Geomorphology	

**RESTRICTIONS**

Ineligible Major: Geography

**REMINDERS**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**GEOSPATIAL TECHNOLOGIES MINOR REQUIREMENTS**

15 credits in minor courses.

<b>COURSE REQUIREMENTS</b>		
GEOSPATIAL TECHNOLOGIES IN THE DISCIPLINES. Choose one of the following:		3-4
ENGR 1020	Graphical Communication	
CDAE 2010	Drafting & Design: SketchUp II	
ENSC 2300	Global Environmental Assessment	
GEOG 2525	Geocomputing	
GEOG 3410	Geomorphology	
FOR 2110	Nat Res Ecol and Assessment I	
CEE 2000	Geomatics	
BREADTH REQUIREMENTS: Choose 2 courses/6 credits from at least 2 of the following categories:		6
<b>GEOGRAPHIC INFORMATION SYSTEMS:</b>		
NR 2430	Intro to Geog Info Systems	
GEOG 2510	Geog Info: Concepts & Applic	
<b>REMOTE SENSING</b>		
NR 2460	Remote Sensing	
GEOG 2520	Remote Sensing	
<b>DATA SCIENCE:</b>		
CS 1080	Intro to Web Site Dev	
CS 1210	Computer Programming I	
CS 1870	Intro to Data Science	
or STAT 1870 Intro to Data Science		
CS 2100	Intermediate Programming	
CS 2480	Database Design for Web	
CS 2870	Basics of Data Science	
CAPSTONE/ADVANCED EXPERIENCE. Choose 1 or more of the following:		3
NR 3430	Adv Geospatial Techniques	
NR 4430	GIS Practicum	
NR 5450	Data Vis & Communication	
NR 5460	Geospatial Computation	
GEOG 3505	Spatial Analysis	
GEOG 3520	Topics in Remote Sensing	
CS 3040	Database Systems	
MATH 3766	Chaos, Fractals & Dynamical Syst	
STAT 3010	Stat Computing & Data Analysis	

With the approval of a minor advisor, a maximum of 3 credits of relevant applied research or internship credit may be applied to the capstone requirement.	
ELECTIVES: 3 additional credits from any of the categories listed in the minor.	3
<b>LEVEL REQUIREMENT</b>	
At least 9 credits must be at the 2000-level or above.	

## PRE/CO-REQUISITIES

Introductory and intermediate courses for various subjects may be necessary to reach the courses at the 2000-level or above applicable to the minor.

## REMINDERS

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

## GERMAN, RUSSIAN, AND HEBREW PROGRAM

<http://www.uvm.edu/cas/germanrussian>

The German, Russian, and Hebrew Program prepares students to become active and interculturally savvy multilingual citizens. From introductory through advanced coursework, students participate in a hands-on exploration of cultural products, practices, and perspectives from the historical and linguistic to the sociocultural and artistic. Across all classes, students build their interpretive, interpersonal, and presentational skills in the target language and engage in critical analysis of contemporary issues facing Western and Eastern European societies. The department offers a B.A. degree in German, a B.A. degree in Russian, and two years of Hebrew instruction.

Faculty in the German, Russian, and Hebrew Program are recipients of numerous teaching awards, in addition to receiving national and international recognition for outstanding scholarship and pedagogical innovation. Areas of exceptional strength include Russian- and German-language literature from the nineteenth, twentieth, and twenty-first centuries; exile and migration studies; contemporary film studies; and curricular design.

## MAJORS

### GERMAN AND RUSSIAN MAJORS

German B.A. (p. 316)

Russian B.A. (p. 316)

## MINORS

### GERMAN AND RUSSIAN MINORS

German (p. 317)

Russian (p. 317)

## GERMAN B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

33 credits in major courses, including:

24-27 credits in GERM numbered 2100 to 4996	24-27
1 course/3 credits in GERM numbered 4500 to 4990	3
Up to 2 courses/6 credits taught in English with significant German content. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed below are always eligible and should automatically be applied in degree audits.	3-6
HST 1715	Modern Europe
HST 2760	Modern Germany
HST 2790	The Holocaust
WLIT 1200	Topics in German Lit in Tr
WLIT 2200	Topics in German Lit in Tr

## PRE/CO-REQUISITES

German language through GERM 1200: Elementary II or the equivalent.

Introductory and intermediate courses for various subject areas may be necessary to reach the English-language courses at the 2000-level or above applicable to the major.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## RUSSIAN B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

At least 33 credits in major courses, including:

27-29 credits in RUSS numbered 2100 to 4996		27-29
3 credits/1 course from the following:		3
WLIT 1250	Topics in Russian Lit in Tr	
WLIT 2250	Topics in Russian Lit in Tr	
1 additional course/3 credits taught in English with significant Russian content. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed below are always eligible and should automatically be applied in degree audits.		3
HST 2698	The Cold War	
HST 2750	History of Poland	
POLS 2710	Russian Politics	
POLS 3610	Ethnopolitical Conflict	
WLIT 1250	Topics in Russian Lit in Tr	
WLIT 2250	Topics in Russian Lit in Tr	
All coursework to be chosen in consultation with the student's major advisor.		

**PRE/CO-REQUISITES**

Russian language through RUSS 1200: Elementary II or the equivalent.

Introductory and intermediate courses for various subject areas may be necessary to reach the English-language courses at the 2000-level or above applicable to the major.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**GERMAN MINOR REQUIREMENTS**

18 credits in minor courses, including:

15 credits in GERM numbered 2100 to 4995	15
1 course/3 credits in GERM numbered 4500 to 4990	3

**RESTRICTIONS**

Ineligible Major: German

**PRE/CO-REQUISITES**

German language through GERM 1200: Elementary II or the equivalent.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**RUSSIAN MINOR REQUIREMENTS**

20 credits in minor courses, including:

RUSS 2100	Intermediate Russian I	4
RUSS 2200	Intermediate Russian II	4
3 additional courses/9 credits from the following:		9
RUSS numbered 2100 to 4996		
1 additional course/3 credits from the following:		3
RUSS numbered 2100 to 4996		
WLIT 1250	Topics in Russian Lit in Tr	
WLIT 2250	Topics in Russian Lit in Tr	

**RESTRICTIONS**

Ineligible Major: Russian

**PRE/CO-REQUISITES**

Russian language through RUSS 1200: Elementary II or the equivalent.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## GLOBAL AND REGIONAL STUDIES PROGRAM

<http://www.uvm.edu/cas/globalstudies>

For more than 45 years, UVM's Global and Regional Studies Program (previously known as Area & International Studies) has promoted regional and global awareness, international development programs, and exciting career opportunities. Global and Regional Studies is an interdisciplinary program that encompasses African Studies, Asian Studies, Canadian Studies, European Studies, Global Studies, Latin American and Caribbean Studies, Middle East Studies, Russian and East European Studies, and Vermont Studies. Rather than simply providing a window through which students can observe other regions of the world, the individual GRS programs seek to engage actively with those regions and their cultural, political, economic, environmental, and social issues. As such, graduates of our programs are prepared to enter exciting careers in government, business, law, journalism, or education.

### MAJORS

#### GLOBAL AND REGIONAL STUDIES MAJORS

Asian Studies B.A. (p. 318)

Global Studies B.A. (p. 319)

### MINORS

#### GLOBAL AND REGIONAL STUDIES MINORS

African Studies (p. 322)

Asian Studies (p. 322)

Canadian Studies (p. 323)

European Studies (p. 323)

Global Studies (p. 324)

Latin American and Caribbean Studies (p. 325)

Middle East Studies (p. 325)

Russian/East European Studies (p. 326)

### ASIAN STUDIES B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

### MAJOR REQUIREMENTS

At least 30 credits in major courses, including:

<b>LANGUAGE STUDY. At least 12 credits.</b>	
Choose 1 of the following options:	12-16

4 courses/12-16 credits in Chinese language	
4 courses/12-16 credits in Japanese language	
Students who have demonstrated fluency in an Asian language (for instance, native speakers of the language) may substitute other Asian Studies courses to fulfill the 30 total credits required for the major.	
<b>ASIAN STUDIES. At least 14 credits.</b>	
Course offerings for Asian Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.	
Courses that have a significant but not exclusive Asian component may be counted toward a student's major requirements only if papers or projects relevant to Asian Studies have been completed. The dean's office must receive written approval from the Asian Studies director for these courses to be counted toward the major.	
Courses for the Asian Studies section of the major must come from at least 3 academic disciplines.	
ADVANCED LEVEL. 1 additional course/3 credits chosen from eligible courses, which regularly include:	3
HST 4443	Topics in Chinese History
HST 4447	Topics in Japanese History
INTERMEDIATE LEVEL. 9-15 additional credits chosen from eligible courses, which regularly include:	9-15
ANTH 2170, HST 2443, HST 2447, HST 2448, PHIL 2760, POLS 2715, REL 2220, REL 2235, REL 2238, REL 2310, WLIT 2310, WLIT 2350, WLIT 2360, WLIT 2370, WLIT 2375	
OPEN LEVEL. Up to 6 additional credits chosen from eligible courses, which regularly include:	0-6
DNCE 1520, HST 1440, PHIL 1750, REL 1210, REL 1230, REL 1310, THE 1520, WLIT 1350	

### RESTRICTIONS

Students completing the B.A. in Asian Studies may not also receive the B.A. in Global Studies with a concentration in Asian Studies.

### PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the major.

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

### GLOBAL STUDIES B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

In the Bachelor of Arts program, Global Studies majors may choose from 6 concentrations:

Concentration in Political-Economic Perspectives on Globalization (p. 319)

Concentration in Human and Environmental Perspectives on Globalization (p. 319)

Concentration in Humanities Perspectives on Globalization (p. 320)

Concentration in Asian Studies (p. 320)

Concentration in European Studies (p. 321)

Concentration in Latin American and Caribbean Studies (p. 321)

### MAJOR REQUIREMENTS

Course offerings for Global & Regional Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.

#### Concentration in Political-Economic Perspectives on Globalization

The Global Studies major with a concentration in Political-Economic Perspectives on Globalization is designed for students who wish to focus on the state and structural components of transnational contexts.

30 credits in major courses, plus 12 credits in ancillary courses, including:

FRAMING COURSES		
GRS 1500	Intro to Global Studies	3
GRS 4500	Topics In: GRS Senior Seminar	3
CORE COMPETENCY COURSES		
POLITICAL-ECONOMIC PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3

CDAE 1020, (POLS 1500 or POLS 1015), (POLS 1700 or POLS 1017), ECON 1130		
HUMAN AND ENVIRONMENTAL PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
ANTH 1100, GEOG 1760		
HUMANITIES PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
HST 1310, HST 1315, REL 1605, REL 1620, WLIT 1100		
CORE ELECTIVE. 1 additional course from any of the Core Competency options		3
CONCENTRATION		
4 additional courses/12 credits chosen from eligible courses, which regularly include:		12
CDAE 2020, GEOG 2705, GEOG 3770, ECON 2350, ECON 4100, HST 2240, POLS 2510, POLS 2530, POLS 3500, SOC 2210		
DISCIPLINARY REQUIREMENT		
No more than 9 credits for the major may be from any 1 academic discipline.		
LANGUAGE REQUIREMENT		
Students must complete 4 courses totaling at least 12 credits in a foreign language, at least 3 credits of which must be at the 3000-level or above; or a minor in a foreign language. Students studying a language not regularly offered at UVM are exempt from the 3000-level requirement.		

#### Concentration in Human and Environmental Perspectives on Globalization

The Global Studies major with a concentration in Human and Environmental Perspectives on Globalization is designed for students who wish to focus on the cultural and ecological components of transnational contexts.

30 credits in major courses, plus 12 credits in ancillary courses, including:

FRAMING COURSES		
GRS 1500	Intro to Global Studies	3
GRS 4500	Topics In: GRS Senior Seminar	3
CORE COMPETENCY COURSES		
POLITICAL-ECONOMIC PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
CDAE 1020, (POLS 1500 or POLS 1015), (POLS 1700 or POLS 1017), ECON 1130		
HUMAN AND ENVIRONMENTAL PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
ANTH 1100, GEOG 1760		

HUMANITIES PERSPECTIVES ON GLOBALIZATION. 1 course from the following:	3
HST 1310, HST 1315, REL 1605, REL 1620, WLIT 1100	
CORE ELECTIVE. 1 additional course from any of the Core Competency options	3
<b>CONCENTRATION</b>	
4 additional courses/12 credits chosen from eligible courses, which regularly include:	12
ANTH 2170, ANTH 2191, ANTH 3145, ENSC 2300, GEOG 2235, GEOG 2250, GEOG 2780, HLTH 2050, POLS 2560	
<b>DISCIPLINARY REQUIREMENT</b>	
No more than 9 credits for the major may be from any 1 academic discipline.	
<b>LANGUAGE REQUIREMENT</b>	
Students must complete 4 courses totaling at least 12 credits in a foreign language, at least 3 credits of which must be at the 3000-level or above; or a minor in a foreign language. Students studying a language not regularly offered at UVM are exempt from the 3000-level requirement.	

**Concentration in Humanities Perspectives on Globalization**

The Global Studies major with a concentration in Humanities Perspectives on Globalization is designed for students who wish to focus on the humanities and arts components of transnational contexts.

30 credits in major courses, plus 12 credits in ancillary courses, including:

<b>FRAMING COURSES</b>		
GRS 1500	Intro to Global Studies	3
GRS 4500	Topics In: GRS Senior Seminar	3
<b>CORE COMPETENCY COURSES</b>		
POLITICAL-ECONOMIC PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
CDAE 1020, (POLS 1500 or POLS 1015), (POLS 1700 or POLS 1017), ECON 1130		
HUMAN AND ENVIRONMENTAL PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
ANTH 1100, GEOG 1760		
HUMANITIES PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
HST 1310, HST 1315, REL 1605, REL 1620, WLIT 1100		
CORE ELECTIVE. 1 additional course from any of the Core Competency options		3
<b>CONCENTRATION</b>		

4 additional courses/12 credits chosen from eligible courses, which regularly include:	12
ARTH 2300, CLAS 2610, ENGL 2240, FTS 2060, REL 2652, REL 3625, SPAN 3102, SPAN 3665, SPAN 4665	
<b>DISCIPLINARY REQUIREMENT</b>	
No more than 9 credits for the major may be from any 1 academic discipline.	
<b>LANGUAGE REQUIREMENT</b>	
Students must complete 4 courses totaling at least 12 credits in a foreign language, at least 3 credits of which must be at the 3000-level or above; or a minor in a foreign language. Students studying a language not regularly offered at UVM are exempt from the 3000-level requirement.	

**Concentration in Asian Studies**

The Global Studies major with a concentration in Asian Studies is designed for students who wish to focus on the Asian region.

30 credits in major courses, plus 12 credits in ancillary courses, including:

<b>FRAMING COURSES</b>		
GRS 1500	Intro to Global Studies	3
Choose 1 of the following:		3
GRS 4500	Topics In: GRS Senior Seminar	
An Asia-focused seminar at the 3000-level of above, chosen in consultation with a GRS advisor		
<b>CORE COMPETENCY COURSES</b>		
POLITICAL-ECONOMIC PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
CDAE 1020, (POLS 1500 or POLS 1015), (POLS 1700 or POLS 1017), ECON 1130		
HUMAN AND ENVIRONMENTAL PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
ANTH 1100, GEOG 1760		
HUMANITIES PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
HST 1310, HST 1315, REL 1605, REL 1620, WLIT 1100		
ASIAN STUDIES. 1 course from the following:		3
DNCE 1520, HST 1440, PHIL 1750, REL 1210, REL 1230, REL 1310, THE 1520, WLIT 1350		
<b>CONCENTRATION</b>		
4 additional courses/12 credits chosen from eligible courses, which regularly include:	12	
ANTH 2170, HST 2443, HST 2447, HST 2448, PHIL 2760, POLS 2715, REL 2220, REL 2235, REL 2238, REL 2310, WLIT 2310, WLIT 2350, WLIT 2360, WLIT 2370, WLIT 2375		



<b>DISCIPLINARY REQUIREMENT</b>	
No more than 9 credits for the major may be from any 1 academic discipline.	
<b>LANGUAGE REQUIREMENT</b>	
Students must complete 4 courses totaling at least 12 credits in a foreign language, at least 3 credits of which must be at the 3000-level or above; or a minor in a foreign language. Students studying a language not regularly offered at UVM are exempt from the 3000-level requirement.	

**Concentration in European Studies**

The Global Studies major with a concentration in European Studies is designed for students who wish to focus on the European region.

30 credits in major courses, plus 12 credits in ancillary courses, including:

<b>FRAMING COURSES</b>		
GRS 1500	Intro to Global Studies	3
Choose 1 of the following:		3
GRS 4500	Topics In: GRS Senior Seminar	
A Europe-focused seminar at the 3000-level of above, chosen in consultation with a GRS advisor		
<b>CORE COMPETENCY COURSES</b>		
POLITICAL-ECONOMIC PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
CDAE 1020, (POLS 1500 or POLS 1015), (POLS 1700 or POLS 1017), ECON 1130		
HUMAN AND ENVIRONMENTAL PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
ANTH 1100, GEOG 1760		
HUMANITIES PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
HST 1310, HST 1315, REL 1605, REL 1620, WLIT 1100		
EUROPEAN STUDIES. 1 course from the following:		3
ARTH 1410, ARTH 1420, CLAS 1320, CLAS 1360, CLAS 1620, ENGL 1112, ENGL 1114, HST 1710, HST 1715		
<b>CONCENTRATION</b>		
4 additional courses/12 credits chosen from eligible courses, which regularly include:		12

ARTH 1410, ARTH 1420, ARTH 2100, ARTH 2250, ARTH 2300, ARTH 2400, ARTH 2570, CLAS 1620, CLAS 1640, ENGL numbered 1110 to 1119, ENGL numbered 2300 to 2339, ENGL 2348, ENGL 2360, ENGL 3300, FREN 3410, FREN 3550, FREN 3610, FREN 3620, FREN numbered 4610 to 4649, GERM numbered 3500 or above, GRK numbered 4100 to 4650, ITAL numbered 3400 or above, LAT 3100, LAT numbered 4100 to 4650, MU 1110, MU 2110, PHIL 2705, PHIL 2715, PHIL 2725, POLS 2211, POLS 2212, REL 2550, SPAN 3615, SPAN 3620, SPAN 4410, SPAN 4440, SPAN 4610, WLIT 1155, WLIT 1200, WLIT 1400, WLIT 1450, WLIT 1500, WLIT 2200, WLIT 2400, WLIT 2450, WLIT 2500	
<b>DISCIPLINARY REQUIREMENT</b>	
No more than 9 credits for the major may be from any 1 academic discipline.	
<b>LANGUAGE REQUIREMENT</b>	
Students must complete 4 courses totaling at least 12 credits in a foreign language, at least 3 credits of which must be at the 3000-level or above; or a minor in a foreign language. Students studying a language not regularly offered at UVM are exempt from the 3000-level requirement.	

**Concentration in Latin American and Caribbean Studies**

The Global Studies major with a concentration in Latin American and Caribbean Studies is designed for students who wish to focus on the Latin American and Caribbean region.

30 credits in major courses, plus 12 credits in ancillary courses, including:

<b>FRAMING COURSES</b>		
GRS 1500	Intro to Global Studies	3
Choose 1 of the following:		3
GRS 4500	Topics In: GRS Senior Seminar	
A Latin America/Caribbean-focused seminar at the 3000-level of above, chosen in consultation with a GRS advisor		
<b>CORE COMPETENCY COURSES</b>		
POLITICAL-ECONOMIC PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
CDAE 1020, (POLS 1500 or POLS 1015), (POLS 1700 or POLS 1017), ECON 1130		
HUMAN AND ENVIRONMENTAL PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
ANTH 1100, GEOG 1760		
HUMANITIES PERSPECTIVES ON GLOBALIZATION. 1 course from the following:		3
HST 1310, HST 1315, REL 1605, REL 1620, WLIT 1100		
LATIN AMERICAN AND CARIBBEAN STUDIES. 1 course from the following:		3
CDAE 1030, DNCE 1430, ECON 1013, ENGL 2244, HST 1472, HST 1475, MU 1175, WLIT 1022		

<b>CONCENTRATION</b>	
4 additional courses/12 credits chosen from eligible courses, which regularly include:	12
HST 2472, HST 2545, HST 4470, HST 4475, POLS 2720, POLS 3730, SPAN 3102, SPAN 3110, SPAN 3665, SPAN 3670, SPAN 4460, SPAN 4555, SPAN 4560, SPAN 4570, SPAN numbered 4660 to 4699	
<b>DISCIPLINARY REQUIREMENT</b>	
No more than 9 credits for the major may be from any 1 academic discipline.	
<b>LANGUAGE REQUIREMENT</b>	
Students must complete 4 courses totaling at least 12 credits in a foreign language, at least 3 credits of which must be at the 3000-level or above; or a minor in a foreign language. Students studying a language not regularly offered at UVM are exempt from the 3000-level requirement.	

## AFRICAN STUDIES MINOR REQUIREMENTS

18 credits in minor courses, including:

<b>COURSE REQUIREMENTS</b>	
Course offerings for African Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.	
Other relevant courses may be substituted with the approval of the director, including courses taken while studying abroad and courses deemed by the director to have at least 35 percent Africa-related content.	
<b>CORE COURSES.</b> 3 courses/9 credits chosen from eligible courses, which regularly include:	9
ENGL 2248	Topics in African Lit
GEOG 2705	Geography of Africa
HST 1410	Colonialism and Africa
HST 2410	Topics in African History
POLS 2725	African Politics
<b>ELECTIVES.</b> 3 additional courses/9 credits chosen from eligible courses, which regularly include:	9
DNCE 1420	African Forms
HST 2414	Nigeria: Giant of Africa
HST 2416	History of Southern Africa
HST 4210	Comparative Slavery
REL 2652	Mysticism & Shamanism

SOC 3140	Sociology of African Societies	
<b>LEVEL REQUIREMENT</b>		
At least 9 credits must be at the 2000-level or above.		
<b>DISCIPLINARY REQUIREMENT</b>		
No more than 6 credits for the minor may be from any 1 academic discipline.		

## PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## ASIAN STUDIES MINOR REQUIREMENTS

18 credits in minor courses, including:

<b>LANGUAGE STUDY. At least 6 credits.</b>	
Choose 1 of the following options:	6-8
2 courses/6-8 credits in Chinese language	
2 courses/6-8 credits in Japanese language	
Students who have demonstrated fluency in an Asian language relevant to the other courses they have chosen for their minor concentration (for instance, native speakers of the language), the language requirement will be waived, and courses from a third academic discipline can be substituted.	
<b>ASIAN STUDIES. At least 10 credits.</b>	
Course offerings for Asian Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.	
Courses for the Asian Studies section of the minor must come from at least 2 other academic disciplines.	
<b>INTERMEDIATE LEVEL.</b> 9-12 additional credits chosen from eligible courses, which regularly include:	9-12

ANTH 2170, HST 2443, HST 2447, HST 2448, PHIL 2760, POLS 2715, REL 2220, REL 2235, REL 2238, REL 2310, WLIT 2310, WLIT 2350, WLIT 2360, WLIT 2370, WLIT 2375	
OPEN LEVEL. Up to 3 additional credits chosen from eligible courses, which regularly include:	0-3
DNCE 1520, HST 1440, PHIL 1750, REL 1210, REL 1230, REL 1310, THE 1520, WLIT 1350	

## RESTRICTIONS

Ineligible Major: Asian Studies

Students completing minor in Asian Studies may not also receive the the B.A. in Global Studies with a concentration in Asian Studies or the minor in Global Studies with a concentration in Asian Studies.

## PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## CANADIAN STUDIES MINOR REQUIREMENTS

15 credits in minor courses, including:

COURSE REQUIREMENTS		
Course offerings for Canadian Studies vary frequently and often include Special Topics and Topics In courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.		
CANADIAN HISTORY. 1 course/3 credits chosen from eligible courses, which regularly include:		3
HST 1550	Topics in Canadian History	
HST 2550	Topics in Canadian History	
HST 2555	Canadian-American Relations	
HST 4550	Topics in Canadian History	
LANGUAGE. 2 courses/6 credits from the following:		6
FREN numbered 2100 to 2109		

French language numbered 2200 or above		
ELECTIVES. 2 additional courses/6 credits chosen from eligible courses, which regularly include:		6
the Canadian History list		
GEOG 2715	The Circumpolar Arctic	
FREN 4480	Quebec Culture	
FREN 4680	Quebec Literature	
LEVEL REQUIREMENT		
At least 9 credits must be at the 2000-level or above for courses taught in English or at the 3000-level or above for FREN courses.		
DISCIPLINARY REQUIREMENT		
No more than 3 courses/9 credits for the minor may be from any 1 academic discipline.		

## PRE/CO-REQUISITES

French language through FREN 1200: Elementary II or the equivalent.

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## EUROPEAN STUDIES MINOR REQUIREMENTS

18 credits in minor courses, including:

COURSE REQUIREMENTS		
Course offerings for European Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed below are always eligible and should automatically be applied in degree audits.		
EUROPEAN CULTURE AND THOUGHT. 1-3 courses/3-9 credits chosen from eligible courses, which regularly include:		3-9

ARTH 1410, ARTH 1420, ARTH 2100, ARTH 2250, ARTH 2300, ARTH 2400, ARTH 2570, CLAS 1620, CLAS 1640, ENGL numbered 1110 to 1119, ENGL numbered 2300 to 2339, ENGL 2348, ENGL 2360, ENGL 3300, FREN 3410, FREN 3550, FREN 3610, FREN 3620, FREN numbered 4610 to 4649, GERM numbered 3500 or above, GRK numbered 4100 to 4650, ITAL numbered 3400 or above, LAT 3100, LAT numbered 4100 to 4650, MU 1110, MU 2110, PHIL 2705, PHIL 2715, PHIL 2725, POLS 2211, POLS 2212, REL 2550, SPAN 3615, SPAN 3620, SPAN 4410, SPAN 4440, SPAN 4610, WLIT 1155, WLIT 1200, WLIT 1400, WLIT 1450, WLIT 1500, WLIT 2200, WLIT 2400, WLIT 2450, WLIT 2500	
EUROPEAN HISTORY AND SOCIETY. 1-3 courses/3-9 credits chosen from eligible courses, which regularly include:	3-9
ANTH 2340, CLAS 1300, CLAS 1320, CLAS 1360, CLAS 2320, CLAS 2360, CLAS 3300, HST 1170, HST numbered 1700 to 1799, HST numbered 2200 to 2269, HST numbered 2690 to 2799, HST numbered 4690 to 4799	
EUROPEAN LANGUAGE. 6 credits in FREN, GERM, GRK, ITAL, LAT, SPAN or another European language at the 3000-level or above.	6
<b>LEVEL REQUIREMENTS</b>	
ADVANCED LEVEL. Choose 1 of the following options:	
3 credits in English-language coursework at the 3000-level or above	
3 credits in foreign language coursework at the 4000-level or above	
INTERMEDIATE LEVEL OR ABOVE. 6 additional credits chosen from the following, in any combination:	
English-language coursework at the 2000-level or above	
Foreign language coursework at the 3000-level or above	

**RESTRICTIONS**

Students completing minor in European Studies may not also receive the the B.A. in Global Studies with a concentration in European Studies or the minor in Global Studies with a concentration in European Studies.

**PRE/CO-REQUISITES**

Through 2200 or the equivalent in a European language.

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor.

**REMINDERS**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**GLOBAL STUDIES MINOR REQUIREMENTS**

18 credits in minor courses, including:

<b>CORE COURSES</b>		
GRS 1500	Intro to Global Studies	3
CORE COMPETENCY COURSES. 2 courses from the following:		6
ANTH 1100, CDAE 1020, ECON 1130, GEOG 1760, HST 1310, HST 1315, (POLS 1500 or POLS 1015), (POLS 1700 or POLS 1017), REL 1605, REL 1620, WLIT 1100		
<b>ELECTIVES</b>		
Course offerings for Global & Regional Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.		
Select one of the concentrations listed below. 3 additional courses/9 credits at the 2000-level or above in a single concentration chosen from eligible courses, which regularly include:		9
<b>POLITICAL-ECONOMIC PERSPECTIVES ON GLOBALIZATION:</b>		
CDAE 2020, GEOG 2705, GEOG 3770, ECON 2350, ECON 4100, HST 2240, POLS 2510, POLS 2530, POLS 3500, SOC 2210		
<b>HUMAN AND ENVIRONMENTAL PERSPECTIVES ON GLOBALIZATION:</b>		
ANTH 2170, ANTH 2191, ANTH 3145, ENSC 2300, GEOG 2235, GEOG 2250, GEOG 2780, HLTH 2050, POLS 2560		
<b>HUMANITIES PERSPECTIVES ON GLOBALIZATION:</b>		
ARTH 2300, CLAS 2610, ENGL 2240, FTS 2060, REL 2652, REL 3625, SPAN 3102, SPAN 3665, SPAN 4665		
<b>ASIAN STUDIES:</b>		
ANTH 2170, HST 2443, HST 2447, HST 2448, PHIL 2760, POLS 2715, REL 2220, REL 2235, REL 2238, REL 2310, WLIT 2310, WLIT 2350, WLIT 2360, WLIT 2370, WLIT 2375		
<b>EUROPEAN STUDIES:</b>		
ARTH 2100, ARTH 2250, ARTH 2300, ARTH 2400, ARTH 2570, ENGL numbered 2300 to 2339, ENGL 2348, ENGL 2360, ENGL 3300, FREN 3410, FREN 3550, FREN 3610, FREN 3620, FREN numbered 4610 to 4649, GERM numbered 3500 or above, GRK numbered 4100 to 4650, ITAL numbered 3400 or above, LAT 3100, LAT numbered 4100 to 4650, MU 2110, PHIL 2705, PHIL 2715, PHIL 2725, POLS 2211, POLS 2212, REL 2550, SPAN 3615, SPAN 3620, SPAN 4410, SPAN 4440, SPAN 4610, WLIT 2200, WLIT 2400, WLIT 2450, WLIT 2500		
<b>LATIN AMERICAN AND CARIBBEAN STUDIES:</b>		

HST 2472, HST 2545, HST 4470, HST 4475, POLS 2720, POLS 3730, SPAN 3102, SPAN 3110, SPAN 3665, SPAN 3670, SPAN 4460, SPAN 4555, SPAN 4560, SPAN 4570, SPAN numbered 4660 to 4699	
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**RESTRICTIONS**

Ineligible Major: Global Studies

Students completing the minor in Global Studies with a concentration in Asian Studies may not also receive the B.A. in Asian Studies or the minor in Asian Studies.

**PRE/CO-REQUISITES**

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the major.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**LATIN AMERICAN AND CARIBBEAN STUDIES MINOR**

**REQUIREMENTS**

18 credits in minor courses, including:

COURSE REQUIREMENTS	
LANGUAGE. 6 credits from the following:	6
SPAN numbered 2200 to 2209	
SPAN numbered 3100 or above	
ELECTIVES. 12 additional credits chosen from eligible courses, which regularly include:	12
CDAE 1030, DNCE 1430, ECON 1013, ENGL 2244, HST 1472, HST 1475, HST 2472, HST 2545, HST 4470, HST 4475, MU 1175, POLS 2720, POLS 3730, SPAN 3102, SPAN 3110, SPAN 3665, SPAN 3670, SPAN 4460, SPAN 4555, SPAN 4560, SPAN 4570, SPAN numbered 4660 to 4699, WLIT 1022	
Course offerings for Latin American & Caribbean Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.	
Other relevant courses may be substituted with the approval of the director, including courses taken while studying abroad.	

LEVEL REQUIREMENT	
At least 9 credits must be at the 2000-level or above for courses taught in English or at the 3000-level or above for foreign language courses.	
DISCIPLINARY REQUIREMENT	
Courses for the Electives section of the minor must come from at least 2 academic disciplines.	

**RESTRICTIONS**

Students completing minor in Latin American & Caribbean Studies may not also receive the the B.A. in Global Studies with a concentration in Latin American & Caribbean Studies or the minor in Global Studies with a concentration in Latin American & Caribbean Studies.

**PRE/CO-REQUISITES**

Spanish language through SPAN 2100: Intermediate I or the equivalent (SPAN numbered 2100 to 2109).

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**MIDDLE EAST STUDIES MINOR**

**REQUIREMENTS**

15 credits in minor courses, including:

COURSE REQUIREMENTS	
Course offerings for Middle East Studies vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.	
HISTORY. 1 course/3 credits from the following:	3
HST numbered 1420 to 1429, or 2420 to 2429	
CORE COURSES. 1 course/3 credits from the following:	3
JS 1610	Contemporary Israel
REL 1230	Introducing Islam

POLS 2525	Int'l Politics Middle East	
ELECTIVES. 3-9 additional credits from the following:		3-9
HST 4420	Topics in Middle East History	
REL 2235	Islam and Modernity	
REL 2238	Islam and Race	
HST numbered 1420 to 1429, or 2420 to 2429		
JS 1610, REL 1230, POLS 2525		
Students are strongly encouraged to take one year of a Middle Eastern language such as Arabic or Hebrew. Up to 6 credits of language study may be counted toward the minor.		0-6
With the approval of the director of the program and the instructor, up to 3 additional credits from the following:		0-3
GRS 3993	Independent Study	
GRS 3995	Undergraduate Research	
Students may also consult with the Middle East Studies director and propose other courses with sufficient Middle East content to fulfill the requirements. The director of the program must approve any course not listed before it can be considered to fulfill the requirements for the minor. Students are encouraged to focus these courses on the Middle East when possible, such as choosing a Middle East topic for research projects in the course.		
Study Abroad: Students who are pursuing the Middle East Studies minor are encouraged to spend a portion of their time at UVM abroad. Seven credits toward your minor may be taken abroad. Consult the Global & Regional Studies Study Abroad website for more information.		
<b>LEVEL REQUIREMENT</b>		
At least 9 credits must be at the 2000-level or above for courses taught in English or at the 3000-level or above for foreign language courses.		

## PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## RUSSIAN AND EAST EUROPEAN STUDIES MINOR

### REQUIREMENTS

At least 15 credits in minor courses, including:

<b>COURSE REQUIREMENTS</b>		
Course offerings for Russian and East European Studies vary frequently and often include Special Topics and Topics In courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.		
Other relevant courses may be substituted with the approval of the director, including courses taken while studying abroad.		
LANGUAGE. 2 courses/at least 6 credits from the following:		6
Russian language numbered 2100 or above		
another regional language		
ELECTIVES. 9 credits chosen from eligible courses, which regularly include:		9
HST 2698	The Cold War	
HST 2750	History of Poland	
HST 2790	The Holocaust	
POLS 2710	Russian Politics	
POLS 3610	Ethnopolitical Conflict	
WLIT 1250	Topics in Russian Lit in Tr	
WLIT 2250	Topics in Russian Lit in Tr	
<b>LEVEL REQUIREMENT</b>		
At least 9 credits must be at the 2000-level or above for courses taught in English or at the 3000-level or above for RUSS courses.		

## PRE/CO-REQUISITES

Russian language through RUSS 1200: Elementary II or the equivalent.

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## HEALTH AND SOCIETY

<https://www.uvm.edu/cas/healthsociety>

Health and Society is an interdisciplinary cross-college program that brings together an array of social science approaches to address critical questions concerning health, healing, and health care in human populations. Program faculty and students examine the many ways in which human health, healing, and health care are defined, perceived, and enacted, and in which access to health and health care are distributed, within and across populations.

The Health and Society major and minor draw on courses from a range of academic disciplines, including anthropology, sociology, public health, psychology, political science, economics, geography, philosophy, religion, and environmental studies, among others. See the major and minor requirements pages for a list of regularly applicable courses and the See Also list in the Schedule of Courses (Classic Version) for semester-specific offerings.

### MAJORS

#### HEALTH AND SOCIETY MAJOR

Health and Society B.A. (p. 327)

### MINORS

#### HEALTH AND SOCIETY MINOR

Health and Society (p. 329)

### HEALTH AND SOCIETY B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

### MAJOR REQUIREMENTS

Students who are pursuing the B.A. in Health and Society are required to take at least 84 credits of coursework in the College of Arts and Sciences.

Navigating a cross-college major, multiple majors, or dual degrees can be complex, so all Health and Society majors should meet with an academic advisor to ensure their course plans are suitable.

33 credits in major courses, including:

CORE INTRODUCTORY COURSES. 9 credits.		
HSCI 1100	Introduction to Public Health	3
HSOC 1600/ SOC 1300	Health Care in America	3

HSOC 1700/ ANTH 1190	Global Health Devel & Diversit	3
<b>INTRODUCTORY METHODS. 3 credits.</b>		
Choose 1 of the following:		3
STAT 1110	Elements of Statistics	
STAT 1410	Basic Statistical Methods 1	
<b>CORE INTERMEDIATE COURSES. 6 credits.</b>		
ARTS & SCIENCES (CAS) INTERMEDIATE COURSES. 1-2 courses/3-6 credits from the following:		3-6
ANTH numbered 2170 to 2199		
ANTH 2170	Culture, Health and Healing	
ANTH 2181	Aging in Cross-Cultural Persp	
ANTH 2191	Foundations of Global Health	
ANTH 2205	Gender Sex Race & the Body	
PSYS 2500	Psychopathology	
SOC numbered 2260 to 2339		
SOC 2260	Crim Justice & Public Health	
SOC 2300	Population Health Research	
SOC 2320	Sociology of Death & Dying	
SOC 2335	Gender, Sexualities & Medicine	
NON-CAS INTERMEDIATE COURSES. Up to 1 course/3 credits from the following:		0-3
HLTH 2050	Cultural Health Care	
HLTH 2070	Human Health & the Envirnmnt	
HSCI 2300	Health Promotion	
HSCI 2500	Health Communication	
HSCI 2600	Racism and Health Disparities	
NFS 2114	Human Health in the Food Syst	
NFS 2143	Nutrition in the Life Cycle	
NR 2810	Environmental Justice	
<b>CORE ADVANCED COURSES AND METHODS. 6 credits.</b>		
CAS ADVANCED COURSES. 1-2 additional courses/3-6 credits from the following:		3-6
ANTH numbered 3170 through 3199		
ANTH 3192	Anthro Research Global Health	
ANTH 3475	Research in Hum Biol Diversity	
ECON 3850	Topics in: Health Economics	
ECON 4850	Topics in: Health Ec (W)	

POLS 3490	Health Politics and Policy	
PSYS 3510	Intro to Health Psychology	
SOC numbered 3300 through 3339		
SOC 3300	Health: Race, Class, & Gender	
SOC 3335	Sociology of Reproduction	
METHODS. Students are encouraged to take one advanced Methods course with a health-related project or placement. Choose up to 1 additional course/3 credits from the following:		0-3
CAS Advanced Methods:		
ANTH 3130	Ethnographic Field Methods	
ANTH 3192	Anthro Research Global Health	
ANTH 3475	Research in Hum Biol Diversity	
GEOG 3505	Spatial Analysis	
POLS 4310	VT Legislative Research Svc	
SOC 3500	Qualitative Research Methods	
Non-CAS Advanced Methods:		
EDFS 3090	Intro to Research Methods	
HSCI 3300	Hlth Promotion Prog Plan/Eval	
STAT 3000	Med Biostat&Epidemiology	
NON-CAS ADVANCED COURSES. Up to 1 course/3 credits from the following:		0-3
CSD 3200	Culture of Disability	
HSCI 3100	Epi, Pub Hlth & Emerg Disease	
NFS 5245	Nutrition for Global Health	
NR 3360	Women, Health and Environment	
<b>ELECTIVE COURSES. 9 credits.</b>		
Course offerings for Health and Society vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.		
INTERMEDIATE LEVEL OR ABOVE CAS ELECTIVE. 1-3 additional courses/3-9 credits in CAS courses at the 2000-level or above chosen from eligible courses, which regularly include:		3-9
ANTH 2242	People, Poison, Place	
GEOG 2550	Qualitative Research Methods	
HST 2790	The Holocaust	
PSYS 3505	Behav Disorders of Childhood	
REL 2652	Mysticism & Shamanism	
SOC 2220	Sociology of the Holocaust	

SOC 3332	Transgender Studies	
ANTH numbered 2170 to 2199, PSYS 2500, SOC numbered 2260 to 2339		
ANTH numbered 3170 through 3199, ECON 3850, ECON 4850, POLS 3490, PSYS 3510, SOC numbered 3300 through 3339		
OPEN ELECTIVES. Up to 6 additional credits chosen from eligible courses and experiences, which regularly include:		0-6
CAS Courses: ANTH 1100, ANTH 1400, ECON 1400, ECON 1450, PSYS 1400, REL 1650, SOC 1320, SOC 1500		
Non-CAS Courses: ASCI 1090, CDAE 1020, HSCI 1200, HSCI 1300, NFS 1043, SWSS 1040		
Special Topics (CAS): HSOC 1990, HSOC 2990, HSOC 3990, HSOC 4990		
Internship (CAS): HSOC 2991, HSOC 4991; or CAS 2920 or CAS 2991 with an appropriate placement		
Teaching Assistantship (CAS) : HSOC 2994, HSOC 3994, HSOC 4994		
Undergraduate Research (CAS): HSOC 3995, HSOC 4995		
Honors (CAS): HSOC 4996		
<b>DISCIPLINARY REQUIREMENT</b>		
For interdisciplinary exposure, no more than 21 credits for the major can come from a single course prefix.		
<b>NOTES</b>		
Graduate-level courses, including those in Public Health, may be accepted as advanced courses or electives with prior approval from a Health & Society advisor. Graduate courses are often open to upper-level undergraduate students with instructor permission.		
Students who are pre-health should take (BIOL 1400 and BIOL 1450) or (BCOR 1400 and BCOR 1450) or (BCOR 1425 and BCOR 2500) to meet their Natural Science Catamount Core Curriculum requirement.		

**RESTRICTIONS**

A maximum of 9 credits may overlap between the HSOC major and the Public Health AMP (e.g., PH 6010, PH 6020, and/or PH 6030). Students may not count both STAT 3000 and PH 6030 toward the HSOC major.

**PRE/CO-REQUISITES**

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the major.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.



For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## HEALTH AND SOCIETY MINOR REQUIREMENTS

Health and Society minors are encouraged to discuss their minor with both an HSOC advisor and their major advisor to develop a plan of study that fits their strengths and interests and conforms with relevant college and university policies.

18 credits in minor courses, including:

<b>CORE COURSES. 12 credits.</b>		
HSCI 1100	Introduction to Public Health	3
Choose 1 of the following:		3
HSOC 1600/ SOC 1300	Health Care in America	
HSOC 1700/ ANTH 1190	Global Health Devel & Diversit	
METHODS. Choose 1 of the following:		3
STAT 1110	Elements of Statistics	
STAT 1410	Basic Statistical Methods 1	
Choose 1 of the following:		3
ANTH 2170	Culture, Health and Healing	
ANTH 2181	Aging in Cross-Cultural Persp	
ANTH 2191	Foundations of Global Health	
ANTH 2205	Gender Sex Race & the Body	
SOC 2260	Crim Justice & Public Health	
SOC 2300	Population Health Research	
SOC 2320	Sociology of Death & Dying	
SOC 2335	Gender, Sexualities & Medicine	
<b>ELECTIVES. 6 credits.</b>		
Course offerings for Health and Society vary frequently and often include Special Topics, Topics In, and Honors College courses. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed in this table are always eligible and should automatically be applied in degree audits.		
INTERMEDIATE LEVEL OR ABOVE CAS ELECTIVE. 1-2 additional courses/3-6 credits in CAS courses at the 2000-level or above chosen from eligible courses, which regularly include:		3-6

ANTH 2170, ANTH 2181, ANTH 2191, ANTH 2205, ANTH 3192, ANTH 3475, ECON 3850, ECON 4850, POLS 3490, PSYS 2500, PSYS 3510, REL 2652, SOC 2260, SOC 2300, SOC 2320, SOC 2335, SOC 3300, SOC 3332, SOC 3335; ANTH numbered 2170 to 2199 or 3170 through 3199, SOC numbered 2260 to 2339 or 3300 through 3339	
INTERMEDIATE LEVEL OR ABOVE NON-CAS ELECTIVE. Up to 1 additional course/3 credits at the 2000-level or above chosen from eligible courses, which regularly include:	0-3
CSD 3200, HLTH 2050, HLTH 2070, HSCI 2300, HSCI 2500, HSCI 2600, HSCI 3100, NFS 2114, NFS 2143, NFS 5245, NR 2810, NR 3360	
OPEN LEVEL. Up to 3 additional credits chosen from eligible courses or experiences, which regularly include:	0-3
CAS Courses: ANTH 1100, ANTH 1400, ECON 1400, ECON 1450, HSOC 1600/SOC 1300, HSOC 1700/ANTH 1190, PSYS 1400, REL 1650, SOC 1320, SOC 1500	
Non-CAS Courses: ASCI 1090, CDAE 1020, HSCI 1200, HSCI 1300, NFS 1043, SWSS 1040	
Special Topics (CAS) : HSOC 1990, HSOC 2990, HSOC 3990, HSOC 4990	
Internship (CAS): HSOC 2991, HSOC 4991; or CAS 2920 or CAS 2991 with an appropriate placement	
Teaching Assistantship (CAS): HSOC 2994, HSOC 3994, HSOC 4994	
Undergraduate Research (CAS): HSOC 3995, HSOC 4995	
Honors (CAS): HSOC 4996	
<b>DISCIPLINARY REQUIREMENT</b>	
For interdisciplinary exposure, no more than 12 credits of courses come from a single course prefix.	

## RESTRICTIONS

Ineligible Major: Health and Society

## PRE/CO-REQUISITES

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the major.

## REMINDERS

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## DEPARTMENT OF HISTORY

<https://www.uvm.edu/cas/history/>

The History Department at the University of Vermont is large enough to offer a wide range of courses and small enough to give students individual attention. Many members of the faculty have earned international reputations for their contributions to historical scholarship and have held leadership positions in fields as diverse as Islamic law, the history of gender and sexuality, Holocaust Studies, and the history of slavery. At the same time, they are all dedicated teachers, offering innovative and exciting classes at all levels.

Majors are required to take a class on historical methods and courses in three areas: the Americas, Europe, and the non-Western world. All students in the department are encouraged, if possible, to spend a semester or year studying abroad. A capstone of the major is the senior research seminar, an opportunity to engage deeply with the work of other historians and conduct independent research under faculty direction.

History students master essential life skills, most notably the ability to reach conclusions based upon the analysis of complex and often contradictory evidence, and the skill to articulate these findings clearly and persuasively in written form and oral presentations.

## HISTORIC PRESERVATION PROGRAM

<https://www.uvm.edu/cas/historicpreservation>

Since its founding in the 1970s, the University of Vermont Historic Preservation Program has offered a graduate degree in Historic Preservation and courses to upper-level undergraduate students. Enrollment in these courses may require instructor permission or registration overrides.

Recognizing the diverse contributions that succeeding generations have made to the historic environment, the program regards historic preservation as an impartial form of management which keeps these contributions in balance. The primary education goal is the development of a long-term professional perspective bolstered by training in appropriate skills.

## MAJORS

### HISTORY MAJOR

History B.A. (p. 330)

## MINORS

### HISTORY MINOR

History (p. 332)

## GRADUATE

History AMP

History M.A.

Historic Preservation AMP

Historic Preservation M.S.

See the online Graduate Catalogue for more information.

## HISTORY B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

In the Bachelor of Arts program, History majors may choose from 3 concentrations:

Concentration in African, Asian, Middle Eastern, and Global History (p. 330)

Concentration in American History (p. 331)

Concentration in European History (p. 331)

The Course Table (p. 331) defines how specific History courses apply to the geographic categories.

## MAJOR REQUIREMENTS

### Concentration in African, Asian, Middle Eastern, and Global History

33 credits, including:

COURSE REQUIREMENTS		
HST 2050	History Methods	3
CONCENTRATION		15
4 courses/12 credits from the African, Asian, Middle Eastern, and Global History course list		
Seminar. 1 additional course/3 credits at the 4000-level or above from the African, Asian, Middle Eastern, and Global History course list		
BREADTH REQUIREMENT		12
2 additional courses/6 credits from Canadian and Latin American and/or US History course lists, in any combination		
2 additional courses/6 credits from the European History course list		
ELECTIVE		3
3 additional credits in HST at any level		
LEVEL AND RESIDENCY REQUIREMENTS		
A maximum of 12 credits can be at the 1000-level; 6 of those credits must be taken at UVM or on a collegiate study abroad program.		
At least 18 credits, including HST 2050, must be at the 2000-level or above.		
RESTRICTIONS AND NOTES		

A maximum of 6 credits from the following may be applied to the major:	
HST 3991, HST 3993, HST 3995, HST 4994, HST 4996	
With the approval of the History Department, HST courses in the x100s; Special Topics (x990); study abroad courses; and internships, independent studies, undergraduate research, teaching assistantships, and honors thesis credits can be counted toward concentration and/or breadth requirements.	

**Concentration in American History**

33 credits, including:

<b>COURSE REQUIREMENTS</b>		
HST 2050	History Methods	3
<b>CONCENTRATION</b>		15
1 course/3 credits from the Candian and Latin American History course list		
3 additional courses/9 credits from the Canadian and Latin American and/or US History course lists, in any combination		
Seminar. 1 additional course/3 credits at the 4000-level or above from the Canadian and Latin American or US History course lists		
<b>BREADTH REQUIREMENT</b>		12
2 additional courses/6 credits from the African, Asian, Middle Eastern, and Global course list		
2 additional courses/6 credits from the European History course list		
<b>ELECTIVE</b>		3
3 additional credits in HST at any level		
<b>LEVEL AND RESIDENCY REQUIREMENTS</b>		
A maximum of 12 credits can be at the 1000-level; 6 of those credits must be taken at UVM or on a collegiate study abroad program.		
At least 18 credits, including HST 2050, must be at the 2000-level or above.		
<b>RESTRICTIONS AND NOTES</b>		
A maximum of 6 credits from the following may be applied to the major:		
HST 3991, HST 3993, HST 3995, HST 4994, HST 4996		
With the approval of the History Department, HST courses in the x100s; Special Topics (x990); study abroad courses; and internships, independent studies, undergraduate research, teaching assistantships, and honors thesis credits can be counted toward concentration and/or breadth requirements.		

**Concentration in European History**

33 credits, including:

<b>COURSE REQUIREMENTS</b>		
HST 2050	History Methods	3

<b>CONCENTRATION</b>	15
4 courses/12 credits from the European History course list	
Seminar. 1 additional course/3 credits at the 4000-level or above from the European History course list	
<b>BREADTH REQUIREMENT</b>	12
2 additional courses/6 credits from the African, Asian, Middle Eastern, and Global History course list	
2 additional courses/6 credits from Canadian and Latin American and/or US History course lists, in any combination	
<b>ELECTIVE</b>	3
3 additional credits in HST at any level	
<b>LEVEL AND RESIDENCY REQUIREMENTS</b>	
A maximum of 12 credits can be at the 1000-level; 6 of those credits must be taken at UVM or on a collegiate study abroad program.	
At least 18 credits, including HST 2050, must be at the 2000-level or above.	
<b>RESTRICTIONS AND NOTES</b>	
A maximum of 6 credits from the following may be applied to the major:	
HST 3991, HST 3993, HST 3995, HST 4994, HST 4996	
With the approval of the History Department, HST courses in the x100s; Special Topics (x990); study abroad courses; and internships, independent studies, undergraduate research, teaching assistantships, and honors thesis credits can be counted toward concentration and/or breadth requirements.	

**Course Table**

<b>AFRICAN, ASIAN, MIDDLE EASTERN, AND GLOBAL HISTORY</b>	
HST numbered 1200 to 1450, or 2200 to 2450, or 4200 to 4450	
HST 1130	AP World History
<b>CANADIAN AND LATIN AMERICAN HISTORY</b>	
HST numbered 1200 to 1279, or 1470 to 1580, or 2200 to 2279, or 2470 to 2580, or 4200 to 4279, or 4470 to 4580	
<b>US HISTORY</b>	
HST 1160	AP US History
HST numbered 1200 to 1279, or 1470 to 1699, or 2200 to 2279, or 2470 to 2699, or 4200 to 4279, or 4470 to 4699	
GEOG 2772	Historical Geography
HP 5201	History on the Land
<b>EUROPEAN HISTORY</b>	
HST 1170	AP European History

HST numbered 1200 to 1269, or 1290 to 1299, or 1700 to 1989, or 2200 to 2269, or 2290 to 2299, or 2700 to 2789, or 4200 to 4269, or 4290 to 4299, or 4700 to 4789	
CLAS numbered 1300 to 1399, or 2300 to 2399, or 3300 to 3399	

**REMINDERS**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**HISTORY MINOR**

**REQUIREMENTS**

The Course Table (p. 332) defines how specific History courses apply to the geographic categories.

18 credits in minor courses, including:

<b>COURSE REQUIREMENTS</b>	
BREADTH REQUIREMENT	12
Choose 1 of the following options:	
OPTION A:	
2 courses/6 credits from the African, Asian, Middle Eastern, and Global History course list	
and 2 additional courses/6 credits from Canadian and Latin American and/or US History course lists, in any combination	
OPTION B:	
2 courses/6 credits from the African, Asian, Middle Eastern, and Global History course list	
and 2 additional courses/6 credits from the European History course list	
OPTION C:	
2 courses/6 credits from Canadian and Latin American and/or US History course lists, in any combination	
and 2 additional courses/6 credits from the European History course list	
ELECTIVES	6
6 additional credits in HST at any level	
<b>LEVEL AND RESIDENCY REQUIREMENTS</b>	
At least 3 and no more than 9 credits must be at the 1000-level. If 9 credits at the 1000-level are applied to the minor, at least 3 of them must be taken at UVM or on a collegiate study abroad program.	
At least 9 credits must be at the 2000-level or above.	

<b>RESTRICTIONS AND NOTES</b>	
A maximum of 6 credits from the following may be applied to the minor:	
HST 3991, HST 3993, HST 3995, HST 4994	
With the approval of the History Department, HST courses in the x100s; Special Topics (x990); study abroad courses; and internships, independent studies, undergraduate research, teaching assistantships, and honors thesis credits can be counted toward the breadth requirements.	

**Course Table**

<b>AFRICAN, ASIAN, MIDDLE EASTERN, AND GLOBAL HISTORY</b>		
HST numbered 1200 to 1450, or 2200 to 2450, or 4200 to 4450		
HST 1130	AP World History	
<b>CANADIAN AND LATIN AMERICAN HISTORY</b>		
HST numbered 1200 to 1279, or 1470 to 1580, or 2200 to 2279, or 2470 to 2580, or 4200 to 4279, or 4470 to 4580		
<b>US HISTORY</b>		
HST 1160	AP US History	
HST numbered 1200 to 1279, or 1470 to 1699, or 2200 to 2279, or 2470 to 2699, or 4200 to 4279, or 4470 to 4699		
GEOG 2772	Historical Geography	
HP 5201	History on the Land	
<b>EUROPEAN HISTORY</b>		
HST 1170	AP European History	
HST numbered 1200 to 1269, or 1290 to 1299, or 1700 to 1989, or 2200 to 2269, or 2290 to 2299, or 2700 to 2789, or 4200 to 4269, or 4290 to 4299, or 4700 to 4789		
CLAS numbered 1300 to 1399, or 2300 to 2399, or 3300 to 3399		

**REMINDERS**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**HOLOCAUST STUDIES PROGRAM**

**OVERVIEW**

<https://www.uvm.edu/cas/holocauststudies>

The study of the Holocaust offers more than an opportunity to acquire knowledge about a singular historical event. It provides

an opportunity to examine a range of broader issues, such as antisemitism, racism, xenophobia, militarism, homophobia, and the formation and functioning of stereotypes. It provides important insight into behaviors such as obedience to authority, conformity, altruism, and civil courage. A minor in Holocaust Studies is an excellent complement to any major at UVM.

The Holocaust Studies minor draws on courses from a range of academic disciplines, including history, anthropology, sociology, film and television studies, and literary studies. See the minor requirements page for a list of regularly applicable courses and the See Also list in the Schedule of Courses (Classic Version) for semester-specific offerings.

## MINORS

### HOLOCAUST STUDIES MINOR

Holocaust Studies (p. 333)

### HOLOCAUST STUDIES MINOR

#### REQUIREMENTS

18 credits in minor courses, plus 9-11 credits in prerequisite courses, including:

HST 2760	Modern Germany	3
HST 2790	The Holocaust	3
Course offerings for the Holocaust Studies minor vary frequently. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed below are always eligible and should automatically be applied in degree audits.		
INTERMEDIATE LEVEL OR ABOVE. 1 additional course/3 credits at the 2000-level or above chosen from eligible courses, which regularly include:		3
ANTH 2340	The Roma Holocaust	
FTS 2460	Topics in Holocaust in Film	
HST 2240	World War II	
HST 2750	History of Poland	
HST 2792	Jews in Modern Europe	
HST 4790	Topics in Holocaust History	
SOC 2220	Sociology of the Holocaust	
Special Topics: HS 2990, HS 3990, HS 4990		
OPEN LEVEL. 3 additional courses/9 credits chosen from eligible courses, which regularly include:		9
WLIT 1150	Topics in Holocaust Lit in Tr	
WLIT 1155	Italians and the Holocaust	
Special Topics: HS 1990		

Up to 3 credits of Internship, Independent Study, and/or Undergraduate Research may be counted toward the Open Level requirement with the approval of the program director.	
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#### PRE/CO-REQUISITES

HST 1715	Modern Europe	3
2 courses/6-8 credits of German language at any level Another European language may be substituted after consultation with the Director.		6-8

#### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

### LINGUISTICS PROGRAM

#### OVERVIEW

<https://www.uvm.edu/cas/linguistics>

Linguistics is the study of language: its structure and how it is used on a day-to-day basis. Students in the Linguistics Program have access to an interdisciplinary array of courses taught by professors who specialize in a range of language topics including formal grammar, language and culture, language acquisition, cognition, and bilingualism. Since most fields require a working knowledge of language in oral and written communication, a major or minor in Linguistics offers an excellent combination with many other concentrations at UVM.

The Linguistics Program also offers a certificate in Teaching English to Speakers of Other Languages (TESOL), a 5-course sequence that provides academic coursework as well as teaching experience. While it is not a substitute for a M.S. in TESOL or a teaching certification, it does prepare students for graduate work in the field, teaching English in other countries, and working with speakers of other languages in general.

#### MAJORS

##### LINGUISTICS MAJOR

Linguistics B.A. (p. 334)

#### MINORS AND CERTIFICATES

##### LINGUISTICS MINORS AND CERTIFICATES

Linguistics (p. 334)

Teaching English to Speakers of Other Languages (p. 334) - Undergraduate Certificate

## LINGUISTICS B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

### MAJOR REQUIREMENTS

30 credits in major courses, including:

LING 1500	Introduction to Linguistics	3
LING 2510	Phonetics	3
LING 2530	Phonology	3
LING 2560	Syntax	3
LING 4500	Linguistics Capstone Seminar	3
Sociolinguistics. 1 course/3 credits in LING numbered 2200 to 2299		3
Psycholinguistics. 1 course/3 credits in LING numbered 2300 to 2399		3
Advanced Course. 1 course/3 credits in LING numbered 3000 to 3989		3
Electives. 6 additional credits in LING numbered 1010 to 4996		6

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## LINGUISTICS MINOR

### REQUIREMENTS

18 credits in minor courses, including:

LING 1500	Introduction to Linguistics	3
Choose 2 of the following:		6
LING 2510	Phonetics	
LING 2530	Phonology	
LING 2560	Syntax	
LING 2610	Morphology	
LING 2620	Pragmatics	
6 additional credits in LING numbered 1010 to 4995		6
3 additional credits in LING numbered 2200 to 4995		3

Other relevant courses may be chosen in consultation with a Linguistics minor advisor.	
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### RESTRICTIONS

Ineligible Major: Linguistics

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES UNDERGRADUATE CERTIFICATE

### REQUIREMENTS

16 credits, including:

LING 1400	Structure of English Language	3
LING 1500	Introduction to Linguistics	3
LING 2320	Second Language Acquisition	3
LING 2400	TESOL and Applied Linguistics	3
LING 4400	Techniques & Procedures in ESL	4

### RESTRICTIONS

Up to 2 courses may overlap between the TESOL certificate and the ELL endorsement offered in the College of Education & Social Services.

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between an undergraduate certificate and a major or between an undergraduate certificate and a minor.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree in the College of Arts and Sciences, the maximum is 50 credits.

## MATHEMATICS AND STATISTICS IN THE COLLEGE OF ARTS AND SCIENCES

<https://www.uvm.edu/cems/mathstat>

The Department of Mathematics and Statistics resides in the College of Engineering and Mathematics Sciences (CEMS). The College of

Arts and Sciences offers a B.A. in Mathematics while CEMS offers a B.S. in Mathematics.

**COLLEGE OF ARTS AND SCIENCES  
MATHEMATICS MAJOR**

Mathematics is an independent field of study valued for precision of thought and intrinsic beauty, as well as a rich source of techniques and methods with infinite practical applications. The department takes great pride in making sure that both of these aspects of mathematics are well represented in the curriculum. Students are encouraged to pursue their talent for finding innovative solutions to complex problems. Many also acquire expertise in other fields, such as physics, chemistry, biology, medicine, engineering, and computer science.

UVM's Mathematics and Statistics Department keeps its classes small, allowing close student-faculty interactions. Talented faculty members teach all levels, from introductory to advanced courses, while also editing major international journals, engaging in research, and writing fundamental textbooks used all over the world. Students go into such diverse fields as computer science, business, law, and government organizations such as the National Security Agency.

Majors may pursue their degrees either through the University's College of Engineering and Mathematical Sciences (B.S.) or the College of Arts and Sciences (B.A.).

**MAJORS  
MATHEMATICS AND STATISTICS MAJORS**

Mathematics B.A. (p. 335)

**MINORS  
MATHEMATICS AND STATISTICS MINORS**

These minors are administered by the College of Engineering and Mathematical Sciences and are available to all UVM undergraduates.

Mathematics: Pure (p. 428)

Statistics (p. 429)

**GRADUATE**

Mathematics AMP

Mathematics M.S.

Mathematics M.S.T.

Mathematical Sciences Ph.D.

Statistics AMP

Statistics M.S.

See the online Graduate Catalogue for more information.

**MATHEMATICS B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

As part of the Bachelor of Arts degree in the College of Arts and Sciences, mathematics majors may choose from 2 concentrations:

Mathematics (p. 335)

Statistics (p. 335)

**MAJOR REQUIREMENTS**

**Mathematics Concentration**

36 credits, including:

MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 2055	Fundamentals of Mathematics	3
MATH 2544	Linear Algebra	3
INTERMEDIATE LEVEL OR ABOVE. 6 additional credits from the following:		6
MATH numbered 2000 to 4996		
STAT numbered 2000 to 4810		
ADVANCED LEVEL. 12 additional credits from the following:		12
MATH numbered 3000 to 4996		
STAT numbered 3000 to 4810		

**Statistics Concentration**

At least 33 credits, including:

MATH 2248	Calculus III	4
Choose 1 of the following:		3
MATH 2522	Applied Linear Algebra	
MATH 2544	Linear Algebra	
Choose 1 of the following:		3
STAT 1410	Basic Statistical Methods 1	
STAT 2430	Statistics for Engineering	
Choose 1 of the following:		3
STAT 2510	Applied Probability	
STAT 5510	Probability Theory	

STAT 2830	Basic Statistical Methods 2	3
STAT 3000	Med Biostat&Epidemiology	3
STAT 3010	Stat Computing&Data Anlysis	3
STAT 3210	Advanced Statistical Methods	3
Choose 1 of the following:		3
STAT 3410	Statistical Inference	
STAT 5610	Statistical Theory	
Choose 1 of the following:		1-6
STAT 4810	Capstone Experience	
STAT 3996	Undergrad Honors Thesis	
MATH 4996	Undergraduate Honors Thesis	
ELECTIVES. Up to 4 additional credits, in any combination, from the following:		0-4
MATH numbered 1234 or higher		
STAT numbered 2000 or higher		

## RESTRICTIONS

Students completing the B.A. in Mathematics with a Mathematics concentration may not also receive the B.S.MSC. in Mathematics. Students completing the B.A. in Mathematics with a Statistics concentration may not also receive the B.S.MSC. in Statistics.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## MUSIC PROGRAM

### OVERVIEW

<http://www.uvm.edu/cas/music>

Studying music at the University of Vermont will capture students' imaginations, whether their interests lie in playing in an ensemble; taking private lessons; or studying music technology and business, music theory, music literature, composition, jazz, or music education.

### MUSIC

The University of Vermont offers two undergraduate degrees in music: one through the College of Arts and Sciences, and one through the College of Education and Social Services.

The B.A. degree offers concentrations in Classical Performance, Composition/Theory, Literature/History, Jazz Studies, and Music

Technology and Business. These programs offer a strong foundation in all areas of music and require involvement in all aspects of the discipline.

The B.S. degree in Music Education prepares students for careers as licensed public school music teachers with certification in choral, general, and instrumental music (Pre-K–12).

## MAJORS

### MUSIC MAJORS

Music B.A. (p. 336)

Music Education (Pre-K- Grade 12) B.S.MS. (p. 383) - The Music Education major is administered by the College of Education and Social Services

## MINORS AND CERTIFICATES

### MUSIC MINORS AND UNDERGRADUATE CERTIFICATES

Community Music: Organ (p. 339) Undergraduate Certificate

Music (p. 340)

Music Technology and Business (p. 340)

Musical Theatre (p. 341)

### MUSIC B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

In the Bachelor of Arts program, music majors may choose from 5 concentrations:

Concentration in Music History and Literature (p. 337)

Concentration in Music Technology and Business (p. 337)

Concentration in Composition and Theory (p. 338)

Concentration in Music Performance (Classical) (p. 338)

Concentration in Jazz Studies (p. 339)

## MAJOR REQUIREMENTS

All students interested in majoring in music must pass a Level II Jury on an instrument or voice. With the exception of Music Technology and Business concentrators, the Level II Jury must be passed before declaring the major. Music Technology and Business concentrators must pass the Level II Jury prior to enrolling in their capstone Senior Project or Senior Internship in Music Technology or Music Business. All other music concentrators must also demonstrate an intermediate skill level on their principal instrument or voice by passing a Level



III Jury prior to graduation. In addition, Jazz Studies and Classical Music Performance concentrators, as well as students pursuing a B.S. in Music Education, must pass a Level IV Jury prior to their Senior Recital.

Music majors are allowed to count up to total 60 credits in program prefixes—MU, MUE, MUL—toward the 120 required for graduation.

**Concentration in Music History and Literature**

The Bachelor of Arts degree in Music, with a concentration in Music History and Literature, is designed for students who wish to pursue this area of music within a liberal arts context. Admission through Level II audition.

40 credits, including:

<b>MUSIC HISTORY AND LITERATURE</b>		
MU 2110	Hist Western Classical Music	3
3 additional courses/9 credits from the following:		9
MU numbered 2100 to 2199		
MU 3105	Topics In: Composer Seminar	
<b>SENIOR PROJECT</b>		
MU 4110	Senior Project: Music History	1
<b>MUSIC THEORY</b>		
MU 2310 & MU 2311	Harmony and Form I and Harmony and Form Lab I	4
MU 2313 & MU 2314	Harmony and Form II and Harmony and Form Lab II	4
MU 3310 & MU 3311	Chromatic Harmony, Large Forms and Chromatic Harmony Lab	4
MU 3313 & MU 3314	Post-19c Theory and Practice and Post-19c Theory Lab	4
<b>ELECTIVE</b>		
3 credits from the following:		3
MU numbered 1500 to 1799		
MU numbered 2319 to 2799		
MU numbered 3319 to 3799		
<b>PERFORMANCE</b>		
8 credits in private lessons and/or performing ensemble, in any combination. Choose from the following:		8
MUL 2500	Private Lessons: MU Majors	
MUL 4500	Adv Private Lessons: MU Majors	
MUE numbered 2100 to 3300		

Students must perform in two Student Performance Recitals before the Level III Jury.	
Students must pass a Level III Jury.	

**Concentration in Music Technology and Business**

The Bachelor of Arts degree in Music, with a concentration in Music Technology and Business, is designed for students who wish to pursue this area of music within a liberal arts context.

38 credits, including:

<b>MUSIC TECHNOLOGY AND BUSINESS</b>		
MU 1770	Intro to Music Technology	3
MU 2771	Studio Production I	2
MU 2772	Studio Production II	2
MU 3771	Studio Production III	2
MU 2782	Arts Management	3
MU 2785	Music Business and Copyright	3
Choose 1 of the following, though taking both is recommended:		3
MU 1775	Live Sound Reinforcement	
MU 2770	Creating Music for Video	
<b>SENIOR PROJECT</b>		
Choose 1 of the following:		1
MU 4770	Senior Project: MTB	
MU 4771	Internship: MTB	
<b>MUSIC HISTORY AND LITERATURE</b>		
2 courses/6 credits from the following:		6
MU numbered 1100 to 1199		
MU numbered 2100 to 2199		
MU 3105	Topics In: Composer Seminar	
<b>MUSIC THEORY</b>		
Choose 1 of the following pairs:		4
MU 2310 & MU 2311	Harmony and Form I and Harmony and Form Lab I	
MU 2320 & MU 2321	Jazz Harmony and Jazz Harmony Lab	
Choose one the following:		3
MU 1310	Music Theory Fundamentals	
MU 2313	Harmony and Form II	
MU 2327	Theory/Practice Jazz Improv I	
Students choosing MU 2313 are encouraged to take MU 2314: Harmony and Form Lab II as well.		

<b>PERFORMANCE</b>		
Choose 2 of the following:		2
MUL 1111	Beginning Group Lessons: Piano	
MUL 2111	Piano Proficiency I	
MUL 2112	Piano Proficiency II	
MUL 2121	Group Jazz Piano I	
MUL 2122	Group Jazz Piano II	
4 credits in private lessons, in any combination. Choose from the following:		4
MUL 1700	Basic Private Lessons: MTB	
MUL 2500	Private Lessons: MU Majors	
Additional group piano study, ensembles, and/or private lessons are recommended.		
Students must pass the Level II Jury prior to enrolling in their capstone Senior Project or Senior Internship in Music Technology or Music Business.		

**Concentration in Composition and Theory**

The Bachelor of Arts degree in Music, with a concentration in Composition and Theory, is designed for students who wish to pursue this area of music within a liberal arts context. Admission through Level II audition.

38 credits, including:

<b>MUSIC THEORY</b>		
MU 2310 & MU 2311	Harmony and Form I and Harmony and Form Lab I	4
MU 2313 & MU 2314	Harmony and Form II and Harmony and Form Lab II	4
MU 3310 & MU 3311	Chromatic Harmony, Large Forms and Chromatic Harmony Lab	4
MU 3313 & MU 3314	Post-19c Theory and Practice and Post-19c Theory Lab	4
<b>COMPOSITION AND MUSIC THEORY</b>		
3 courses/9 credits from the following:		9
MU 2319	Composition	
MU 2770	Creating Music for Video	
MU 3319	Advanced Composition	
MU 3320	Arranging for Jazz Orchestra	
MU 3325	Jazz Small Group Composition	
<b>SENIOR PROJECT</b>		
MU 4310	Senior Project: Comp/Theory	1

The Senior Project includes a formal Preview for faculty, to be presented during the semester in which they are registered for project credit.		
<b>MUSIC HISTORY AND LITERATURE</b>		
MU 2110	Hist Western Classical Music	3
1 additional course/3 credits in MU numbered 2100 to 2199		3
<b>PERFORMANCE</b>		
6 credits in private lessons, in any combination. Choose from the following:		6
MUL 2500	Private Lessons: MU Majors	
MUL 4500	Adv Private Lessons: MU Majors	
Students must perform in two Student Performance Recitals before the Level III Jury.		
Students must pass a Level III Jury.		

**Concentration in Music Performance (Classical)**

The Bachelor of Arts degree in Music, with a concentration in Performance, is designed for students who wish to pursue this area of music within a liberal arts context. Admission through Level II audition.

36 credits, including:

<b>PERFORMANCE</b>		
4 credits in ensembles, in any combination. Choose from the following:		4
MUE numbered 2100 to 3300		
6 credits in private lessons at the 2000-level:		6
MUL 2500	Private Lessons: MU Majors	
5 credits in private lessons at the 4000-level:		5
MUL 4500	Adv Private Lessons: MU Majors	
Students must perform in a minimum of two Student Performance Recitals before the Level III Jury and two Student Performance Recitals before the Level IV Jury.		
Students must pass a Level III Jury.		
Students must pass a Level IV Jury (the solo recital jury) prior to their Senior Recital.		
<b>SENIOR RECITAL</b>		
MUL 4550	Senior Recital	1
<b>MUSIC HISTORY AND LITERATURE</b>		
MU 2110	Hist Western Classical Music	3
1 additional course/3 credits in MU numbered 2100 to 2199		3
<b>MUSIC THEORY</b>		
MU 2310 & MU 2311	Harmony and Form I and Harmony and Form Lab I	4

MU 2313 & MU 2314	Harmony and Form II and Harmony and Form Lab II	4
MU 3310	Chromatic Harmony, Large Forms	3
MU 3313	Post-19c Theory and Practice	3

**Concentration in Jazz Studies**

The Bachelor of Arts degree in Music, with a concentration in Jazz Studies, is designed for students who wish to pursue this area of music within a liberal arts context. Admission through Level II audition.

36 credits, including:

<b>MUSIC THEORY</b>		
MU 2320 & MU 2321	Jazz Harmony and Jazz Harmony Lab	4
MU 2327	Theory/Practice Jazz Improv I	3
MU 3320	Arranging for Jazz Orchestra	3
MU 3327	Theory/Practice Jazz Improv II	3
<b>MUSIC HISTORY AND LITERATURE</b>		
MU 2120	Jazz History Styles & Analysis	3
Choose 1 of the following:		3
MU 1170	Intro World Music Cultures	
MU 1175	Music of Latin Am & Carib	
MU 2110	Hist Western Classical Music	
The following courses are recommended, but not required:		
MU 3105	Topics In: Composer Seminar	
MU 3325	Jazz Small Group Composition	
<b>PERFORMANCE</b>		
MUL 2121	Group Jazz Piano I	1
MUL 2122	Group Jazz Piano II	1
3 credits in performing ensemble, in any combination. Choose from the following:		3
MUE 2111	Small Ensembles (Jazz Guitar Ensemble, Latin Jazz Ensemble, Nonet, Jazz Combo)	
MUE 2125	Jazz Vocal Ensemble	
MUE 2500	University Jazz Ensemble	
MUE 3111	Advanced Small Ensembles (Post Bop Ensemble)	
11 credits in private lessons, in any combination. Choose from the following:		11
MUL 2500	Private Lessons: MU Majors	
MUL 4500	Adv Private Lessons: MU Majors	

Students must perform in a minimum of two Student Performance Recitals before the Level III Jury and two Student Performance Recitals before the Level IV Jury.		
Students must pass a Level III Jury.		
Students must pass a Level IV Jury (the solo recital jury) prior to their Senior Recital.		
<b>SENIOR RECITAL</b>		
MUL 4550	Senior Recital	1

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**COMMUNITY MUSIC: ORGAN UNDERGRADUATE CERTIFICATE REQUIREMENTS**

13 credits, including:

3-6 credits in Organ Playing from the following:		3-6
MUL 4500	Adv Private Lessons: MU Majors	
Up to 3 credits in Organ Playing from the following:		0-3
MUL 2500	Private Lessons: MU Majors	
MU 2782	Arts Management	3
MU 4991	Internship (with an appropriate placement and approved work plan)	1
3 credits from the following, in any combination:		3
MU 3560	Conducting I	
MU 2560	Vocal Techniques	
MUE 2125	Jazz Vocal Ensemble	
MUE 2300	University Concert Choir	
MUE 3300	Catamount Singers	

**PRE/CO-REQUISITES**

A Level II audition is required for MUL 2500, and a Level III audition is required for MUL 4500.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between an undergraduate certificate and a major or between an undergraduate certificate and a minor.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the

120 credits required for graduation. For a Bachelor of Science degree in the College of Arts and Sciences, the maximum is 50 credits.

## MUSIC MINOR REQUIREMENTS

18 credits in minor courses, including:

COURSE REQUIREMENTS		
MUSIC HISTORY AND LITERATURE. 2 courses/6 credits from the following:		6
MU numbered 1100 to 1199		
MU numbered 2100 to 2199		
MUSIC THEORY AND COMPOSITION. Choose 1 of the following:		3
MU 2310	Harmony and Form I	
MU 2320	Jazz Harmony	
The corresponding lab course is recommended (MU 2311: Harmony and Form Lab I or MU 2321: Jazz Harmony Lab).		
3 additional credits from the following:		3
MU 1310	Music Theory Fundamentals	
MU 1770	Intro to Music Technology	
MU 2770	Creating Music for Video	
MU numbered 2300 to 2399		
MU numbered 3300 to 3399		
PERFORMANCE. 6 credits in private lessons and/or performing ensemble, in any combination. Choose from the following:		6
MUL 2400	Private Lessons: MU Minors	
MUE numbered 2100 to 3300		
LEVEL REQUIREMENT		
At least 9 credits must be at the 2000-level or above.		

## RESTRICTIONS

Ineligible Major: Music

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## MUSIC TECHNOLOGY AND BUSINESS MINOR REQUIREMENTS

18 credits in minor courses, including:

COURSE REQUIREMENTS		
MU 1770	Intro to Music Technology	3
At least 1 of the following:		3-6
MU 2782	Arts Management	
MU 2785	Music Business and Copyright	
3-6 additional credits from the following:		3-6
MU 1775	Live Sound Reinforcement	
MU 2770	Creating Music for Video	
MU 2771	Studio Production I	
MU 2772	Studio Production II	
MU 3771	Studio Production III	
MU 4770	Senior Project: MTB	
MU 4771	Internship: MTB	
Music History and Literature. 1 course/3 credits from the following:		3
MU numbered 1100 to 1199		
MU numbered 2100 to 2199		
Music Theory and Composition. Choose 1 of the following:		3
MU 1310	Music Theory Fundamentals	
MU 2310	Harmony and Form I	
MU 2320	Jazz Harmony	
MU 2327	Theory/Practice Jazz Improv I	
Students who choose MU 2310 or MU 2320 are encouraged to take the corresponding lab course (MU 2311: Harmony and Form Lab I or MU 2321: Jazz Harmony Lab).		
LEVEL REQUIREMENT		
At least 9 credits must be at the 2000-level or above.		

## RESTRICTIONS

Ineligible Major: Music

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the

120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## MUSICAL THEATRE MINOR REQUIREMENTS

20 credits in minor courses, including:

FOUNDATIONAL COURSES		
THE 1100	Intro to Acting	3
DNCE 1400	Ballet: Foundations	2
With instructor permission, the following may be substituted:		
DNCE 2400	Ballet: Intermediate	
MU 1310	Music Theory Fundamentals	3
With instructor permission, one of the following may be substituted:		
MU 2310	Harmony and Form I	
MU 2320	Jazz Harmony	
ADDITIONAL COURSEWORK		
THE 2160	Performing Musical Theatre	3
DNCE 2450	Musical Theatre Dance	3
THE 1500	Dramatic Analysis	3
THE 2700	Theatre Production Practicum	1
2 credits in private lessons in Voice and/or performing ensemble, in any combination. Choose from the following:		2
MUE 2125	Jazz Vocal Ensemble	
MUE 2300	University Concert Choir	
MUL 2400	Private Lessons: MU Minors	

## RESTRICTIONS

Ineligible Majors: Music, Theatre

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## NEUROSCIENCE IN THE COLLEGE OF ARTS AND SCIENCES

<https://www.uvm.edu/cas/neuro>

Neuroscience is the study of the function of the nervous system and how it regulates behavior. Often described as one of the "last frontiers," neuroscience is an exciting and challenging interdisciplinary field in which scientists share an interest in studying the anatomy, physiology, and function of the nervous system. Psychological science and biology have been traditional disciplines that share this interest, but fields such as communication sciences, physics, computer science, and other diverse fields are also intensely interested in neuroscience. The interdisciplinary nature of neuroscience requires an understanding of a broad range of methods of inquiry, ranging from laboratory methods associated with basic "bench" sciences such as cell and molecular biology to clinical methods associated with the study of medical disorders or disease states.

## COLLEGE OF ARTS AND SCIENCES NEUROSCIENCE B.A. AND B.S.

The neuroscience program at UVM is a cooperative effort by faculty in the Departments of Biology, Psychological Sciences, Communication Sciences & Disorders, Neurological Sciences, and neuroscientists in other departments throughout UVM. The challenging curriculum of both majors is driven by the nature of the breadth of the field of neuroscience, the unique opportunities provided by course offerings and by faculty expertise. It features a strong life science foundation, research methods and experiences, and a strong core of neuroscience courses that span cellular and molecular to behavioral and cognitive content. These include many courses in at multiple levels of neuroscience that are unique to UVM and offered by multiple departments in three different colleges. The curriculum gives students the freedom to select advanced courses that will prepare them for a wide variety of post-graduation career options, including (but certainly not limited to) graduate study, medical school and other health-care career options, laboratory technician positions, science writing, and more. The Bachelor of Arts is designed for students who wish to double major or minor in programs outside neuroscience, and the Bachelor of Science is designed for students who want to go deeper into the field of neuroscience by diving into more upper-level electives.

## NEUROSCIENCE MINOR

The neuroscience minor was created for students who have a core interest in another major and are interested in neuroscience as either a supplement to their major or as simply a field of inquiry that they enjoy studying. The minor was designed to introduce students from multiple backgrounds to the interdisciplinary field of neuroscience.

## MAJORS

### NEUROSCIENCE MAJOR

Neuroscience B.A. (p. 342)

Neuroscience B.S. (p. 343)

**MINORS****NEUROSCIENCE MINOR**

Neuroscience (p. 344)

**GRADUATE**

Neuroscience M.S.

Neuroscience Ph.D.

See the online Graduate Catalogue for more information.

**NEUROSCIENCE B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

At least 30 credits in major courses, plus 19-28 credits in ancillary courses, including:

<b>FUNDAMENTAL COURSES. At least 22 credits.</b>		
PSYS 1400	Intro to Psychological Science	3
BIOLOGY. Choose 1 of the following options:		4-8
Option A (recommended):		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
CHEMISTRY.		8
CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	
ORGANIC CHEMISTRY. Choose 1 of the following:		4-8
Option A:		
CHEM 1580	Intro Organic Chemistry w/lab	
Option B:		
CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2	
CALCULUS. Choose 1 of the following:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	

<b>FOUNDATION COURSES. At least 15 credits.</b>		
Choose 1 of the following:		3-4
NSCI 2100	Exploring Neuroscience w/lab	
NSCI 2105	Exploring Neuroscience	
BCOR 2300	Genetics	3
EXPERIMENTAL DESIGN AND STATISTICS.		
Choose 1 of the following:		3-4
PSYS 2002	Psych Research Methods (recommended)	
PSYS 2000	Psych Research Methods w/lab	
Choose 1 of the following:		3-4
PSYS 2010	Statistics for Psych Sci	
STAT 1410	Basic Statistical Methods 1	
Choose 1 of the following:		3
PSYS 2100	Learning, Cognition & Behavior	
PSYS 2200	Biopsychology	
CSD 3810	Intro Cognitive Neuroscience	
<b>SENIOR CAPSTONE. 3 credits.</b>		
NSCI 4500	Diseases of the Nervous System	3
<b>ELECTIVES. At least 9 credits.</b>		
CATEGORY A: Behavioral/Cognitive. 1 additional course/3 credits from the following:		3-4
PSYS numbered 3100 to 3249		
CSD 2010, CSD 3480, CSD 3620		
CATEGORY B: Cellular/Molecular. 1 additional course/3-4 credits from the following:		3-4
PSYS numbered 3250 to 3299		
(BCOR 2500 or BCOR 2505), BIOL 3510, BIOL 3500, BIOL 3530, NSCI 3220, NSCI 3230, NSCI 3250, NSCI 3300, NSCI 3500, NSCI 3610, NSCI 3800, PHRM 3010, PHRM 3900		
1 additional course/3-4 credits from Category A or Category B		3-4
Additional courses, including graduate-level NSCI courses, may be accepted as electives with prior approval from the Neuroscience Directors. Graduate courses are often open to upper-level undergraduate students with instructor permission.		

**RESTRICTIONS**

Students completing the B.A. in Neuroscience may not also receive the B.S. in Biological Science, the B.S. in Neuroscience, the B.A. in Psychological Science, or the B.S. in Psychological Science.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## NEUROSCIENCE B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

At least 44 credits in major courses, plus 18-24 credits in ancillary courses, including:

<b>FUNDAMENTAL COURSES. At least 21 credits.</b>		
PSYS 1400	Intro to Psychological Science	3
BIOLOGY. Choose 1 of the following:		4-8
Option A (recommended):		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
CHEMISTRY.		8
CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	
CALCULUS I. Choose 1 of the following:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
CALCULUS II: Choose 1 of the following:		3-4
MATH 1224	Fundamentals of Calculus II	
MATH 1242	Transitional Calculus	
MATH 1248	Calculus II	
<b>FOUNDATION COURSES. At least 20 credits.</b>		
NSCI 2100	Exploring Neuroscience w/lab	4

BCOR 2300	Genetics	3
ORGANIC CHEMISTRY. Choose 1 of the following:		4-8
Option A:		
CHEM 1580	Intro Organic Chemistry w/lab	
Option B:		
CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2	
Choose 1 of the following:		3
PSYS 2100	Learning, Cognition & Behavior	
PSYS 2200	Biopsychology	
CSD 3810	Intro Cognitive Neuroscience	
EXPERIMENTAL DESIGN AND STATISTICS.		
Choose 1 of the following:		3-4
PSYS 2002	Psych Research Methods (recommended)	
PSYS 2000	Psych Research Methods w/lab	
Choose 1 of the following:		3-4
PSYS 2010	Statistics for Psych Sci	
STAT 1410	Basic Statistical Methods 1	
<b>SENIOR CAPSTONE. 3 credits.</b>		
NSCI 4500	Diseases of the Nervous System	3
<b>ELECTIVES. At least 18 credits.</b>		
CATEGORY A: Behavioral/Cognitive. 2 additional courses/6-8 credits from the following:		6-8
PSYS numbered 3100 to 3249		
CSD 2010, CSD 3480, CSD 3620		
CATEGORY B: Cellular/Molecular. 2 additional courses/6-8 credits from the following:		6-8
(BCOR 2500 or BCOR 2505), BIOL 3510, BIOL 3500, BIOL 3530, NSCI 3220, NSCI 3230, NSCI 3250, NSCI 3300, NSCI 3500, NSCI 3610, NSCI 3800, PHRM 3010, PHRM 3900		
PSYS numbered 3250 to 3299		
1 additional course/3-4 credits from Category A or Category B		3-4
3 additional credits from the following, in any combination:		3
the Category A list		
the Category B list		
Undergraduate Research: NSCI 2995 or NSCI 3995		
Honors: NSCI 4996		
Research credits in other related disciplines may be applied with the approval of the Neuroscience Director.		

Additional courses, including graduate-level NSCI courses, may be accepted as electives with prior approval from the Neuroscience Directors. Graduate courses are often open to upper-level undergraduate students with instructor permission.	
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## RESTRICTIONS

Students completing the B.S. in Neuroscience may not also receive the B.A. in Biology, the B.A. in Psychological Science, or the B.A. in Neuroscience.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Science degree, no more than 50 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## NEUROSCIENCE MINOR

### REQUIREMENTS

At least 18 credits in minor courses, plus 11-15 credits in prerequisite courses, including:

<b>FOUNDATION COURSES. At least 6 credits.</b>		
Choose 1 of the following:		3-4
NSCI 2100	Exploring Neuroscience w/lab	
NSCI 2105	Exploring Neuroscience	
Choose 1 of the following:		3-4
PSYS 2002	Psych Research Methods (recommended)	
PSYS 2000	Psych Research Methods w/lab	
<b>ELECTIVES. At least 12 credits.</b>		
CATEGORY A: Behavioral/Cognitive. 1 additional course/3 credits from the following:		3-4
PSYS 2100	Learning, Cognition & Behavior	
PSYS 2200	Biopsychology	
PSYS numbered 3100 to 3249		
CSD 2010, CSD 3480, CSD 3620, CSD 3810		
CATEGORY B: Cellular/Molecular. 1 additional course/3-4 credits from the following:		3-4
BCOR 2300, (BCOR 2500 or BCOR 2505), BIOL 3510, BIOL 3500, BIOL 3530, NSCI 3220, NSCI 3230, NSCI 3250, NSCI 3300, NSCI 3500, NSCI 3610, NSCI 3800, PHRM 3010, PHRM 3900		
PSYS numbered 3250 to 3299		
2 additional courses/6-8 credits from Category A or Category B		6-8

Additional courses, including graduate-level NSCI courses, may be accepted as electives with prior approval from the Neuroscience Directors. Graduate courses are often open to upper-level undergraduate students with instructor permission.	
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## RESTRICTIONS

Ineligible Majors: Neuroscience (B.A., B.S.)

## PRE/CO-REQUISITES

PSYS 1400	Intro to Psychological Science	3
Choose 1 of the following:		4
CHEM 1100	Outline: General Chem w/lab	
CHEM 1400	General Chemistry 1	
Choose 1 of the following:		4-8
Option A:		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
Option D:		
ANPS 1190 & ANPS 1200	Ugr Hum Anatomy & Physiology 1 and Ugr Hum Anatomy & Physiology 2	

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## DEPARTMENT OF PHILOSOPHY

<https://www.uvm.edu/cas/philosophy>

The Philosophy Department offers undergraduate instruction in all major areas of philosophy, including historical and contemporary approaches to the discipline. In addition to an understanding of substantive philosophical issues, a philosophy education provides a student with strong analytical skills, the ability to read complex material critically, and the ability to express oneself clearly, both orally and in writing.



Philosophy is a quest to understand the fundamental truths of life, such as the nature of right and wrong and the relationship between the mental and the physical. The University's Philosophy faculty consistently rates among the nation's top six in schools that do not offer graduate studies in the discipline, according to the Philosophical Gourmet Report, the preeminent ranking of philosophy programs in the English-speaking world.

The Department's strengths include faculty outstanding in their fields; small, discussion-based classes taught by these faculty members; close interactions between students and their professors; and a diverse range of courses and research opportunities. Faculty interests range from metaphysics, medical ethics, feminism, and philosophy of law to free will and determinism, Chinese philosophy, and metaethics. Philosophy majors develop skills applicable to professions such as law, medicine, public policy, teaching, business, journalism, politics, and many other fields.

## MAJORS

### PHILOSOPHY MAJOR

Philosophy B.A. (p. 345)

## MINORS

### PHILOSOPHY MINOR

Philosophy (p. 345)

## PHILOSOPHY B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

30 credits in major courses, including:

CORE COURSES		
PHIL 1400	Introduction to Logic	3
Whenever possible, PHIL 1400 should be taken in advance of higher-level coursework in Philosophy. PHIL 1400 is different from other Philosophy courses, however, and is not representative of coursework in the major.		
PHIL 2705	History of Ancient Philosophy	3
PHIL 2725	History of Modern Philosophy	3
ELECTIVES		
OPEN LEVEL. 2 additional courses/6 credits from the following:		6
PHIL numbered 1010 to 1990		
PHIL numbered 2200 to 2990		
PHIL numbered 3200 to 3990 or PHIL 4990		

CLAS 3550	Topics in Ancient Philosophy	
INTERMEDIATE LEVEL OR ABOVE. 3 additional credits from the following:		3
PHIL numbered 2200 to 2990		
PHIL numbered 3200 to 3990 or PHIL 4990		
CLAS 3550	Topics in Ancient Philosophy	
Independent Study: PHIL 2993, PHIL 3993		
Teaching Assistantship: PHIL 2994		
ADVANCED LEVEL. 3-4 additional courses/9-12 credits from the following:		9-12
PHIL numbered 3200 to 3990 or PHIL 4990		
Up to 3 additional credits from the following:		0-3
Independent Study: PHIL 3993		
Honors: PHIL 4996		

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## PHILOSOPHY MINOR

### REQUIREMENTS

18 credits in minor courses, including:

HISTORY OF PHILOSOPHY. Choose 1 of the following:		3
PHIL 2705	History of Ancient Philosophy	
PHIL 2725	History of Modern Philosophy	
OPEN LEVEL. 3 additional courses/9 credits from the following:		9
PHIL numbered 1010 to 1990		
PHIL numbered 2200 to 2990		
PHIL numbered 3200 to 3990 or PHIL 4990		
CLAS 3550	Topics in Ancient Philosophy	
INTERMEDIATE LEVEL OR ABOVE. 3 additional credits from the following:		3
PHIL numbered 2200 to 2990		
PHIL numbered 3200 to 3990 or PHIL 4990		
CLAS 3550	Topics in Ancient Philosophy	

Independent Study: PHIL 2993, PHIL 3993	
ADVANCED LEVEL. 3 additional credits from the following:	3
PHIL numbered 3200 to 3990 or PHIL 4990	
Independent Study: PHIL 2993, PHIL 3993	

## RESTRICTIONS

Ineligible Major: Philosophy

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## PHYSICS IN THE COLLEGE OF ARTS AND SCIENCES

<https://www.uvm.edu/cas/physics>

The Department of Physics resides in the College of Engineering and Mathematics Sciences (CEMS). The College of Arts and Sciences (CAS) offers a B.A. with a major in Physics. CEMS offers a B.S. with a major in Physics, as well as Astronomy and Physics minors.

An education in physics provides students with the foundation for a variety of careers. In addition to preparation for graduate study in physics and related fields, undergraduate study in physics is an excellent preparation for professional careers in engineering, management, teaching, law, and medicine.

The curriculum consists of core courses on the fundamentals of physics, such as mechanics, electromagnetism, and quantum theory. Students can then choose from an array of electives to explore subfields in physics, such as astrophysics, biological physics, condensed matter physics, general relativity, nanotechnology, quantum optics, and nuclear and particle physics.

Under the guidance of faculty members, many physics majors become active in research in their second or third year of study. For eligible students, this experience can lead to college honors with the completion of a senior thesis project.

## MAJORS

### PHYSICS MAJORS

Physics B.A. (p. 346)

Physics B.S. (p. 429) - This major is administered by the College of Engineering and Mathematical Sciences

## MINORS

### PHYSICS MINORS

These minors are administered by the College of Engineering and Mathematical Sciences.

Astronomy (p. 430)

Physics (p. 431)

## GRADUATE

Physics AMP

Physics M.S.

Physics Ph.D.

See the online Graduate Catalogue for more information.

## PHYSICS B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

30 credits in major courses, plus 3 credits in ancillary courses, including:

Choose 1 of the following options:		8
Option A:		
PHYS 1600 & PHYS 1650	Fundamentals of Physics I and Fundamentals of Physics II	
Option B:		
PHYS 1500 & PHYS 1550 & PHYS 1560	Physics for Engineers I and Physics for Engineers II and Physics Problem Solving II	
PHYS 2200	Classical Mechanics	3
PHYS 2500	Waves and Quanta	4
Choose 1 of the following:		3
PHYS 2100	Experimental Physics I	
PHYS 4100	Experimental Physics II	
Choose 1 of the following:		3
PHYS 3300	Electricity & Magnetism	
PHYS 3500	Quantum Mechanics I	
Intermediate Level or Above. 6-9 additional credits from the following:		6-9
PHYS 2000 to 2989, or 3000 to 3989, or 4000 to 4989		
ASTR 2000 to 2989, or ASTR 3000 to 3989, or ASTR 4000 to 4989		

Up to 3 additional credits from the following, in any combination:	0-3
Internship: PHYS 3991, ASTR 3991	
Independent Study: PHYS 2993, PHYS 3993, ASTR 2993, ASTR 3993	
Teaching Assistant: PHYS 3994, PHYS 4994, ASTR 3994, ASTR 4994	
Undergraduate Research: PHYS 2995, PHYS 3995, ASTR 2995, ASTR 3995	
Honors: PHYS 4996	
Advanced Mathematical Electives. 1 course/3 credits from the following:	3
MATH 2522	Applied Linear Algebra
MATH 2544	Linear Algebra
With the approval of the Physics Department, Special Topics courses (x990) in PHYS and ASTR may be counted toward the major.	
An additional laboratory science is strongly recommended.	

## RESTRICTIONS

Students completing the B.A. in Physics may not also receive the B.S. in Physics.

## PRE/CO-REQUISITES

Calculus through MATH 2248: Calculus III.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## PLANT BIOLOGY IN THE COLLEGE OF ARTS AND SCIENCES

<https://www.uvm.edu/cals/plantbiology>

### COLLEGE OF ARTS AND SCIENCES PLANT BIOLOGY MAJOR

The undergraduate Plant Biology program at the University of Vermont provides a broad introduction to the life sciences, from biochemistry and molecular biology to whole plant physiology and ecosystem ecology. Students receive individualized faculty attention via one-on-one advising to develop a personalized course of study. Popular study opportunities include a biennial trip to Costa Rica and an annual trip to the Galapagos. All students complete a senior capstone experience. Most students opt to conduct undergraduate research as part of a faculty-led research group, either in a plant

science laboratory or at the internationally acclaimed Proctor Maple Research Center or at the Pringle Herbarium, the third largest plant collection in New England.

## MAJORS

### PLANT BIOLOGY MAJOR

Plant Biology B.S. (p. 347)

## MINORS

### PLANT BIOLOGY MINOR

This minor is administered by the College of Agriculture and Life Sciences and is available to all UVM undergraduates.

Plant Biology (p. 264)

## GRADUATE

Field Naturalist M.S.

Plant Biology M.S. (not currently accepting students)

Plant Biology Ph.D.

See the online Graduate Catalogue for more information.

## PLANT BIOLOGY B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

Students who are pursuing the B.S. in Plant Biology in the College of Arts and Sciences are required to take at least 84 credits of coursework in the College of Arts and Sciences.

At least 44 credits in major courses, plus 29-31 credits in ancillary courses, including:

FOUNDATIONAL COURSES. At least 33 credits.		
Biology. Choose 1 of the following options:		4-8
Option A:		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 2580	Organic Chemistry 1	4
CHEM 2585	Organic Chemistry 2	4

Calculus I. Choose 1 of the following:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
Calculus II. Choose 1 of the following:		3-4
MATH 1224	Fundamentals of Calculus II	
MATH 1242	Transitional Calculus	
MATH 1248	Calculus II	
Statistics. Choose 1 of the following:		3
STAT 1410	Basic Statistical Methods 1	
NR 2400	Applied Environ Statistics	
Physics. Choose 1 of the following:		4
PHYS 1400	Elementary Physics I	
PHYS 1600	Fundamentals of Physics I	
<b>REQUIRED MAJOR COURSES. 16 credits.</b>		
BCOR 2300	Genetics	3
Choose 1 of the following:		4
BCOR 2100	Ecology and Evolution	
BCOR 2500	Molecular & Cell Biology w/lab	
PBIO 2040	Plant Physiology	4
PBIO 2090	Plant Systematics	4
PBIO 4899	Plant Biology Capstone	1
<b>PLANT BIOLOGY ELECTIVES. 12 credits.</b>		
Intermediate Level or Above. 6 additional credits from the following:		6
PBIO numbered 2000 to 2999		
PBIO numbered 3000 to 3999		
Advanced Level. 6 credits from the following:		6
PBIO numbered 3000 to 3999		
PBIO numbered 5000 to 5999 (graduate level requiring instructor permission)		
<b>ADDITIONAL ELECTIVES. 12 credits.</b>		
12 additional credits at the 2000-level or above in PBIO or other courses relevant to plant biology, selected in consultation with the advisor.		12

## RESTRICTIONS

Students completing the B.S. in Plant Biology in the College of Arts & Sciences may not also receive the B.S. in Plant Biology or the B.S. in Biological Sciences in the College of Agriculture & Life Sciences.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Science degree, no more than 50 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## DEPARTMENT OF POLITICAL SCIENCE

<https://www.uvm.edu/cas/polisci>

Harold Lasswell, one of the founders of political science as an academic discipline, defined the field as the study of "who gets what, when and how." As the role of the state has grown — in the economy, education, environment, health, culture, international interactions, and many other fields — understanding governance and the political process has become essential to explaining modern life.

The academic field of political science is divided into four subfields: American politics, political theory, international relations, and comparative politics (the study of the domestic politics of countries other than the United States). At the University of Vermont, students can take courses in all four subfields from experienced teachers who are also leading scholars in their areas of research. Whether students are interested in American politics, law, women's issues, environmental politics, media, political theory, international relations, or the politics of different world areas, they will find members of the department teaching courses and doing cutting-edge research in their fields of interest.

## MAJORS

### POLITICAL SCIENCE MAJOR

Political Science B.A. (p. 348)

## MINORS

### POLITICAL SCIENCE MINORS

International Politics (p. 349)

Political Science (p. 350)

Public Policy Analysis (p. 350)

## POLITICAL SCIENCE B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

30 credits in major courses, plus 3-6 credits in ancillary courses, including:

<b>CORE COURSES</b>		
POLS 1200	Intro to Political Theory	3
or POLS 1012	FYS Intro to Political Theory	
POLS 1300	US Political System	3
or POLS 1013	FYS US Political System	
POLS 1500	Intro International Relations	3
or POLS 1015	FYS Intro Int'l Relations	
POLS 1700	Comparative World Politics	3
or POLS 1017	FYS Comparative World Politics	
<b>UPPER-LEVEL COURSES</b>		
5 additional courses/15 credits subject to the following restrictions:		15
SUBFIELDS. Choose three of the following options:		
Political Theory. 1 course/3 credits in POLS numbered 2200 to 2299, or 3200 to 3299		
US Politics. 1 course/3 credits in POLS numbered 2300 to 2499, or 3300 to 3499, or POLS 4310		
International Relations. 1 course/3 credits in POLS numbered 2500 to 2699, or 3500 to 3699		
Comparative Politics. 1 course/3 credits in POLS numbered 2600 to 2799, or 3600 to 3799		
SEMINAR. Must be taken at UVM. 1 additional course/3 credits from the following:		
POLS numbered 3200 to 3799		
POLS 4310	VT Legislative Research Srvc	
POLS 4800	Senior Honors Seminar	
RESIDENCY. 4 courses/12 credits must be taken at UVM.		
<b>ELECTIVE</b>		
3 additional credits in POLS at any level		3
<b>SKILLS REQUIREMENT</b>		
Choose 1 of the following options:		3-6
STATISTICS AND METHODOLOGY. Choose 1 of the following options:		
Option A:		
POLS 2800/ SOC 2500	Social Research Methods	
and 1 course/3 credits in STAT		
Option B:		

2 courses/6 credits in STAT		
POLITICAL ECONOMY.		
ECON 1400 & ECON 1450	Principles of Macroeconomics and Principles of Microeconomics	
LANGUAGE. 1 additional course/at least 3 credits in language above the current College of Arts and Sciences language requirement. The course must be in the same language as that used to meet the CAS language requirement.		
PHILOSOPHY.		
PHIL 1400	Introduction to Logic	
and 1 additional course/3 credits in PHIL		
GEOGRAPHY. Choose 2 of the following:		
GEOG 1500	Geospatial Cncpt&Visualization	
GEOG 2510	Geog Info:Cncpts & Applic	
GEOG 2550	Qualitative Research Methods	
<b>RESTRICTIONS AND NOTES</b>		
POLS 2800/SOC 2500: Social Research Methods may be used within the major and for the Skills Requirement.		
Internship credit cannot be counted toward the major.		

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**INTERNATIONAL POLITICS MINOR REQUIREMENTS**

18 credits in minor courses, including:

POLS 1500	Intro International Relations	3
or POLS 1015	FYS Intro Int'l Relations	
POLS 1700	Comparative World Politics	3
or POLS 1017	FYS Comparative World Politics	
Electives that must be taken at UVM. 2 additional courses/6 credits in POLS numbered 2500 to 2799, or 3500 to 3799		6
Additional Electives. 2 additional courses/6 credits in POLS numbered 2500 to 2799, or 3500 to 3799		6
Additional POLS courses at the 2000-level or above with more than 50 percent international content may be counted toward the minor with the approval of the minor advisor.		

### RESTRICTIONS

Ineligible Major: Political Science

Ineligible Minor: Political Science

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

### POLITICAL SCIENCE MINOR

#### REQUIREMENTS

18 credits in minor courses, including:

<b>CORE COURSES. 6 credits.</b>		
Choose 2 of the following:		6
POLS 1200	Intro to Political Theory	
or POLS 1012 FYS Intro to Political Theory		
POLS 1300	US Political System	
or POLS 1013 FYS US Political System		
POLS 1500	Intro International Relations	
or POLS 1015 FYS Intro Int'l Relations		
POLS 1700	Comparative World Politics	
or POLS 1017 FYS Comparative World Politics		
<b>ELECTIVES. 12 credits.</b>		
UVM Electives. Must be taken at UVM. 2 courses/6 credits in POLS numbered 2200 to 2990, or 3200 to 3990, or 4200 to 4990		6
Intermediate Level or Above. 1-2 courses/3-6 credits in POLS numbered 2200 to 2990, or 3200 to 3990, or 4200 to 4990		3-6
Open Level. Up to 1 additional course/3 credits in POLS numbered 1010 to 1990, or 2200 to 2990, or 3200 to 3990, or 4200 to 4990		0-3
Up to 3 additional credits from the following:		0-3
Independent Study: POLS 2993, POLS 3993		
Teaching Assistantship: POLS 2994, POLS 3994		
Undergraduate Research: POLS 2995, POLS 3995		

### RESTRICTIONS

Ineligible Major: Political Science

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

### PUBLIC POLICY ANALYSIS MINOR

#### REQUIREMENTS

15 credits in minor courses, plus 6 credits in prerequisite courses, including:

ECON 1450	Principles of Microeconomics	3
ECON 2210	Public Policy	3
POLS 2301	Congress	3
1-2 additional courses/3-6 credits from the following:		3-6
POLS 2315	Law & Politics	
POLS 2320	Const Law: Government Powers	
POLS 2329	Const Law: Civil Liberties	
POLS 2370	Const Law: Civil Rights Amer	
POLS 2440	Politics and Media	
POLS 2530	International Pol Economy	
POLS 2560	Int'l Environmental Governance	
POLS 4310	VT Legislative Research Srvc	
Up to 1 additional course/3 credits from the following:		0-3
ECON 2110	Money and Banking	
ECON 2350	International Econ I: Trade	
ECON 2510	Using Data for Economic Policy	
ECON 2600	Labor Economics	
ECON 2750	Law and Economics	
ECON 2800	Econ of Environmental Policy	
Additional courses may be applied to the minor with the permission of the director.		

### RESTRICTIONS

ECON 1450: Principles of Microeconomics is the only course that can be counted toward both an Economics major and the Public Policy Analysis minor.

**PRE/CO-REQUISITES**

ECON 1400	Principles of Macroeconomics	3
POLS 1300	US Political System	3
or POLS 1013	FYS US Political System	

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**DEPARTMENT OF PSYCHOLOGICAL SCIENCE**

<https://www.uvm.edu/cas/psychology>

UVM's Department of Psychological Science offers high-quality teaching and training in clinical and experimental psychology, and places an emphasis on research. Programs are arranged in four closely integrated clusters:

- **Biobehavioral Psychology** - The study of the relationship between behavior and biological processes. Research interests include behavioral and neurobiological mechanisms of Pavlovian and instrumental conditioning, stress and anxiety, and sex differences in learning and emotion.
- **Social Psychology** - The study of how the situation (or context) shapes and determines human thought, feeling, and behavior. Research interests include relationships and what makes people feel more or less connected, the experiences of targets of stigma, how to improve intergroup relations, how to foster compassion and prosocial outcomes, and the social psychology of food.
- **Developmental Psychology** - The study of the development of emotions, thoughts, and behaviors, including the interplay between biological and environmental influences. Research interests include family relationships, parental socialization, children's peer relationships, gender development, adaptation to stress, and developmental psychopathology.
- **Clinical Psychology** - The study of psychological distress, its influences, and healthy adaptation. Research interests include adult anxiety and mood disorders and sexual dysfunctions; childhood ADHD, conduct disorder, and family preventions; resiliency in adolescents; and refugee mental health.

The faculty include widely published experts, several holding leadership positions within their professional associations.

**MAJORS****PSYCHOLOGICAL SCIENCE MAJORS**

Psychological Science B.A. (p. 351)

Psychological Science B.S. (p. 352)

**MINORS AND CERTIFICATES****PSYCHOLOGICAL SCIENCE MINORS AND CERTIFICATES**

Physical Activity Promotion in Children and Youth (p. 353) - Undergraduate Certificate

Psychological Science (p. 353)

**GRADUATE**

Psychology AMP

Psychology M.A.

Psychology Ph.D.

See the online Graduate Catalogue for more information.

**PSYCHOLOGICAL SCIENCE B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

At least 32 credits in major courses, including:

PSYS 1400	Intro to Psychological Science	3
PSYS 2000	Psych Research Methods w/lab	4
PSYS 2010	Statistics for Psych Sci	4
Choose 4 of the following:		12
PSYS 2100	Learning, Cognition & Behavior	
PSYS 2200	Biopsychology	
PSYS 2300	Social Psychology	
PSYS 2400	Developmental Psych: Childhood	
PSYS 2500	Psychopathology	
3 courses/9-12 credits in PSYS numbered 3100 to 3990 or PSYS 4990		9-12
Psychological Science majors must complete at least one course in natural science (N1/N2) from outside the Department of Psychological Science.		

## RESTRICTIONS

Students completing the B.A. in Psychological Science may not also receive the B.A. in Neuroscience, the B.S. in Neuroscience, or the B.S. in Psychological Science.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## PSYCHOLOGICAL SCIENCE B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

At least 43 credits in major courses, plus 14-19 credits in ancillary courses, including:

<b>ANCILLARY COURSES. At least 14 credits.</b>		
CALCULUS I. Choose 1 of the following:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
CALCULUS II. Choose 1 of the following:		3-4
MATH 1248	Calculus II	
MATH 1242	Transitional Calculus	
MATH 1224	Fundamentals of Calculus II	
BIOLOGY. Choose 1 of the following:		4-8
Option A (recommended):		
BCOR 1400 & BCOR 1450	Exploring Biology 1 and Exploring Biology 2	
Option B:		
BCOR 1425	Accelerated Biology	
Option C:		
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
ANCILLARY ELECTIVE. At least 1 additional course/3 credits in BCOR, BIOL, CHEM, GEOL, or NSCI. Teaching Assistantships (x994) cannot be counted toward this requirement.		3

<b>CORE COURSES. At least 25 credits.</b>		
PSYS 1400	Intro to Psychological Science	3
Choose 1 of the following:		3-4
PSYS 2000	Psych Research Methods w/lab	
PSYS 2002	Psych Research Methods	
PSYS 2010	Statistics for Psych Sci	4
PSYS 2100	Learning, Cognition & Behavior	3
PSYS 2200	Biopsychology	3
PSYS 2300	Social Psychology	3
PSYS 2400	Developmental Psych: Childhood	3
PSYS 2500	Psychopathology	3
<b>ELECTIVES. At least 18 credits.</b>		
Choose 3 additional courses/9-10 credits from at least 2 of the following categories:		9-10
Category A (Biobehavioral): PSYS numbered 3100 to 3299		
Category B (Social & Developmental): PSYS numbered 3300 to 3499		
Category C (Clinical): PSYS numbered 3500 to 3699		
Advanced Electives. 1-3 additional courses/3-9 credits from the following:		3-9
PSYS numbered 3100 to 3989		
LING numbered 2300 to 2399		
Special Topics: PSYS 2990, PSYS 3990, PSYS 4990		
Up to 6 additional credits from the following:		0-6
PSYS 2995	Undergraduate Research	
PSYS 3991	Mentored Clinical Internship	
PSYS 3993	Independent Study	
PSYS 3994	Teaching Assistantship	
PSYS 4996	Honors	

## RESTRICTIONS

Students completing the B.S. in Psychological Science may not also receive the B.S. in Neuroscience or the B.A. in Psychological Science.

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Science degree, no more than 50 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.



At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## PHYSICAL ACTIVITY PROMOTION IN CHILDREN AND YOUTH UNDERGRADUATE CERTIFICATE REQUIREMENTS

Choose 1 of the following tracks:

### Research Track

At least 15 credits, including:

Choose 2 of the following:		6
EXSC 2750	Applied Kinesiology	
EDEC 1010	Intr Early Care & Education	
EDSP 1050	Iss Aff Persons W/Disabil	
PSYS 2400	Developmental Psych: Childhood	
EDPE 2660	Kinesiology	
At least 6 credits from the following:		6
PSYS 2000	Psych Research Methods w/lab	
or PSYS 2002 Psych Research Methods		
EXSC 2200	EBP in Exercise Science	
PSYS 2995	Undergraduate Research	
EXSC 2993	Independent Study	
EXSC 3993	Independent Study	
Choose 1 of the following:		3
PSYS 3450	Fit Kids Applied Research	
PSYS 3455	Adv Fit Kids: Applied Research	
PSYS 3520	Fit Kids: Special Populations	
PSYS 3525	Adv Fit Kids: Spec Populations	
At least 3 credits must come from outside the student's major department.		

### Applied Track

At least 15 credits, including:

Choose 2 of the following:		6
EXSC 2750	Applied Kinesiology	
EDEC 1010	Intr Early Care & Education	
EDSP 1050	Iss Aff Persons W/Disabil	
PSYS 2400	Developmental Psych: Childhood	
EDPE 2660	Kinesiology	

At least 3 credits from the following:		3
PSYS 2000	Psych Research Methods w/lab	
or PSYS 2002 Psych Research Methods		
EXSC 2200	EBP in Exercise Science	
PSYS 2995	Undergraduate Research	
EXSC 2993	Independent Study	
EXSC 3993	Independent Study	
Choose 2 of the following:		6
PSYS 3450	Fit Kids Applied Research	
PSYS 3455	Adv Fit Kids: Applied Research	
PSYS 3520	Fit Kids: Special Populations	
PSYS 3525	Adv Fit Kids: Spec Populations	
At least 3 credits must come from outside the student's major department.		

### RESTRICTIONS

Up to 2 courses/6 credits may overlap between the PAPCY certificate and a major or a minor.

### OTHER INFORMATION

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree in the College of Arts and Sciences, the maximum is 50 credits.

## PSYCHOLOGICAL SCIENCE MINOR REQUIREMENTS

At least 18 credits in minor courses, including:

PSYS 1400	Intro to Psychological Science	3
PSYS 2002	Psych Research Methods	3
Choose 3 of the following:		9
PSYS 2100	Learning, Cognition & Behavior	
PSYS 2200	Biopsychology	
PSYS 2300	Social Psychology	
PSYS 2400	Developmental Psych: Childhood	
PSYS 2500	Psychopathology	
1 additional course/3-4 credits in PSYS numbered 3100 to 3990 or PSYS 4990		3-4
Psychological Science minors must complete at least one course in natural science (N1/N2) from outside the Department of Psychological Science.		

## RESTRICTIONS

Ineligible Majors: Psychological Science (B.A., B.S.)

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## DEPARTMENT OF RELIGION

<https://www.uvm.edu/cas/religion>

### RELIGION

The study of religion at UVM is a vital part of the wider study of human cultures, global affairs, and personal identities. The department's secular approach invites students to engage the study of religion free of ties to religious training or affiliation. Department faculty, trained in the humanities and social sciences, bring a uniquely transdisciplinary and integrative approach to their teaching. The department curriculum explores a wide array of specific historical traditions, including African and African diasporic religions, Buddhism, Hinduism, Christianity, Islam, Judaism, and religions in North America, as well as broader religious dynamics shaped by ritual, race, gender, aesthetics, media, politics, and popular culture. Through their study of religion, students come to understand the complexity of religious communities in specific times and places and to appreciate diversity within particular religious communities. Students also gain an enhanced understanding of cultural diversity through the study of a variety of worldviews and behaviors and explore international and historical perspectives that provide the necessary context for understanding their own culture.

<https://www.uvm.edu/cas/jewishstudies>

### JEWISH STUDIES

Jewish Studies examines Judaism not only as a religion but as a civilization with deep roots, as well as a culture encompassing a rich tradition in language, literature, philosophy and religion, customs and ritual, art, music and film. Jewish Studies is by its nature interdisciplinary and cross-cultural, so UVM offers courses from religion, history, classics, literature (English, French, German, and Italian), Hebrew, sociology, and theater.

## MAJORS

### RELIGION MAJOR

Religion B.A. (p. 354)

## MINORS AND CERTIFICATES

### RELIGION MINORS

Jewish Studies (p. 355)

Religion (p. 355)

Religious Literacy in Professions (p. 355) - Undergraduate Certificate

### RELIGION B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

### MAJOR REQUIREMENTS

30 credits in major courses, including:

Introductory Level. 1 course/3 credits in REL numbered 1000 to 1990		3
Theories of Religion. 1-2 courses/3-6 credits from the following:		3-6
REL 2050	Interpretation of Religion	
REL 2060	Religious Literacy	
Intermediate Level. 3-4 additional courses/9-12 credits in REL numbered 2000 to 2990		9-12
Advanced Level. 2 additional courses/6 credits in REL numbered 3000 to 3990 or REL 4990		6
Open Level. 3 additional credits from the following:		3
REL numbered 1000 to 3990		
CAS 1710	Drugs, Demons, & Dancing	
REL 4990	Special Topics	
REL 3991	Internship	
REL 3993	Independent Study	
REL 3994	Teaching Assistantship	
REL 3995	Undergraduate Research	
REL 4996	Honors	
3 additional credits from the Open Level list or, in consultation with the department chair, in related nondepartmental courses		3
REL 2065: Religious Literacy Practicum cannot be counted toward the major.		

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## JEWISH STUDIES MINOR REQUIREMENTS

18 credits in minor courses, including:

JS 1500	Jews and Judaisms	3
Course offerings for the Jewish Studies minor vary frequently. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed below are always eligible and should automatically be applied in degree audits.		
INTERMEDIATE LEVEL OR ABOVE. 6-9 additional credits at the 2000-level or above chosen from eligible courses, which regularly include:		6-9
JS numbered 2000 or above		
REL 2245	Topics in Jewish Traditions	
HST 2790	The Holocaust	
HST 2792	Jews in Modern Europe	
Up to 3 additional credits from the following:		0-3
HEBR numbered 2200 or above		
OPEN LEVEL. 2 additional courses/6 credits chosen from eligible courses, which regularly include:		6
JS numbered 1000 or above		
HEBR 2100	Intermediate Hebrew I	
REL 2245, HST 2790, HST 2792		
Internships, Independent Study, and/or Undergraduate Research on relevant topics taken outside the JS prefix may be counted toward the minor with the approval of the program director.		

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## RELIGION MINOR REQUIREMENTS

18 credits in minor courses, including:

Introductory Level. 1 course/3 credits in REL numbered 1000 to 1990		3
Theories of Religion. 1-2 courses/3-6 credits from:		3-6
REL 2050	Interpretation of Religion	
REL 2060	Religious Literacy	
Intermediate Level. Up to 3 additional credits in REL numbered 2000 to 2990		0-3
Advanced Level. 1 additional course/3 credits in REL numbered 3000 to 3990 or REL 4990		3
Open Level. 6 additional credits from the following:		6
REL numbered 1000 to 1990, or 2000 to 2990, or 3000 to 3990, or REL 4990		
CAS 1710	Drugs, Demons, & Dancing	
REL 3991	Internship	
REL 3993	Independent Study	
REL 3994	Teaching Assistantship	
REL 3995	Undergraduate Research	
REL 2065: Religious Literacy Practicum cannot be counted toward the minor.		

## RESTRICTIONS

Ineligible Major: Religion

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## RELIGIOUS LITERACY IN PROFESSIONS UNDERGRADUATE CERTIFICATE REQUIREMENTS

13 credits, including:

2 course/6 credits in REL numbered 1000 to 1990		6
REL 2060	Religious Literacy	3
REL 2065	Religious Literacy Practicum	1

1 additional course/ 3 credits in REL numbered 2000 to 2990, or 3000 to 3990	3
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**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between an undergraduate certificate and a major or between an undergraduate certificate and a minor.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree in the College of Arts and Sciences, the maximum is 50 credits.

**DEPARTMENT OF SOCIOLOGY**

<http://www.uvm.edu/cas/sociology>

Sociology is the systematic study of how groups of people relate to one another in contemporary society. For many sociologists, this means a focus on the social forces that create unequal outcomes on the basis of gender, race, and socioeconomic class. Social change, especially how it can contribute to a better distribution of opportunities, is also a major theme in sociological research. A degree in sociology will give students the methodological tools and theoretical perspectives that lay the groundwork for a solid data-based understanding of pressing contemporary issues. UVM sociology courses address some of the most critical themes of the day, including criminal justice, environmental issues, gender and sexuality, health care, disaster response, and immigration.

**MAJORS**

**SOCIOLOGY MAJOR**

Sociology B.A. (p. 356)

**MINORS**

**SOCIOLOGY MINORS**

Law and Society (p. 357)

Sociology (p. 357)

**SOCIOLOGY B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

Specific requirements for an optional concentration are included on this page:

Concentration in Crime and Criminal Justice (p. 356)

**MAJOR REQUIREMENTS**

31 credits in major courses, including:

SOC 1500	Introduction to Sociology	3
Statistics as a prerequisite for SOC 2500: 1 course/3 credits from the following:		3
STAT 1110	Elements of Statistics	
STAT 1410	Basic Statistical Methods 1	
STAT 1050	Stat & Social Justice	
SOC 2500	Social Research Methods	4
SOC 2550	Social Theory	3
Intermediate Level. 2-3 additional courses/6-9 credits from the following:		6-9
SOC numbered 2000 to 2990		
ANTH 2170	Culture, Health and Healing	
Up to 3 credits from the following, in any combination:		0-3
SOC 2994	Teaching Assistantship	
SOC 3993	Independent Study	
SOC 3995	Undergraduate Research	
Advanced Level. 2 courses/6 credits in from the following:		6
SOC numbered 3000 to 3990 or SOC 4990		
SOC 3991	Internship Seminar in SOC	
Open Level. 1 additional course/3 credits from the following:		3
SOC numbered 1000 to 1990		
SOC numbered 2000 to 2990		
SOC numbered 3000 to 3990 or SOC 4990		
ANTH 2170	Culture, Health and Healing	
SOC 3991	Internship Seminar in SOC	
SOC 3993	Independent Study	
SOC 3995	Undergraduate Research	
SOC 4996	Honors	
Double majors in Sociology and Psychological Science may substitute PSYS 2000/PSYS 2002 and PSYS 2010 for STAT and SOC 2500; an additional Sociology course must be taken to complete the Sociology major with 27 credits.		
Students planning postgraduate study in Sociology or research-related careers are encouraged to take an advanced theory or methods course from SOC numbered 3500 to 3599.		

**Concentration in Crime and Criminal Justice**

12 credits, including:

1 course/3 credits from the following:	3
SOC numbered 1200 to 1299	

SOC numbered 2200 to 2299	
SOC numbered 3200 to 3299	
2 additional courses/3 credits from the following:	6
SOC numbered 2200 to 2299	
SOC numbered 3200 to 3299	
1 additional course/3 credits from the following:	3
SOC numbered 3200 to 3299	

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**GERONTOLOGY MINOR**

This program is not currently accepting students.

**LAW AND SOCIETY MINOR**

**REQUIREMENTS**

18 credits in minor courses, including:

<b>COURSE REQUIREMENTS</b>		
At least 1 of the following:		3-6
POLS 1300	US Political System	
or POLS 1013 FYS US Political System		
SOC 1210	Deviance & Social Control	
Course offerings for the Law and Society minor vary frequently. Before registration each semester, a list of eligible courses is posted as a See Also list in the Schedule of Courses (Classic Version). Many of those courses will not show up immediately in students' degree audits. The courses listed below are always eligible and should automatically be applied in degree audits.		
4-5 courses/12-15 credits from the following:		12-15
POLS numbered 2315 to 2379		
SOC numbered 2230 to 2269		
SOC numbered 3230 to 3259		
BIOL 1200, BUS 2370, BUS 2370, CDAE 2570, CIS 1010, ECON 2750, HST 2685, PHIL 2560, POLS 3350, SOC 2210		
Up to 3 additional credits in an internship, independent study, undergraduate research, or honors thesis approved by a Law and Society advisor		0-3

<b>LEVEL REQUIREMENT</b>	
At least 9 credits must be at the 2000-level or above.	
<b>DISCIPLINARY REQUIREMENTS</b>	
A maximum of 9 credits from any one subject prefix may count toward the minor.	
A maximum of 6 credits from the student's major department(s) may count toward the minor.	

**RESTRICTIONS**

Ineligible Minor: Political Science

**PRE/CO-REQUISITES**

Introductory and intermediate courses for various subject areas may be necessary to reach some of the courses that can be applied to the minor.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**SOCIOLOGY MINOR**

**REQUIREMENTS**

At least 18 credits in minor courses, including:

SOC 1500	Introduction to Sociology	3
CHOOSE 1 OF THE FOLLOWING OPTIONS:		6-7
Option A:		
STAT 1110	Elements of Statistics	
or STAT 1410 Basic Statistical Methods 1		
or STAT 1050 Stat & Social Justice		
SOC 2500	Social Research Methods	
Option B:		
SOC 2550	Social Theory	
1 additional course/3 credits from the Open Level list		
OPEN LEVEL. 1 additional course/3 credits from the following:		3
SOC numbered 1000 to 1990		
SOC numbered 2000 to 2990		
SOC numbered 3000 to 3990 or SOC 4990		

ANTH 2170	Culture, Health and Healing	
SOC 3991	Internship Seminar in SOC	
INTERMEDIATE LEVEL. 1 additional course/3 credits from the following:		3
SOC numbered 2000 to 2990		
ANTH 2170	Culture, Health and Healing	
SOC 2994	Teaching Assistantship	
SOC 3993	Independent Study	
SOC 3995	Undergraduate Research	
ADVANCED LEVEL. 1 additional courses/3 credits from the following:		3
SOC numbered 3000 to 3990 or SOC 4990		
SOC 3991	Internship Seminar in SOC	
SOC 3993	Independent Study	
SOC 3995	Undergraduate Research	

**RESTRICTIONS**

Ineligible Major: Sociology

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

**SPANISH PROGRAM**

**OVERVIEW**

UVM’s Spanish Program gives its students the opportunity to expand their Spanish language skills while also deepening their knowledge of the world’s Spanish-speaking nations and communities. Professors combine excellence in teaching with professional achievement in research on the literatures and cultures of Latin America, Spain, and US Latino populations.

The program includes courses on a wide panorama of topics including, for instance, Modern Latin American cultures, Cuban cinema, Latin American Poetry in Resistance, The Language of Social Justice, and Decolonizing Environmentalism. Many students take advantage of the opportunity to study abroad and then return to the program to continue to develop their knowledge and skills. The program sponsors Spanish-language social activities such as the weekly tertulias for Spanish conversation, as well as the annual Hispanic Forum on current issues.

**MAJORS**

Spanish B.A. (p. 358)

**MINORS**

Spanish (p. 359)

**SPANISH B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

30 credits in major courses, including:

SPAN 3110	Topics in Composition & Convrns	3
SPAN 3610	Analyzing Hispanic Literatures	3
Choose 3 of the following:		9
SPAN 3615	Spain: Diversity & Expansion	
SPAN 3620	Spain: Monarchy to Democracy	
SPAN 3665	LatAm: Colonialism&Resistance	
SPAN 3670	LatAm: Revolutn&Globalizatn	
Culture. 1 course/3 credits from the following:		3
SPAN numbered 4400 to 4599		
Literature. 1 course/3 credits from the following:		3
SPAN numbered 4550 to 4699		
Electives. 6-9 additional credits from the following:		6-9
SPAN numbered 3100 to 3700, or SPAN 3990		
SPAN numbered 4100 to 4700, or SPAN 4990		
Up to 3 additional credits from the following:		0-3
Internship: SPAN 3991, SPAN 4991		
Teaching Assistantship: SPAN 3994, SPAN 4994		
Undergraduate Research: SPAN 3995, SPAN 4995		
Honors: SPAN 4996		

**PRE/CO-REQUISITES**

Spanish language through SPAN 2200: Intermediate II or the equivalent.

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## SPANISH MINOR REQUIREMENTS

Choose 1 of the following tracks:

### Track 1

Recommended for students who enter UVM having previously studied Spanish at an intermediate or advanced level.

18 credits in minor courses, including:

SPAN 3110	Topics in Composition & Convr	3
SPAN 3610	Analyzing Hispanic Literatures	3
Choose 2 of the following:		6
SPAN 3615	Spain: Diversity & Expansion	
SPAN 3620	Spain: Monarchy to Democracy	
SPAN 3665	LatAm: Colonialism&Resistance	
SPAN 3670	LatAm: Revolutn&Globalizatn	
6 additional credits from the following:		6
SPAN numbered 4100 to 4700, or SPAN 4990		
With the approval of a minor advisor, SPAN numbered 4993 to 4995 may be counted toward the minor.		

### Track 2

Recommended for beginners and students who enter UVM having previously studied Spanish at an introductory level.

18 credits in minor courses, including:

<b>LANGUAGE OPTIONS</b>		
Choose 1 of the following options:		6
Option A:		
SPAN 2100	Intermediate Spanish I	
and SPAN numbered 2200 to 2202		
Option B:		
SPAN numbered 2200 to 2202		
and 3 additional credits from the following:		
SPAN numbered 3100 to 3700, or SPAN 3990		
SPAN numbered 4100 to 4700, or SPAN 4990		
Teaching Assistantship: SPAN 3994, SPAN 4994		

<b>ADDITIONAL COURSES</b>		
SPAN 3110	Topics in Composition & Convr	3
SPAN 3610	Analyzing Hispanic Literatures	3
Choose 1 of the following:		3
SPAN 3615	Spain: Diversity & Expansion	
SPAN 3620	Spain: Monarchy to Democracy	
SPAN 3665	LatAm: Colonialism&Resistance	
SPAN 3670	LatAm: Revolutn&Globalizatn	
3 additional credits from the following:		3
SPAN numbered 4100 to 4700, or SPAN 4990		
With the approval of a minor advisor, SPAN 2108 may be substituted for SPAN 2100, and SPAN 2208 may be substituted for SPAN 2200. SPAN 2109 and SPAN 2209 cannot be counted toward the minor.		

## RESTRICTIONS

Ineligible Major: Spanish

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## THEATRE AND DANCE PROGRAM

### OVERVIEW

<https://www.uvm.edu/cas/theatreanddance>

### THEATRE

The Theatre Program provides a breadth and depth of experience so students gain skills to understand the various facets of theatre, while at the same time learning the vital and transferable attributes of critical analysis, problem solving, and belief in one’s own contributions, creativity, and ideas.

The Theatre Program provides students with a combination of theory and practice in understanding theatre as an art form that reflects the human condition. Students who major or minor in theatre are required to take core courses that provide an historical and critical foundation as well as fundamentals courses in areas of acting and design. A wide offering of additional courses are available that reflect theatre as social practice, personal expression, and creative collaboration.

Theatre faculty are working professionals as well as scholars who contribute to the field of theatre in the areas of acting, directing,

playwriting, theatre design, and criticism. Students who study theatre have access to faculty through small workshop classes, independent study projects, honors theses, coaching for performance assignments, and production work.

## DANCE

The Dance Program offers a major and a minor. Both are designed for students who wish to pursue dance studies within a liberal arts context and are open to both students coming to UVM with prior dance training and those who discover dance in college. Inclusivity is a top priority.

UVM Dance combines concentrated applied and experiential practice in composition and performance with the study of dance history, theory, and culture. With an emphasis on physical/creative action and engaged inquiry, it is the goal of the Dance Program to facilitate rich and meaningful interaction amongst faculty, guest, and student artists/scholars. The Dance Program also seeks strong alliances with other art forms and related disciplines on campus. A main emphasis of the program is on student creative work; students have many opportunities to create and present original work in on campus productions and at regional dance conferences.

Dance faculty at UVM are active artists and experienced educators who offer a wide range of courses in different technical, stylistic, somatic, and theoretical approaches to dance studies. Both the major and the minor are designed with flexibility for students to include broad exposure to dance studies; the major culminates with a clear and focused investigation of an advanced topic and/or project.

## MAJORS

### THEATRE AND DANCE MAJORS

Dance B.A. (p. 360)

Theatre B.A. (p. 361)

## MINORS

### THEATRE AND DANCE MINORS

Dance (p. 362)

Musical Theatre (p. 341)

Theatre (p. 362)

## DANCE B.A.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

## MAJOR REQUIREMENTS

33 credits in major courses, including:

Core Dance Courses. 12 credits.		12
DNCE 1200	Movement & Improvisation	
DNCE 1500	Dance History & Legends	
DNCE 2600	Dance Composition	
DNCE 3500	Theories of Performance	
Capstone Seminar. 3 credits.		3
DNCE 4500	Dance Senior Capstone	
Contemporary Dance. Choose 2 of the following:		6
DNCE 1100	Contemporary: Foundations	
DNCE 2100	Contemporary: Intermediate	
DNCE 3100	Contemporary: Advanced	
Studio Practice Electives. 3 credits from the following:		3
DNCE 2200	Contact Improvisation	
DNCE 2400	Ballet: Intermediate	
DNCE 2450	Musical Theatre Dance	
DNCE 3200	Advanced Improvisation	
DNCE 3600	Choreography Workshop	
DNCE 3710	Supplemental Studio Practice	
Production Electives. 3 credits from the following, in any combination:		3
DNCE 2700	Dance Production Practicum	
THE 1300	Fundamentals of Design	
THE 1310	Stagecraft: Lighting	
THE 1320	Stagecraft: Scenery	
THE 1330	Stagecraft: Costumes	
THE 2700	Theatre Production Practicum (with appropriate project)	
Performance/Pedagogy Electives. 3 credits from the following, in any combination:		3
DNCE 2710	Dance Performance Practicum	
DNCE 2720	Site Performance Practicum	
DNCE 2730	Dance Repertory	
DNCE 4994	Teaching Assistantship	
THE 1100	Intro to Acting	
THE 1150	Improvisation Workshop	
THE 2700	Theatre Production Practicum (with appropriate project)	
Performance & Culture Elective. 3 credits from the following:		3
CAS 1710	Drugs, Demons, & Dancing	



DNCE 1420	African Forms	
DNCE 1430	Brazilian Dance	
DNCE 1510	Global Perspectives in Dance	
DNCE 1520	Asian Performance Traditions	
DNCE 1550	Environment & Performance	
DNCE 2500	Jazz in American Dance	
DNCE 2510	Sex, Gender & Performance	
DNCE 2520	Activism & Performance	
THE 1510	Diversity in US Theatre	
THE 1530	Performance and Society	

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

**THEATRE B.A.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 267)

**MAJOR REQUIREMENTS**

33 credits in major courses, including:

CORE THEATRE COURSES		
THE 1100	Intro to Acting	3
THE 1300	Fundamentals of Design	3
THE 1310	Stagecraft: Lighting	1
THE 1320	Stagecraft: Scenery	1
THE 1330	Stagecraft: Costumes	1
THE 1500	Dramatic Analysis	3
THE 2500	Issues in Theatre History	3
3 credits in THE 2700: Theatre Production Practicum, usually taken as three 1-credit projects		3
THE 3500	Theories of Performance	3
CAPSTONE SEMINAR		

Choose 1 of the following:		3
THE 4500	Theatre Senior Capstone	
THE 4509	Seminar - Design	
ELECTIVES		
Performance/Creative Elective. Three credits from the following, in any combination:		3
THE 2110	Contemporary Scene Study	
THE 2120	Speech & Voice for Actors	
THE 2130	Movement for Actors	
THE 2140	Topics in Monologue Studies	
THE 2160	Performing Musical Theatre	
THE 2600	Playwriting and Dramatic Forms	
THE 3109	Mask: Transformational Acting	
THE 3400	Directing	
DNCE 2450	Musical Theatre Dance	
DNCE 2710	Dance Performance Practicum	
DNCE 2720	Site Performance Practicum	
DNCE 2730	Dance Repertory	
Design/Stage Management Elective. Three credits from the following:		3
THE 2300	Stage Management	
THE 2310	Lighting Design	
THE 2320	Scene Design	
THE 2330	Costume Design	
Performance & Culture Elective. Three credits from the following:		3
THE 1510	Diversity in US Theatre	
THE 1520	Asian Performance Traditions	
THE 1530	Performance and Society	
DNCE 1420	African Forms	
DNCE 1430	Brazilian Dance	
DNCE 1510	Global Perspectives in Dance	
DNCE 1550	Environment & Performance	
DNCE 2500	Jazz in American Dance	
DNCE 2510	Sex, Gender & Performance	
DNCE 2520	Activism & Performance	

**OTHER INFORMATION**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.

## DANCE MINOR REQUIREMENTS

18 credits in minor courses, including:

DNCE 1500	Dance History & Legends	3
DNCE 1200	Movement & Improvisation	3
DNCE 2100	Contemporary: Intermediate	3
6 additional credits in DNCE numbered 2000 or above		6
3 additional credits in DNCE at any level		3

### RESTRICTIONS

Ineligible Major: Dance

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## MUSICAL THEATRE MINOR REQUIREMENTS

20 credits in minor courses, including:

FOUNDATIONAL COURSES		
THE 1100	Intro to Acting	3
DNCE 1400	Ballet: Foundations	2
With instructor permission, the following may be substituted:		
DNCE 2400	Ballet: Intermediate	
MU 1310	Music Theory Fundamentals	3
With instructor permission, one of the following may be substituted:		
MU 2310	Harmony and Form I	
MU 2320	Jazz Harmony	
ADDITIONAL COURSEWORK		

THE 2160	Performing Musical Theatre	3
DNCE 2450	Musical Theatre Dance	3
THE 1500	Dramatic Analysis	3
THE 2700	Theatre Production Practicum	1
2 credits in private lessons in Voice and/or performing ensemble, in any combination. Choose from the following:		2
MUE 2125	Jazz Vocal Ensemble	
MUE 2300	University Concert Choir	
MUL 2400	Private Lessons: MU Minors	

### RESTRICTIONS

Ineligible Majors: Music, Theatre

### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## THEATRE MINOR REQUIREMENTS

18 credits in minor courses, including:

THE 1500	Dramatic Analysis	3
THE 2500	Issues in Theatre History	3
3 credits in THE 2700: Theatre Production Practicum, usually taken as three 1-credit projects		3
6 credits from the following:		6
THE 1100	Intro to Acting	
THE 1300	Fundamentals of Design	
THE 1310	Stagecraft: Lighting	
THE 1320	Stagecraft: Scenery	
THE 1330	Stagecraft: Costumes	
1 additional course/3 credits in THE numbered 2000 or above		3

### RESTRICTIONS

Ineligible Major: Theatre

## OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation. For a Bachelor of Science degree, the maximum is 50 credits.

At least half of the credits used to complete minor requirements must be taken at the University of Vermont.

## SCHOOL OF WORLD LANGUAGES AND CULTURES

### OVERVIEW

The School of World Languages and Cultures prepares students to engage with a diverse, globalizing, and ever-changing world. Students learn to speak and understand foreign languages, study how languages are learned, and have the opportunity to explore how to teach language to non-native speakers. They will also become knowledgeable about and sensitive to cultural differences through exposure to the perspectives of people who speak other languages, and they will be able to critically reflect on their own cultural practices. Research by faculty in the school focuses on language, literature, culture, and linguistics to show how language is intertwined with all facets of life.

In the School of World Languages and Cultures students will learn to:

- Engage with cultural products, practices, and perspectives of other places, exploring topics such as literature, film, dialects, traditions, and social behaviors
- Acquire language skills and cultural knowledge to function in diverse environments
- Communicate and negotiate meaning across language and culture to explore problems and issues from different perspectives
- Analyze a diverse range of linguistic phenomena through scientific, investigative means
- Investigate how cultures and cultural processes are shaped, negotiated, and distributed in diverse ways
- Examine the use of language in context, including its relationship to systems of power
- Explore the mechanisms by which language learning and acquisition take place
- Forge meaningful, interdisciplinary connections with other fields of inquiry across the university

## SCHOOL OF WORLD LANGUAGES AND CULTURES PROGRAMS

Asian Languages and Literatures (p. 277)

Classics (p. 297)

French and Italian (p. 309)

German, Russian, and Hebrew (p. 316)

Linguistics (p. 333)

Spanish (p. 358)

### MAJORS

Chinese B.A. (p. 278)

Classics B.A. (p. 298)

French B.A. (p. 309)

German B.A. (p. 316)

Japanese B.A. (p. 279)

Linguistics B.A. (p. 334)

Russian B.A. (p. 316)

Spanish B.A. (p. 358)

### MINORS AND CERTIFICATES

Chinese (p. 280)

Classics (p. 298)

French (p. 310)

German (p. 317)

Italian Studies (p. 311)

Japanese (p. 281)

Linguistics (p. 334)

Russian (p. 317)

Spanish (p. 359)

Teaching English to Speakers of Other Languages (p. 334) - Undergraduate Certificate

## THE GROSSMAN SCHOOL OF BUSINESS

<http://www.uvm.edu/business/>

The Grossman School of Business (GSB) cultivates the ability to create and manage sustainable businesses that address ethical, social, and environmental challenges and opportunities in the complex and dynamic global environment. We develop graduates who are professional, technically competent, and entrepreneurial. The School's faculty create impact through teaching, research, and scholarship.

The School contributes to the mission of the University through its Strategic Plan and Learning Outcomes.

### LEARNING GOALS AND OBJECTIVES

The faculty, staff, and alumni are committed to developing leaders prepared for a dynamic, global workplace. The GSB curriculum is

designed to support the following learning goals, objectives, and outcomes.

1. Learning Goal: Awareness of Sustainable Business Practices
  - a. Understanding of how businesses maximize shareholder value over the long run with leaders who are innovative, and who manage interactions across the economic, social, environmental and political spheres.
  - b. Understanding of the role of innovation in creating better products, services, or processes.
2. Learning Goal: Global and Civic Awareness
  - a. Understanding of global issues in a business context.
  - b. Understanding of the non-market environment of business.
3. Learning Goal: Critical Thinking and Problem Solving
  - a. Ability to solve business problems by acquiring, interpreting, and synthesizing data.
4. Learning Goal: Business Communication Skills
  - a. Ability to demonstrate effective written communication skills.
  - b. Ability to demonstrate effective oral communication skills.
5. Learning Goal: Business Fundamentals
  - a. Demonstrate command of business fundamentals.

During the first two years, students build the conceptual and analytical base for studying the art and science of management. Students complete Catamount Core Curriculum requirements and learn required skills for upper-level business courses by the end of their second year. At the end of the second year, students will declare their interdisciplinary theme and concentration. In addition, students may add a minor or certificate outside of business, though this is optional. These choices determine their remaining curriculum sequence. Students will complete a culminating theme capstone in their senior year.

The Grossman School of Business collaborates with the College of Engineering and Mathematical Sciences to offer a B.S. in Engineering Management. The School offers two minors for students pursuing a major outside of the Grossman School of Business: a minor in Accounting, and a minor in Business Administration. In addition, a minor in Sports Management is offered as a cross-college minor and is open to all majors.

The undergraduate and graduate programs offered by the School are accredited by AACSB International: the International Association to Advance Collegiate Schools of Business.

The Dean's, Faculty, and Advising offices of the Grossman School of Business are located in Kalkin Hall and Ifshin Hall.

## STUDY ABROAD

Students in the Grossman School of Business are strongly encouraged to participate in a study abroad experience. UVM partners with a number of exchange and external programs around the world to provide a rigorous academic experience while also exploring new cultures, cuisine and geographic locations. Students interested in the study abroad experience begin the process early in their career. It is

advantageous to meet with the GSB study abroad academic advisor to discuss curriculum sequence and program options.

## MAJORS

Business Administration B.S.BA. (p. 366)

## MINORS

Accounting (p. 370)

Business Administration (p. 371)

Sports Management (p. 372)

## GRADUATE

Master of Accountancy (M.Acc.)

Sustainable Innovation MBA (SI-MBA)

Sustainable Enterprise CGS

Sustainable Family Enterprise mCGS

See the online Graduate Catalogue for more information.

## REQUIREMENTS

### THE GROSSMAN SCHOOL OF BUSINESS ACADEMIC REQUIREMENTS

Students must comply with the degree requirements as stated in a single catalogue edition in place during the time they are enrolled. The catalogue edition to be followed is the one in effect at the time the student matriculates at UVM, unless the student requests in writing to follow an edition that is published subsequently during his/her enrollment at UVM. Students may not mix requirements from different catalogues.

Students who have a separation from the University of three years or more must meet the requirements of the current catalogue at the date of re-entry.

A minimum of 120 approved credits is required for the degree of Bachelor of Science in Business Administration. A cumulative grade-point average of 2.00 is required. At least 40 credits of course work must be taken in subjects other than business. Students must complete 30 of the last 45 credits in residence at UVM as a matriculated student.

Students must complete the Basic Business Core course requirements with a grade-point average of 2.25 or higher and no single course grade lower than a C-.

Students must complete the Business Field course requirements with a grade-point average of 2.00 or higher. At least two of the four Business Field courses must be completed at UVM. Courses completed outside of UVM do not factor into the GPA calculation.

Students must complete one Interdisciplinary Theme with a grade-point average of 2.00 or higher. At least two of the four Interdisciplinary Theme courses must be completed at UVM (exceptions apply for students who select the Global Business

Theme and participate in an approved study abroad program). An applicable interdisciplinary "capstone" course, BUS 4910, BUS 4920, or BUS 4930, must be completed at UVM and will not be considered as degree applicable through transfer or study abroad credit. Courses completed outside of UVM do not factor into the GPA calculation.

Students must complete one Business Concentration with a grade-point average of 2.00 or higher. At least three of the five (3-credit) Business Concentration courses must be completed at UVM. Courses completed outside of UVM do not factor into the GPA calculation.

## TRANSFER CREDIT - POLICIES & PROCEDURES

The Grossman School of Business (GSB) does not accept transfer credits for business courses from any institution outside of the United States, unless the student is completing these courses through a University of Vermont approved Study Abroad program.

This policy states that no business course(s) from any institution outside of the United States can be applied to a current Business student's Basic Business Core, Business Field, Business Concentration or Interdisciplinary Theme section of the Business degree.

If students choose to take non-business courses at an international institution outside of the United States with the intention to transfer courses to UVM to fulfill their minor, Catamount Core Curriculum, and/or elective requirements, students need to follow the University of Vermont's guidelines for transferring courses.

### Steps for Transferring Credits to UVM from Institutions located in the United States

#### Basic Business Core Courses:

- Transfer credits will be reviewed upon completion of the course(s). A course must transfer back with at least 2.5 credits to be considered equivalent for degree requirements.
- All course materials, including, but not limited to syllabi, notes, books, projects, and assessments, should be retained for evaluation by the GSB faculty if requested.
- Students may transfer multiple courses to the Basic Business Core area of the degree.
- Courses that are considered Basic Business Core requirements do not have to be taken at an Association to Advance Collegiate Schools of Business (AACSB) institution.

#### Business Field, Business Concentration, Interdisciplinary Theme Courses:

- Transfer credit will be reviewed upon completion of the course(s). A course must transfer back with at least 2.5 credits to be considered equivalent for degree requirements.
- All course materials, including, but not limited to syllabi, notes, books, projects, and assessments, should be retained for evaluation by the GSB faculty if requested.

- Students may transfer up to two non-UVM courses into each of the following areas of the business degree: Business Field, Business Concentration, and Interdisciplinary Theme.
- The applicable interdisciplinary "capstone" course, BUS 4910, BUS 4920, or BUS 4930, must be completed at UVM and will not be considered as degree applicable through transfer or study abroad credit.
- GSB will only accept transfer credits for Business Field, Business Concentration, and Interdisciplinary Theme courses from domestic institutions accredited by AACSB.
- The responsibility is on the student to verify the institution is currently AACSB Accredited and to work with an advisor to understand the academic implications if the credits are not accepted by UVM as transferrable.
- A list of AACSB schools can be found at [go.uvm.edu/aacsb](http://go.uvm.edu/aacsb).

## MOBILE COMPUTING REQUIREMENT

Students are asked to have a portable computer and the software suite that meets the requirements of the Grossman School of Business. Please consult with a member of the University's IT staff for specific information.

## GSB COMPREHENSIVE TECHNOLOGY FEE

The Grossman School of Business charges an \$75 Technology Fee per semester to all business majors, minors, and graduate students (Sustainable Innovation MBA and Master of Accountancy programs).

The GSB Technology Fee covers terminals, monitors, servers and computer lab systems (Ex: A/V hardware and hookups), and software related to instruction (Bloomberg terminals, research databases for instructional purposes, online poll service for classroom response system, and other). The fee also covers associated digital displays within the GSB Study Rooms. Students who pay the fee get printing access for a limited amount of copies (180 per month). The fee also covers maintenance for printers, paper and print management system.

## COMPUTER COMPETENCY

Students are presumed to have basic microcomputer literacy, including working knowledge of word processing and spreadsheet software. Students lacking this basic knowledge are responsible for attaining it through course work, self-study, tutorials or workshops.

## INTERNAL TRANSFER/DOUBLE DEGREE CANDIDATES

Students planning to transfer or apply to double degree from another college or school on campus must meet the prerequisite requirements. Internal transfer and double degree candidates into the Grossman School of Business must complete one semester of Calculus, MATH 1212 or MATH 1234, and one semester of Economics, ECON 1400 or ECON 1450, each with a grade of C-

or higher and an overall Basic Business Core GPA of 2.25 or higher. All completed Basic Business Core classes will be assessed during the application review process. All Basic Business Core classes must meet the C- or higher grade requirement and overall 2.25 GPA or higher. In addition, a cumulative GPA of 2.75 or higher is required for transfer admission and students must be in good academic standing (not on trial/academic probation). Students may apply through the on-line request to transfer through their myUVM portal. Applications are generally evaluated twice per year, in January and June. Questions regarding the internal transfer or double degree process should be directed to an advisor in the Grossman School of Business.

## REGULATIONS ACADEMIC STANDARDS

Other than in the event of dismissal, a student will be placed on trial if the student's semester or cumulative grade-point average is less than 2.00. A student will remain on trial until (a) the student has earned both semester and cumulative grade-point averages of at least 2.00, as determined below, (b) the student is dismissed, or (c) the student transfers to a new major. In addition to other potential conditions, a student on trial will be assigned a target grade-point average to earn by the end of the next semester.

In determining whether a student must remain on trial, the computation of a student's semester grade-point average must reflect the completion of at least 12 credit hours in courses for which the student receives quality point equivalents ("graded-course credits"). A student on trial may complete fewer than 12 graded-course credits during any semester; however, those credits will only be used to compute the grade-point average for the next semester in which the student has accumulated at least 12 total graded-course credits to use in the computation.

A student shall be dismissed from the Grossman School of Business and the University of Vermont in the following situations:

1. The student does not satisfy a condition of trial, including a failure to earn the target grade-point average in any number of graded-course credits while on trial;
2. The student is a first-time, first-year student who failed, during the first semester, at least half of the student's graded-course credits and who has earned, by the end of the first semester, a cumulative grade-point average of 1.00 or less; or
3. The student failed, during any semester, at least half of the student's graded-course credits and has earned a cumulative grade-point average of less than 2.00.

A student may appeal a dismissal in writing to the Undergraduate Studies Committee (UGSC), within the time frame stipulated in the dismissal letter, if there are circumstances that support allowing the student to resume studies while placing the student on trial. Detailed information on the process for an appeal may be obtained from the Grossman Center for Student Success (100 Kalkin Hall, GSBCSS@uvm.edu).

## Regulations Governing Academic Standards

The following additional regulations apply to academic trials, dismissals, and re-entries.

### TRIAL

A student who is on trial may not enroll in a university-sanctioned study abroad program. A student who is on trial may not complete a course on a passed/not passed grading mode option. Students who are placed on trial may be required to participate in and satisfactorily complete a study seminar or equivalent program designated by the UGSC.

### DISMISSAL

A student described in any of the three numbered paragraphs above will be dismissed for low scholarship. For a student's first dismissal, the period of dismissal is one year. For the student's second dismissal, the period of dismissal is two years. For the student's third or subsequent dismissal, the period of dismissal is three years. A dismissed student must receive approval from the Grossman Center for Student Success (100 Kalkin Hall, GSBCSS@uvm.edu) before enrolling in any University of Vermont course.

### RE-ENTRY FOLLOWING DISMISSAL

After an applicable period of dismissal has elapsed, a dismissed student may re-enter the Grossman School of Business and the University of Vermont on trial. Alternatively, a dismissed student who presents evidence of the student's ability to perform satisfactorily may be considered for an earlier re-entry on trial. A student who has been dismissed two or more times will not be considered for re-entry on trial until at least two years of an applicable period of dismissal have elapsed. A dismissed student may obtain further information regarding re-entry from the Grossman Center for Student Success (100 Kalkin Hall, GSBCSS@uvm.edu).

## BUSINESS ADMINISTRATION B.S.BA.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 364)

## MAJOR REQUIREMENTS

Bachelor of Science in Business Administration with Interdisciplinary Themes of:

- Entrepreneurship
- Global Business
- Sustainable Business

And, Business Concentrations of:

- Accounting
- Business Analytics
- Finance
- Marketing

## BASIC BUSINESS CORE REQUIREMENTS

Thirty-six to thirty-seven credits (twelve courses). The Basic Business Core courses should be completed by the end of the sophomore year as they serve as the prerequisite requirements for upper-level Business Field, Interdisciplinary Theme, and Business Concentration requirements. All Basic Business Core courses must be completed with a grade-point average of at least 2.25 and no single course grade lower than C-.

BUS 1110	The Business Enterprise I	3
BUS 1120	The Business Enterprise II	3
BUS 1130	Business Communications	3
BUS 1140	Information Technology	3
BUS 1610	Financial Accounting	3
BUS 2130	Decision Analysis	3
BUS 2150	Sustainable Bus Strategies	3
BUS 2620	Managerial Accounting	3
ECON 1400	Principles of Macroeconomics	3
ECON 1450	Principles of Microeconomics	3
MATH 1212	Fundamentals of Calculus I	3-4
or MATH 1234	Calculus I	
STAT 1410	Basic Statistical Methods 1	3

## BUSINESS FIELD REQUIREMENTS

Twelve credits (four courses). In general, students must successfully complete the Basic Business Core before enrolling in Business Field courses. The Business Field courses must be completed with an overall grade-point average of at least a 2.00. At least two of the four Business Field courses must be completed at UVM.

BUS 2300	Leadership & Org Behavior	3
BUS 2500	Marketing Management	3
BUS 2700	Operations Management	3
BUS 2800	Managerial Finance	3

## INTERDISCIPLINARY THEME REQUIREMENTS

All students must complete twelve credits (four courses) within their chosen theme, including one interdisciplinary “capstone” course, BUS 4910, BUS 4920, or BUS 4930, in their Senior year (students with a declared Sustainable Business theme who are graduating at the end of the summer or the Fall semester should

plan to complete the capstone course in the preceding spring semester due to the course generally only being offered in the Spring semester; for students with a declared Entrepreneurship or Global Business theme, the capstone course is generally offered both Fall and Spring semesters). Students are required to earn an overall grade-point average of at least 2.00 in these four courses. One course can double-dip between the Interdisciplinary Theme and the Business Concentration. Students who select a second Interdisciplinary Theme can double-dip one applicable course between the two themes. Students enrolled in BUS 4996 Business Admin Honors Thesis can petition the Undergraduate Studies Committee to apply three thesis credits to their Interdisciplinary Themes. At least two of the four Interdisciplinary Theme courses must be completed at UVM (some exceptions may apply to the Global Business Theme with respect to the applicability of study abroad credits). The interdisciplinary “capstone” course, BUS 4910, BUS 4920, or BUS 4930, must be completed at UVM and will not be considered as degree applicable through transfer or study abroad credit. Students must select one of the following Interdisciplinary Themes by the end of their Sophomore year:

### Entrepreneurship Interdisciplinary Theme

Required Senior Capstone:		
BUS 4910	Entrepreneurship Capstone	3
Select three courses from the following list (5000-level courses require Dean's Office or faculty approval):		9
BUS 2370	Business Law I	
BUS 2380	Business Law II	
BUS 2385	Real Estate Law	
BUS 2744	Database Management	
BUS 2748	Bus. Driven Decision Making	
BUS 2792	Business Process Improvement	
BUS 2810	Intermediate Financial Mgmt	
BUS 2990	Special Topics (As Approved)	
BUS 3310	Human Resource Management	
BUS 3330	Tech, Entr & Commercialization	
BUS 3350	Entrepreneurial Family Firms	
BUS 3360	Integrated Product Dev	
BUS 3510	Marketing Research	
BUS 3550	Digital Marketing	
BUS 3556	Product Management	
BUS 3560	Retail Management	
BUS 3615	Financial Statement Analysis	
BUS 3620	Adv Topics in Management Acctg	
BUS 3643	Taxation of Social Enterprises	

BUS 3660	Accounting Information Systems	
BUS 3700	Quant Anyl for Managerial Dec	
BUS 3871	Current Topics Fin Reporting	
BUS 3990	Special Topics (As Approved)	

**Global Business Interdisciplinary Theme**

Required Senior Capstone:		
BUS 4920	Global Business Strategic Cap	3
Select three courses from the following list (5000-level courses require Dean's Office or faculty approval):		9
BUS 2432	Political Envir of Business	
BUS 2990	Special Topics (As Approved)	
BUS 3442	International Management	
BUS 3530	Consumer Behavior	
BUS 3554	Services Marketing	
BUS 3555	Marketing Communications	
BUS 3580	Intrnl Market Analysis	
BUS 3610	Corporate Financial Reporting1	
BUS 3611	Corporate Financial Reporting2	
BUS 3730	Supply Chain Management	
BUS 3810	Fixed Income Security Analysis	
BUS 3820	Security Val & Portfolio Mgmt	
BUS 3830	International Finance Mgmt	
BUS 3840	Free Markets & Free Enterprise	
BUS 3860	Financial Tech and Analytics	
BUS 3990	Special Topics (As Approved)	
BUS 5615	Advanced Accounting	
BUS 5641	Corporation Taxation	

**Sustainable Business Interdisciplinary Theme**

Required Senior Capstone:		
BUS 4930	Sustainable Bus Strategic Cap	3
Select three courses from the following list (5000-level courses require Dean's Office or faculty approval):		9
BUS 2432	Political Envir of Business	
BUS 2640	Individual Taxation	
BUS 2747	Green IT & Virtualization	
BUS 2792	Business Process Improvement	
BUS 2990	Special Topics (As Approved)	

BUS 3350	Entrepreneurial Family Firms	
BUS 3422	Collaborate for Sustainability	
BUS 3490	Ethics & Social Resp in Mgt	
BUS 3643	Taxation of Social Enterprises	
BUS 3670	Environmntl & Social Rprtnng	
BUS 3850	Options and Futures	
BUS 3890	Real Estate Finance	
BUS 3990	Special Topics (As Approved)	
BUS 5615	Advanced Accounting	
BUS 5630	Auditing	
BUS 5650	Gov't and NFP Accounting	

**BUSINESS CONCENTRATION REQUIREMENTS**

Fifteen credits (five courses) for Accounting, Business Analytics, and Marketing concentrations. The Finance concentration is sixteen credits, which includes completion of BUS 3800, one credit Green Mountain Investment Fund. Students are required to earn an overall grade-point average of at least a 2.00 in their concentration courses. One course can double-dip between an Interdisciplinary Theme and the Business Concentration. Students who select a second concentration can double-dip one applicable course between the two concentrations. At least three of the five (3-credit) concentration courses must be completed at UVM. Students must select one of the following concentrations by the end of their Sophomore year:

**Accounting Concentration**

Required:		
BUS 3610	Corporate Financial Reporting1	3
BUS 3611	Corporate Financial Reporting2	3
Select three courses from the following list (5000-level courses require Dean's office or faculty approval):		9
BUS 2640	Individual Taxation	
BUS 2990	Special Topics (As Approved)	
BUS 3615	Financial Statement Analysis	
BUS 3620	Adv Topics in Management Acctg	
BUS 3643	Taxation of Social Enterprises	
BUS 3660	Accounting Information Systems	
BUS 3670	Environmntl & Social Rprtnng	
BUS 3871	Current Topics Fin Reporting	
BUS 3990	Special Topics (As Approved)	
BUS 5615	Advanced Accounting	



BUS 5630	Auditing	
BUS 5635	Fraud Examination	
BUS 5641	Corporation Taxation	
BUS 5650	Gov't and NFP Accounting	

Students who plan to become a Certified Public Accountant (CPA) may complete the Bachelor of Science degree in Business Administration with an Accounting concentration plus the Master of Accountancy (MAcc). The MAcc curriculum can fulfill the 150-credit requirement of State Boards of Accountancy (see the Graduate Catalogue for additional information on the MAcc). The specific requirements to sit for the CPA examination vary among states. Students who plan to sit for the CPA exam are advised to contact the Board of Accountancy for the state in which they plan to practice.

**Business Analytics Concentration**

Required:		
CS 1210	Computer Programming I (or equivalent computer language programming course)	3
Select one Information Systems course: BUS 2744, BUS 2747, BUS 2748, BUS 3860, BUS 3660, any CS 2000-level course or above, BUS 2990/BUS 3990 (As Approved)		3
Select one Quantitative Tools course: BUS 3700, BUS 3730, ECON 3500, BUS 2990/BUS 3990 (As Approved)		3
Select one Areas of Applications course: BUS 2748, BUS 3860, BUS 2792, BUS 3510, BUS 3730, STAT 3240, BUS 2990/BUS 3990 (As Approved)		3
Select one other course from any of the three categories of Information Systems, Quantitative Tools, Areas of Applications; note: BUS 2990/ BUS 3990 Special Topics (As Approved).		3
Besides CS 1210, only one other non-BUS course (by approval) may be applied to the Business Analytics concentration. A course may be used to satisfy one sub area (Information Systems, Quantitative Tools, Areas of Application) only.		

**Finance Concentration**

Required:		
BUS 2810	Intermediate Financial Mgmt	3
BUS 3800	Green Mountain Investment Fund	1
BUS 3820	Security Val & Portfolio Mgmt	3
Select three courses from the following list:		9
BUS 2990	Special Topics (As Approved)	
BUS 3610	Corporate Financial Reporting1	
or BUS 3615	Financial Statement Analysis	
BUS 3810	Fixed Income Security Analysis	
BUS 3830	International Finance Mgmt	
BUS 3840	Free Markets & Free Enterprise	

BUS 3850	Options and Futures	
BUS 3860	Financial Tech and Analytics	
BUS 3890	Real Estate Finance	
BUS 3990	Special Topics (As Approved)	
BUS 4880	Wall Street Seminar (by invitation only)	

**Marketing Concentration**

Required:		
BUS 3510	Marketing Research	3
Select four courses from the following list:		12
BUS 2990	Special Topics (As Approved)	
BUS 3360	Integrated Product Dev	
BUS 3530	Consumer Behavior	
BUS 3550	Digital Marketing	
BUS 3554	Services Marketing	
BUS 3555	Marketing Communications	
BUS 3556	Product Management	
BUS 3560	Retail Management	
BUS 3580	Intn'l Market Analysis	
BUS 3590	Sustainable Marketing	
BUS 3990	Special Topics (As Approved)	

**PROFESSIONAL DEVELOPMENT SERIES**

Students are required to complete three credits of Professional Development Series:

- Professional Development Series I, generally completed in the first year (BUS 1102)
- Professional Development Series II, generally completed in the second year (BUS 2102)
- Professional Development Series III, generally completed in the third year (BUS 3102)

**CATAMOUNT CORE CURRICULUM**

Grossman School of Business students are required to complete at least 42 credits in the Catamount Core Curriculum Requirements (p. 201).

**CREDIT HOURS OUTSIDE OF THE GROSSMAN SCHOOL OF BUSINESS**

Students need to take at least 40 credits outside of the Grossman School of Business.

## OPTIONAL UNDERGRADUATE MINOR OR UNDERGRADUATE CERTIFICATE

A student may complete an undergraduate minor in a discipline outside the Grossman School of Business, or an undergraduate certificate outside the Grossman School of Business to help fulfill the required 40 outside credits. The requirements for each undergraduate minor or undergraduate certificate are specified by the department or program supervising those programs. Up to two minor courses or two certificate courses may apply to Basic Business Core/Business Field/Interdisciplinary Theme/Business Concentration requirements. Please consult with an advisor in the Grossman School of Business to select an appropriate undergraduate minor or undergraduate certificate.

The student must contact the appropriate department to obtain more specific information. To declare a minor, students submit a major-minor request online through their myUVM portal. Some minors are not available to declare as they require an application and permission from the supervising department. The minors in Business Administration and Accounting are only open to majors outside of the Grossman School of Business. However, Business majors are permitted to minor in Sports Management. The following minors through Community Development and Applied Economics (CDAE) are restricted: Consumer and Advertising, Consumer Affairs, Community Entrepreneurship, and Public Communications.

## UNIVERSITY OF VERMONT DEGREE REQUIREMENTS FOR UNDERGRADUATES

In addition to the requirements for the Major, all undergraduate students must successfully complete Degree and University Requirements. (p. 473)

## ELECTIVES

Students often need elective credits to bridge the gap between the required courses and the 120 total credit hours needed to graduate with a Bachelor of Science in Business Administration.

### Restrictions on Electives

- Up to three credits of PEAC (physical education activity courses) can apply as elective credit towards the Bachelor of Science in Business Administration degree. This includes PEAC courses, and credit granted for intramural, club, and varsity sports.
- No more than six credits of internship can apply to the degree. This includes all internship related course offerings from any UVM School or College.
- No credit will be granted for a course that substantially duplicates material in courses offered in the Grossman School of Business or in other previously completed courses.
  - Students cannot receive credit for a course that is prerequisite knowledge for a course already completed, for example FREN 1100 after FREN 1200.
  - Students cannot earn credit for both EC 170 and STAT 1410.
  - Students cannot earn credit for both CDAE 2680 and BUS 2500.

- Students cannot earn credit for both CDAE 2270 and BUS 3530.
- Students cannot earn credit for both CDAE 2280 and BUS 3555.
- Students cannot earn credit for both CDAE 2670 and BUS 2800.
- Students cannot earn credit for CDAE 3660.

## ACCOUNTING MINOR REQUIREMENTS

15 credits in Accounting minor courses, including:

BUS 1610	Financial Accounting <sup>1</sup>	3
BUS 2620	Managerial Accounting <sup>1</sup>	3
BUS 3610	Corporate Financial Reporting <sup>1</sup>	3
Select two courses from the following list (5000-level courses require GSB Dean's Office or faculty approval):		6
BUS 2640	Individual Taxation	
BUS 2990	Special Topics (As Approved)	
BUS 3611	Corporate Financial Reporting <sup>2</sup>	
BUS 3615	Financial Statement Analysis	
BUS 3620	Adv Topics in Management Acctg	
BUS 3643	Taxation of Social Enterprises	
BUS 3660	Accounting Information Systems	
BUS 3670	Environmntl & Social Rprtn	
BUS 3871	Current Topics Fin Reporting	
BUS 3990	Special Topics (As Approved)	
BUS 5615	Advanced Accounting	
BUS 5630	Auditing	
BUS 5635	Fraud Examination	
BUS 5641	Corporation Taxation	
BUS 5650	Gov't and NFP Accounting	

A student must earn at least a 2.00 cumulative GPA in the Accounting minor courses.

Students may overlap only one course between two minors.

At least three of the five total minor courses must be completed at UVM or from an approved study abroad program. Transfer credit must follow the procedures and restrictions listed in the Grossman School of Business Academic Requirements. (p. 364)

## RESTRICTIONS

Ineligible Major: Business Administration

**PRE/CO-REQUISITES**

ECON 1400	Principles of Macroeconomics <sup>3</sup>	3
or ECON 1450	Principles of Microeconomics	

- <sup>1</sup> BUS 1610 and BUS 2620 must each be completed with a grade of C- or higher.
- <sup>2</sup> Students interested in pursuing their CPA and enrollment in the Masters of Accountancy degree (MAcc) are required to complete BUS 3611, as one of the 2 elective Accounting minor courses.
- <sup>3</sup> ECON 1400 or ECON 1450 must be completed with a grade no lower than a C-. Students interested in enrolling in the MAcc program are encouraged to take ECON 1450, which is a prerequisite for the MAcc program.

**OTHER INFORMATION****Mobile Computing Requirement**

Students are asked to have a portable computer and the software suite that meets the requirements of the Grossman School of Business. Please consult with a member of the University's IT staff for specific information.

**GSB Comprehensive Technology Fee**

The Grossman School of Business charges an \$75 Technology Fee per semester to all business majors, minors, and graduate students (Sustainable Innovation MBA and Master of Accountancy programs).

The GSB Technology Fee covers terminals, monitors, servers and computer lab systems (Ex: A/V hardware and hookups), and software related to instruction (Bloomberg terminals, research databases for instructional purposes, online poll service for classroom response system, and other). The fee also covers associated digital displays within the GSB Study Rooms. Students who pay the fee get printing access for a limited amount of copies (180 per month). The fee also covers maintenance for printers, paper and print management system.

**Computer Competency**

Students are presumed to have basic microcomputer literacy, including working knowledge of word processing and spreadsheet software. Students lacking this basic knowledge are responsible for attaining it through course work, self-study, tutorials or workshops.

**BUSINESS ADMINISTRATION MINOR REQUIREMENTS**

15 credits in Business Administration minor courses, including:

BUS 1610	Financial Accounting	3
Students must complete four additional Business courses (three credits each). At least three of the four must be business courses numbered 2000 or above. Students may complete one course from the following: BUS 1101 or approved special topics, BUS 1990. Please note that some upper-level business courses may have additional pre-requisite requirements.		12

A student must earn at least a 2.00 cumulative GPA in the Business Administration minor courses.

Students may overlap only one course between two minors.

At least three of the five total minor courses must be completed at UVM. Transfer credit must follow the procedures and restrictions listed in the Grossman School of Business Academic Requirements. (p. 364)

**RESTRICTIONS**

Ineligible Major: Business Administration

**PRE/CO-REQUISITES**

ECON 1400	Principles of Macroeconomics <sup>1,2</sup>	3
ECON 1450	Principles of Microeconomics <sup>1,2</sup>	3
MATH 1212	Fundamentals of Calculus I <sup>1,2</sup>	3-4
or MATH 1234	Calculus I	
STAT 1410	Basic Statistical Methods I <sup>1,2,3</sup>	3

- <sup>1</sup> ECON 1400, ECON 1450, MATH 1212 or MATH 1234, and STAT 1410 (or an approved equivalent) must be passed with a cumulative GPA of at least 2.00 and no single course grade lower than C-.
- <sup>2</sup> A student can be admitted to the minor after completing either ECON 1400 or ECON 1450, and either MATH 1212 or MATH 1234 each with a C- or better. The remaining ECON course and STAT 1410 (or equivalent) are still required to complete the minor.
- <sup>3</sup> EC 170, NR 2400, STAT 2430, or completion of both PSYS 2002 and PSYS 2010 may be substituted for STAT 1410 if required by the student's major.

**OTHER INFORMATION****Mobile Computing Requirement**

Students are asked to have a portable computer and the software suite that meets the requirements of the Grossman School of Business. Please consult with a member of the University's IT staff for specific information.

**GSB Comprehensive Technology Fee**

The Grossman School of Business charges an \$75 Technology Fee per semester to all business majors, minors, and graduate

students (Sustainable Innovation MBA and Master of Accountancy programs).

The GSB Technology Fee covers terminals, monitors, servers and computer lab systems (Ex: A/V hardware and hookups), and software related to instruction (Bloomberg terminals, research databases for instructional purposes, online poll service for classroom response system, and other). The fee also covers associated digital displays within the GSB Study Rooms. Students who pay the fee get printing access for a limited amount of copies (180 per month). The fee also covers maintenance for printers, paper and print management system.

**Computer Competency**

Students are presumed to have basic microcomputer literacy, including working knowledge of word processing and spreadsheet software. Students lacking this basic knowledge are responsible for attaining it through course work, self-study, tutorials or workshops.

**SPORTS MANAGEMENT MINOR REQUIREMENTS**

A total of 18 credits is required for the minor.

EDPE 2010	Intro to Sports Management	3
EDPE 3200	Sport in Society	3
PRT 4350	Outdoor Recreation Planning	3
Choose 1 of the following Management courses:		3
BUS 2300	Leadership & Org Behavior	
EDPE 2190	Careers in College Athletics	
EDPE 3300	Philosophy of Coaching	
PRT 2570	Ski Area Management	
Choose 1 of the following Marketing/Communications courses:		3
BUS 2500	Marketing Management	
CDAE 1240	Fund of Public Communication	
CDAE 2190	Event Planning for Athletics	
CDAE 2430	Sports Media	
CDAE 2680	Marketing:Com Entrepreneurs	
PRT 2580	Resort Mgmt & Marketing	
Choose 1 of the following Entrepreneurship courses:		3
CDAE 2660	Intro to Comm Entrepreneurship	
CDAE 3670	Strat Plan:Comm Entrepreneurs	
PRT 3580	Entrepreneurship Rec&Tourism	
<b>Total Credits</b>		<b>18</b>

**OTHER INFORMATION**

Consult your major advisor for any applicable course/major restrictions and information regarding the use of one course to meet multiple degree requirements. Majors in Parks, Recreation and Tourism, or Business Administration may double count at most two courses from the Sports Management minor towards the major.

At least half the courses must be taken at UVM. Students must earn at least a 2.0 cumulative GPA in their Sports Management minor courses to earn a minor in Sports Management.

**THE COLLEGE OF EDUCATION AND SOCIAL SERVICES**

<http://www.uvm.edu/cess/>

The College of Education and Social Services (CESS) offers undergraduate programs in Human Development and Family Sciences, Individually Designed, Social Work, and Teacher Education (Art, Early Childhood Education, Elementary, Middle Level, Music, and Secondary Education). First-year students may elect to be Undeclared/Undecided while exploring the above options within the college. All programs require coursework in the liberal arts and sciences along with professional preparation through courses and internships in school or community settings.

CESS offers minors in American Sign Language, Coaching, Computer Science Education, Education for Cultural and Linguistic Diversity (both endorsement and non-endorsement), Human Development and Family Sciences, Special Education (both endorsement and non-endorsement), and Sports Management. In addition, CESS offers a certificate in Place-Based Education.

UVM students who want to transfer into CESS must complete the online transfer form available on the UVM Registrar's Office website. Students will only be considered eligible for transfer into CESS or dual degrees within teacher education programs if they currently have an overall grade-point average of 2.50 or above; students in teacher education programs must also be able to earn an overall grade-point average of 3.00 or above by the time they reach student teaching and program completion. Human Development and Family Sciences and the Individually Designed major require an overall grade-point average of 2.00, and Social Work requires an overall grade-point average of 2.3 or above to be considered eligible for transfer.

**MAJORS**

Human Development and Family Science B.S. (p. 374)

Individually Designed B.S.Ed. (p. 377)

Social Work B.S.W. (p. 398)

Teacher Education: Art Education (PreK-Grade 12) B.S.AE. (p. 378)

Teacher Education: Early Childhood Education (Birth-Grade 3) B.S.Ed. (p. 378)

Teacher Education: Elementary Education (K-Grade 6) B.S.Ed.  
(p. 380)

Teacher Education: Middle Level Education (Grades 5-9) B.S.Ed.  
(p. 382)

Teacher Education: Music Education (Pre-K- Grade 12) B.S.MS.  
(p. 383)

Teacher Education: Secondary Education (Grades 7-12) B.S.Ed.  
(p. 385)

## MINORS AND CERTIFICATES

American Sign Language (p. 393)

Coaching (p. 393)

Computer Science Education (p. 394)

Education for Cultural and Linguistic Diversity (p. 394)

Education for Cultural and Linguistic Diversity: Endorsement  
(p. 394)

Human Development and Family Science (p. 375)

Place-Based Education (p. 395) - Undergraduate Certificate

Special Education (p. 396)

Sports Management (p. 397)

Teaching English to Speakers of Other Languages (p. 397) -  
Undergraduate Certificate

## REQUIREMENTS

Students must meet all requirements for each program set forth by the CESS Academic Affairs committee, the CESS Student Affairs committee, CESS faculty, the CESS dean, and the University Academic Affairs committee. Nine of the CESS undergraduate majors are nationally accredited and meet the standards of their professional group as follows:

- Social Work: The Council on Social Work Education (CSWE)
- Teacher Education: The Council for the Accreditation of Educator Preparation (CAEP), and the Vermont Standards Board for Professional Educators.

## CRIMINAL RECORD CHECK (CRC) REQUIREMENT

Students enrolled in the College of Education and Social Services majors should expect to complete a Criminal Record Check (CRC) as a prerequisite for working in schools and agencies. Evidence of a Criminal Record may prevent students from being eligible to fulfill the field placement/teaching internship requirement.

Students enrolled in the Teacher Education programs are required to complete the CRC to be eligible for the public school teaching internship that occurs during the Senior year. Depending on the program students may be asked to complete the CRC during the first-year, sophomore and junior years. The cost for fingerprints and FBI

processing is covered by each individual student and is subject to change. More information about this process is available in the CESS Department of Education, Waterman 533.

Human Development and Family Science majors are encouraged to complete the CRC upon enrollment at the University, as it may be needed in the first semester of coursework. Also most individual agencies require a completed CRC to be eligible for a placement. It is important to note that membership in professional associations upon graduation, typically requires a criminal background check as does employment in an ever-increasing number of human service agencies.

Students enrolled in the Social Work major may be required to complete a CRC for the required service learning or field placement components of their coursework. While not all agencies / organizations require this, almost all do. Faculty will work closely with students who believe they have an active record that might be exposed by a CRC. As a result, it is important to note that there is no guarantee that a student will be accepted for required academic work in a community agency / organization and therefore may not be able to fulfill the requirements of this major.

## TECHNOLOGY REQUIREMENT

The College of Education and Social Services prepares students for impactful careers in education, social work, and human services. In these fields, professionals regularly leverage technology to strengthen schools, families, and communities. All CESS undergraduate programs therefore require students to have a laptop computer. The laptop specifications, available on the CESS website, are intended to ensure students have laptops that provide ample power and meet students' needs throughout the duration of their studies in CESS.

## ASSESSMENT PLATFORM REQUIREMENT

The College of Education and Social Services is committed to regular assessment of student learning and growth to ensure student progress, enhance continuous improvement in program and course delivery, and meet accreditation requirements. To support these efforts, CESS has invested in an assessment platform that allows students and faculty to collaborate in robust assessment practices. Students will be charged a one-time-only fee when they matriculate into the college, which will allow access to the platform both during their enrollment at UVM and for seven years following payment of the fee.

## REGULATIONS

### ACADEMIC PERFORMANCE DISCIPLINARY ACTION

Any CESS student, regardless of class standing, is subject to academic disciplinary action, including separation/dismissal from the university, if (a) the semester or cumulative grade-point average falls below 2.00; or (b) the student has failed six or more credits of coursework in a given semester.

Students who do not meet program-specific requirements or who have not earned the required grade-point-average for their program of study are also subject to academic disciplinary action.

If a student remains on academic disciplinary action for two (2) successive semesters, a student will be reviewed for removal from their program of study, or separation/dismissal from the College of Education and Social Services.

Students on academic disciplinary action will not be allowed to participate in their senior internship/field placement and their degree conferment status may be jeopardized.

## DEPARTMENTS/PROGRAMS

Counseling, Human Development, and Family Science (p. 374)

Education (p. 376)

Social Work (p. 398)

## DEPARTMENT OF COUNSELING, HUMAN DEVELOPMENT, AND FAMILY SCIENCE

### OVERVIEW

#### THE DEPARTMENT OF COUNSELING, HUMAN DEVELOPMENT AND FAMILY SCIENCE

The Department of Counseling, Human Development and Family Science practices pedagogy that is grounded in culturally responsive social justice principles of expanding access to services, promoting diversity, equity and inclusion, and examining pathways to interrupting systemic barriers to positive development and healthy relationships. At the undergraduate level, we offer a program in Human Development and Family Science, and our CACREP Accredited master's degree programs include School Counseling and Clinical Mental Health Counseling Programs, including a dual option. We are in the process of developing a proposal for a Ph.D. program in Counselor Education.

#### Department of Counseling, Human Development and Family Science Mission Statement

The Department of Counseling, Human Development and Family Science strives to advance the science and professional practice of critically conscious human services and counseling professionals. To this end, we offer undergraduate and graduate programs that focus on the examination of the dynamics of intimate and other close interpersonal relationships, as well as the promotion of healthy development of individuals, relationships, families and communities. Our pedagogy and curriculum are grounded in culturally responsive social justice principles of expanding access to services, promoting diversity, equity and inclusion, and examining pathways to interrupting systemic barriers to positive development and healthy relationships. Graduates of programs in our department, depending on their program of study, are equipped to offer an array of services in human service agencies, clinical mental health and school contexts. Our award-winning faculty are committed to graduate and undergraduate teaching, research, and professional service, as well as the importance of a collaborative scholarly environment.

#### The Human Development and Family Science Mission Statement

The HDF program aims to prepare knowledgeable, skilled, critically conscious, and ethical human services professionals and citizens. The HDF program emphasizes information literacy, critical reflection, and community-engaged learning experiences rooted in social justice and strengths-based frameworks of human development and family science. Graduates are ready to pursue an advanced degree or professional work that promotes positive development and healthy relationships; to empower individuals, families, and communities to thrive; and to interrupt systems of privilege and oppression.

### MAJORS

#### COUNSELING, HUMAN DEVELOPMENT, AND FAMILY SCIENCE MAJOR

Human Development and Family Science B.S. (p. 374)

### MINORS

#### COUNSELING, HUMAN DEVELOPMENT, AND FAMILY SCIENCE MINOR

Human Development and Family Science (p. 375)

### GRADUATE

Counseling Post-Master's Certificate

Counseling M.S.

See the online Graduate Catalogue for more information

## HUMAN DEVELOPMENT AND FAMILY SCIENCE B.S.

This program examines the ways people grow and develop, form relationships and families, and learn to cope with the common and uncommon events of life. The program integrates developmental and ecological systems perspectives and emphasizes information literacy, critical reflection, and community-engaged learning experiences rooted in social justice and strengths-based frameworks of human development and family science. Students learn basic and applied concepts of human development and acquire skills in working with individuals and families of different ages and backgrounds in a variety of settings. Community-engaged learning is required of all students, including 6 credits of internship senior year.

Human Development and Family Science is also a minor available to students across the university.

### MAJOR REQUIREMENTS

Students in the Human Development and Family Science program are required to complete a minimum of 120 credits including University Catamount Core requirements. They also enroll in a sequence of professional courses designed to provide a comprehensive understanding of individual and family development across the life span and in diverse socio-cultural contexts. These

courses are arranged in three blocks: introductory, intermediate, and advanced.

The introductory block includes four core courses in Human Development and Family Science (HDFS). Of these courses, three introduce students to core topics in the field, including individual development across the life span: “Human Development” (HDF 1050), “Family Context of Development” (HDF 1600), and “Human Relationships and Sexuality” (HDF 1650). These courses also introduce students to experiences, changes and challenges typical at different points in the life course and to factors that influence individual development, such as gender, race and social class. The fourth course, “Foundations of Human Development and Family Science” (HDF 1010), is a skill focused course that provides HDFS majors with an introduction to the discipline and practice of HDFS, with special emphasis on preparing students for more advanced course work and professional practice. This course is specifically designed to examine how questions are pursued from a human development perspective, how these questions relate to everyday life, how knowledge in the discipline is constructed, and the types of skills necessary to both acquire and appropriately use this knowledge.

The intermediate block builds upon the introductory block through a set of five professional course requirements. In HDF 2610, students are offered a deeper introduction to and opportunity to critically analyze the major social institutions and cultural contexts that affect human development. HDF 2410 focuses in depth on white identity and the context of privileging whiteness. The remaining three courses in this intermediate block introduce students to major theories of development used to help us understand individual development (HDF 2890), to a relational framework for understanding development (HDF 2205), and to the HDFS profession through the study and practice of essential helping relationship skills and ethical practice (HDF 2010). All three courses also provide students the opportunity to apply developmental theories to practice.

The advanced block consists of advanced seminars and 6 credits of internship. All majors take at least 3 advanced seminar courses selected in consultation with an advisor. The internship is the final professional requirement, consisting of a 2-semester intentionally sequenced internship experience in the fall (3 credits) and spring (3 credits) of senior year. Internship students engage in direct field work and related academic work that focuses on deepening students’ knowledge of, and ability to apply, human development and ecological perspectives to direct practice; as well as developing as critically conscious and ethical human services professionals and citizens. Students choose a placement from a variety of local human service agencies and organizations. Internship placement sites have included after-school youth programs, rape crisis and intimate partner violence prevention and intervention programs, social justice advocacy groups, centers for children who have experienced abuse and neglect, city and state government agencies, public and private schools, group homes, rehabilitation centers, local business and industry, early childhood education settings, hospitals, and senior centers.

## REQUIREMENTS

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 373)

MAJOR REQUIREMENTS		
HDF 1010	Fndn HumDev&FamSci for Majors	3
HDF 1050	Human Development	3
HDF 1600	Family Context of Development	3
HDF 1650	Human Relationships &Sexuality	3
Intermediate Level Courses		
HDF 2010	The Helping Relationship	3
HDF 2205	Dev through Relationships	3
HDF 2410	Interrogatng White Identity	3
HDF 2610	Social Context of Development	3
HDF 2890	Theories of Human Development	3
Upper Level Courses		
Select 3 approved upper level (2000- and 3000-level) approved HDF seminars		9
HDF 4991	Internship (3 credits in the fall, 3 credits in spring)	6

## HUMAN DEVELOPMENT AND FAMILY SCIENCE MINOR

### REQUIREMENTS

18 credits that must include the following:

HDF 1050	Human Development	3
HDF 1600	Family Context of Development	3
Choose one of the following:		
HDF 1200	Aging:Change & Adaptation	
HDF 1650	Human Relationships &Sexuality	
Choose one of the following tracks:		9
TRACK A		
Complete either HDF 2610 or HDF 2890, and two other approved 2000- or 3000-level HDF courses.		
TRACK B		
Complete both HDF 2610 and HDF 2991 and one approved 3000-level HDF seminar course <sup>1</sup>		

<sup>1</sup> Note HDF 2610 and HDF 2890 are prerequisites for all 3000-level HDF seminars; HDF 4991 and HDF 3993 are not approved as seminar courses.

## OTHER INFORMATION

This minor is available to students in all majors. A minimum of two 2000-level courses will be offered each semester: specifically, HDF 2410 and 2610 in the fall semester, and HDF 2010 and 2890 in the spring semester. Students should be aware that completion of the three different 2000- or 3000-level courses required for Track A may take at least two semesters if only the minimum number of 2000-level courses is offered each semester. Students seeking to follow Track B should be aware that it will require three semesters to complete the two 2000-level required courses and the one 3000-level seminar course.

## DEPARTMENT OF EDUCATION

<http://www.uvm.edu/~doe/>

The Department of Education offers undergraduate and graduate degrees for educators in public and private schools, non-profits, government organizations, and other institutions with an educational mission. Educator preparation includes degrees and state licensure recommendations to teach in the following subject areas: Art, Computer Science, Cultural and Linguistic Diversity, Early Childhood Education, Elementary (K-6), Middle Level (Grades 5-9), Music, Secondary Education (Grades 7-12), and Special Education. Non-licensure degrees are also available, including an Individually Designed Major.

Minors and certificates include American Sign Language, Coaching, Sport Management and Place-Based Education.

## REQUIREMENTS FOR TEACHER PREPARATION PROGRAMS

### Candidacy

Educator licensure is considered a "professional" program. The professional programs begin with the student enrolling in the College of Education and Social Services as a candidate for licensure. Candidacy status is the stage prior to acceptance into the Professional portion of the Education sequence and, for some programs, may also be available to students enrolled in other colleges at UVM.

### Intercollege Transfer

Students transferring to the College of Education and Social Services for any Teacher Education program should check with the program of interest to identify recommended GPA's in order to qualify for licensure requirement. NOTE: Some programs require specific grade-point averages for candidates to enter the Professional portion of the Education sequence.

## Academic Concentration

All students enrolled in a teacher preparation program are required to complete an academic concentration in the liberal arts and sciences. The academic concentration must consist of thirty or more credits.

## Portfolio Development and Professional Licensure

Students seeking a license to teach are guided through the completion of a portfolio as a formative and summative assessment of knowledge and skills. Requirements for the pre-professional portfolio are developed according to program guidelines. Students are expected to maintain an electronic portfolio using the management system identified by the Department. Portfolios are assessed by two independent raters and in the case of disagreement are scored again by a third rater.

## Application to Teacher Education

In some programs, candidates must apply to the professional program sequence. Applications are available in each departmental office. Once the candidate's application is complete, the program faculty will review the materials which include: a record of academic performance at UVM, evidence of superior course work, and passing scores on PRAXIS Core (or fulfillment of this requirement by one of the approved alternate options) as determined for Vermont. In some programs, students are required to complete this application and gain acceptance before being eligible to enroll in the professional education courses.

## PRACTICUM AND INTERNSHIPS

All licensed educators in Vermont are required to participate in a minimum of 60 hours of practicum and 13 weeks of student teaching (internship), with 2 weeks in "full-responsibility" for the classroom. Placement in practicums and internships are dependent on successful progress through the program benchmarks including content area course work, GPA, required state assessments, and positive results on the Professional Attributes and Dispositions Assessment (PADA).

## Teacher Assessment—PRAXIS Core Academic Skills Test for Educators (PRAXIS Core) and Praxis II

Students are required to submit passing scores for PRAXIS Core as part of their application to the professional portion of their Teacher Education program. Passing scores must be received by the CESS Director of Teacher Licensure Programs before the student is considered eligible for a teaching internship placement. If the student does not meet these conditions, the student may submit an appeal to the program faculty and Director of Teacher Licensure Programs. The appropriate Praxis II exam must be passed in order to be eligible for an endorsement for teaching.

## Approved Alternatives to PRAXIS Core Academic Skills Test for Educators (PRAXIS Core)

The CESS will accept PRAXIS I, SAT, GRE, or ACT scores as approved by the Vermont Agency of Education. If the student has one of the aforementioned test scores, the student may submit those scores to the CESS Director of Teacher Licensure Programs for review in accordance with Vermont Agency of Education standards.



**MAJORS**

**EDUCATION MAJORS**

- Individually Designed B.S. Ed. (p. 377)
- Teacher Education: Art Education (PreK-12) B.S.AE. (p. 378)
- Teacher Education: Early Childhood Education (Birth-Grade 3) B.S.Ed. (p. 378)
- Teacher Education: Elementary Education (K- Grade 6) B.S.Ed. (p. 380)
- Teacher Education: Middle Level Education (Grades 5-9) B.S.Ed. (p. 382)
- Teacher Education: Music Education (Pre-K-Grade 12) B.S.MS. (p. 383)
- Teacher Education: Secondary Education (Grades 7-12) B.S.Ed. (p. 385)

**MINORS AND CERTIFICATES**

**EDUCATION MINORS**

- American Sign Language (p. 393)
- Coaching (p. 393)
- Computer Science Education (p. 394)
- Education for Cultural and Linguistic Diversity (p. 394)
- Education for Cultural and Linguistic Diversity: Endorsement (p. 394)
- Place-Based Education (p. 395) - Undergraduate Certificate
- Special Education (p. 396)
- Sports Management (p. 397)
- Teaching English to Speakers of Other Languages (p. 397) - Undergraduate Certificate

**GRADUATE**

- Post-Baccalaureate Teacher Preparation (p. 395)
- Curriculum and Instruction AMP
- Curriculum and Instruction M.A.T.
- Curriculum and Instruction M.Ed.
- Education for Sustainability CGS
- Education for Sustainability mCGS
- Educational Leadership Post-Master's Certificate
- Educational Leadership and Policy Studies M.Ed.
- Educational Leadership and Policy Studies Ed.D.

- Educational Leadership and Policy Studies Ph.D.
- Higher Education and Student Affairs Administration M.Ed.
- Integrated Studies Post-Master's Certificate
- Resiliency-Based Approaches with Families, Schools, and Communities CGS
- Special Education Post-Master's Certificate
- Special Education AMP
- Special Education M.Ed.
- See the online Graduate Catalogue for more information.

**INDIVIDUALLY DESIGNED B.S.ED.**

The Individually Designed Major (IDM) B.S.Ed., is for self-motivated students interested in studying the fields prioritized in the College of Education and Social Services: education, social work, and human development and family science. The Individually Designed Major is an interdisciplinary program of studies that gives students opportunities to explore and develop various academic interests, equity questions and commitments, and programs, policies, and processes that shape our communal and individual experiences. Students connect CESS courses with university-wide courses to create a major unique to their academic interests that are not met through existing UVM programs. Students may, with permission, include graduate level courses as part of their program. An application and proposal for the IDM are required, and must be approved prior to declaring the major. First year students wishing to pursue the CESS Individually Designed Major may enter as Undeclared, and then work collaboratively with the CESS Assistant Dean of Academic and Student Affairs and the IDM Program Coordinator to develop their proposal and course sequence for their application during their first two semesters in the college. The program leads to a Bachelor of Science in Education (non-licensure). All students who participate in an individually designed major must complete a minor or certificate. No more than 6 credits may overlap between the major, minor or certificate.

120 total credits are required to complete the B.S.Ed.

**REQUIREMENTS**

- All students must meet the Degree and University Requirements. (p. 473)
- All students must meet the Catamount Core Curriculum Requirements (p. 201).
- All students must meet the College Requirements. (p. 373)

SWSS 1020	Foundations of Social Work	3
HDF 1050	Human Development	3
or HDF 1600	Family Context of Development	
ECLD 1560	Lang Policy Issues,Race&Sch	3

EDFS 1020	School and Society	3
EDFS 3090	Intro to Research Methods	3
or EDFs 3991	Internship	
EDSS 3010	Individually Designed Capstone	3
Or alternative Upper Level course with permission of Program		
SELF-SELECTED INDIVIDUALLY DESIGNED MAJOR COURSES <sup>1</sup>		30

<sup>1</sup> At least 12 of the 30 credits must be at the 2000-level or above. At least 3 credits must come from an applied experience, such as travel courses, service learning or a practicum. IDM students must also complete a minor or a certificate.

## TEACHER EDUCATION / ART EDUCATION (GRADES PREK-12) B.S.AE.

The College works cooperatively with the Department of Art and Art History in the College of Arts and Sciences to offer a program in Art Education, which leads to both degree and licensure for grades PreK-12. Students fulfill course requirements in general education, professional art education, professional education, studio art, art history, and related subjects. Graduates satisfy College of Education and Social Services requirements for teacher licensure and complete art course work in the Art and Art History department in the College of Arts and Sciences. The program allows sufficient additional advanced courses as recommended by the Art and Art History department for admission to graduate school.

Students must be enrolled in the College of Education and Social Services. Those admitted as first-year students or sophomores to the Art Education program are considered candidates in the program.

Students must meet with their advisor and receive approval prior to registration for the student teaching placement and accompanying courses.

A minimum of 120 approved credits is required for the degree. The number of electives depends on the degree of course overlap in the university, general education, professional, and content requirements. It is possible to have one course fulfill two requirements but the credits only count once.

Students are responsible for obtaining information regarding teacher licensure and degree requirements from the CESS Student Services office, 528 Waterman, or the CESS website.

### REQUIREMENTS ART EDUCATION MAJOR REQUIREMENTS

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 373)

PROFESSIONAL REQUIREMENTS		
EDSP 1050	Iss Aff Persons W/Disabil	3
HDF 1050	Human Development	3
Praxis Core Requirement		
ARTS 2881	Topics in Curriculum&Practice (Elementary Art)	4
ARTS 2881	Topics in Curriculum&Practice (Middle & High School Art)	4
ARTS 3910	Community-Engaged Arts	3
ARTS 4870	Topics In: Current Art & Ed	3
EDFS 1020	School and Society	3
EDSC 4991	Internship: Student Teaching	12
EDSC 4300	Teaching for Results	3
Praxis II Requirement		
CONTENT COURSEWORK		
ARTH 1410	Art History I	3
ARTH 1420	Art History II	3
Two Additional Art History Courses		6
ARTS 1100	Drawing	4
ARTS 1400	Perspectives on Art Making	4
One course in 3-D Art		3
One course in Digital Media (2000-level)		3
18 credits of Studio Art Electives at 1000 level or higher		18

Students are required to complete a minimum of 120 credits to complete the program in Art Education.

## TEACHER EDUCATION / EARLY CHILDHOOD EDUCATION (BIRTH- GRADE 3) B.S.ED.

### EARLY CHILDHOOD EDUCATION

The Early Childhood Education (EDEC) program provides students with a supportive yet rigorous environment, in which they develop the perspectives, knowledge, and skills to work effectively with families, co-professionals, and children from birth to grade 3, in diverse, inclusive classroom and community-based settings.

The program involves substantial field-based experiences and emphasizes high impact practices, such as experiential

learning. Graduates of the program, who successfully complete all requirements, are eligible for recommendation for initial teacher licensure and an endorsement to work with children Birth - Grade 3. Coursework is designed to promote students' abilities to:

- Support the learning and development of each and every child within natural and inclusive environments;
- Recognize and appreciate the diversity of children, families and colleagues in serving as an advocate for social justice and equity;
- Offer instructional practices that are guided by and responsive to children and families, supported by meaningful assessment, backed by evidence, and linked to developmentally and/or individually appropriate curricula;
- Foster collaborative and authentic relationships with children, family members, peers of the same discipline, and colleagues across disciplines; and
- Rise as an educational leader and a change maker.

**MAJOR REQUIREMENTS**

EDEC students complete both a sequence of professional courses related to early childhood as well as a content concentration focusing on the disciplines of language arts, mathematics, science, social studies, and creative arts/movement.

The EDEC Professional Preparation sequence begins with a series of course work that build the foundation and skills for any educator working with young children and/or their families. EDEC 1010 is a Civic Learning course, which provides an introduction to the field of early childhood education through observing and supporting young children at play. EDEC 1630 familiarizes students with the basic principles and research findings in the discipline of Child Development and how this knowledge can form the basis for educational practice. HDF 1600 examines the family context of development. Students combine developmental and ecological principles, to understand how families are formed, change over time, and shape the development of the individuals who make up the family. ECSP 2100 explores individualized practices for diverse learners in inclusive early childhood settings. EDEC 2220 guides learning about multiple models of early education, learning theory, cultural/linguistic diversity, early childhood policy and issues of power and privilege in education and beyond.

During the next phase of the program, students undergo a series of field-based courses in practicum sites. These formative experiences take place in diverse and inclusive classrooms, close to the UVM campus. EDEC 2050 and EDEC 2090 focus on content and methods in working with infants and toddlers from a social-constructivist perspective, in which students spend 9 hours per week in a classroom with young children from birth through age 2. Similarly, EDEC 2450 and EDEC 2490 focus on content and methods in working with pre-school aged children, in which students spend 9 hours per week in a classroom with children ages 3 to 5. Throughout these courses, students hone skills related to the multiple roles of the teacher in facilitating children's learning through curriculum development, assessment and environmental design. Finally, the "K - 3 Curriculum Block" consists of EDEC 3560, EDEC 3810, EDEC 3820, and EDEC 3790. Through this integrated learning

experience, students pursue coursework in a kindergarten - grade 3 content and methods in literacy, math, science, STEM, and social studies, while spending 12 hours per week in a K-3 classroom in a local public school. Under the supervision of UVM faculty and the mentorship of classroom teachers, students develop mastery over time and gradually assume more leadership responsibility with children, families and colleagues.

The EDEC Professional Preparation sequence culminates with the EDEC 4991 capstone experience, a full-time student teaching experience working in a public PreK - Grade 3 classroom with a licensed mentor in which students experience all aspects of the professional role for the duration of the semester. EDEC 4880 is an accompanying seminar that is designed to support students as they reflect on their student teaching, refine essential competencies and complete their Vermont licensure portfolio.

The course of study consists of a minimum of 120 credits.

**REQUIREMENTS**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 373)

MAJOR REQUIREMENTS		
PROFESSIONAL REQUIREMENTS		
EDEC 1010	Intr Early Care & Education	4
EDSP 1050	Iss Aff Persons W/Disabil	3
HDF 1600	Family Context of Development	3
ECLD 1560	Lang Policy Issues,Race&Sch	3
ECSP 2100	Indiv Prac for Inclusion	3
EDEC 2220	Culturally Responsive Educ	3
EDEC 1630	Child Development	3
or HDF 1050	Human Development	
or PSYS 2400	Developmental Psych: Childhood	
Praxis Core Requirement <sup>1</sup>		
EDEC 2050	Inf/Todd Curriculum Develop	3
EDEC 2090	Infant Toddler Practicum	4
EDEC 2450	Preschool Curriculum Devel	3
EDEC 2490	Preschool Practicum	4
EDEC 2510	Science of Everyday Life	3
EDEC 3560	K-3 Stem: Math for Meaning	3
EDEC 3810	K-3 Inquiry	3

EDEC 3820	K-3 Literacy	3
EDEC 3790	K-3 Interdisciplinary Practicum	3
EDEC 4991	Internship: Student Teaching	12
EDEC 4880	Student Teaching Seminar	3
Praxis II Requirement		
CONCENTRATION		
Students must complete 3 - 9 credits in each of the following requirements: <sup>2</sup>		
Language Arts - courses beginning with the subject prefixes:		9
ASL, CSD, ENGS, LING, or WLIT		
Math		9
MATH, STAT, CS (MATH 1111 and 1122 recommended)		
Social Studies - courses beginning with the subject prefixes:		9
ANTH, EC, EDEC 1070, GEOG, GSWS, HST, POLS, or SOC		
Science - courses beginning with the subject prefixes:		6
EDEC 2510, ANPS, BIOL, CHEM, ENSC, ENVS, NFS 1043, PBIO, PHYS		
Arts and Movement		3
EDEC 2130	Creative Arts and Movement	

<sup>1</sup> The Praxis Core Academic Skills for Educators exam (or equivalent) must be completed for a student to progress into the courses below.

<sup>2</sup> These courses often double-dip with catamount core curriculum requirements

## TEACHER EDUCATION / EARLY CHILDHOOD SPECIAL EDUCATION (BIRTH-AGE 6) B.S.ED.

**This program is not currently accepting students.**

### REQUIREMENTS

#### EARLY CHILDHOOD SPECIAL EDUCATION

**This program is not currently accepting students.**

## TEACHER EDUCATION / ELEMENTARY EDUCATION (GRADES K-6) B.S.ED.

The Elementary Education program prepares teachers for an endorsement in grades kindergarten through six. The Bachelor of Science in Education is awarded upon satisfactory completion of the approved program, which includes a planned sequence of professional courses, field experiences, and a full-semester internship experience.

The Elementary Education program focuses on a central theme of “Teaching All Children Strategically in Diverse Communities.” Embedded in a state known for its progressive schooling traditions, Elementary Education students have ample opportunity to learn about and practice the art and science of teaching. Through a web of unique interactions with area schools, Elementary Education majors build relationships with diverse populations of children, beginning in the second year of their professional program.

Several features distinguish the program:

### INTEGRATED CLASSROOM AND FIELD EXPERIENCES

Using a research-to-practice model, the Elementary Education program integrates theoretical constructs with authentic experiences. Students in the program have multiple opportunities to connect their on-campus learning to authentic classroom experiences. The program pairs these field-based experiences with pedagogy courses focusing on literacy, mathematics, and inquiry-based science and social studies.

The final professional internship (student teaching) is accompanied by a seminar emphasizing classroom climate and reflective teaching. Students are thus placed in learning opportunities where theory and practice intersect.

### AUTHENTIC ASSESSMENT

The State of Vermont requires a results-oriented demonstration of teaching competence to qualify for the teaching license. The Elementary Education program incorporates portfolio-driven, authentic assessments at every step of the professional program. Interns learn the portfolio as a method of documenting and assessing their own learning, while also learning to apply it within their elementary classrooms.

### EDUCATING ALL LEARNERS

The State of Vermont has inclusive learning experiences where diverse learners work together side-by-side in classroom settings. Elementary Education majors learn about and practice the application of instructional adaptations for learners with diverse needs. Students in the Elementary Education program may choose to minor in Special Education. They may also choose a minor in Education for Cultural and Linguistic Diversity (ECLD), which can lead to endorsement for teaching English Learners (ELs).

### CONTENT AREA COURSE WORK

The content area course work for Elementary Education students is comprised of four disciplines: English/Language Arts, Mathematics, Science and Social Studies. This coursework prepares students to teach all content areas in elementary classrooms. Students work with their advisors to develop a plan to complete course work in all four disciplines and meet a minimum GPA of 2.75 in content area courses.

The overall course of study consists of a minimum of 120 credits which are divided into the following categories:

- University Catamount Core Curriculum Requirements
- Professional Preparation Sequence
- Content Area Course work

**REQUIREMENTS**

**ELEMENTARY EDUCATION REQUIREMENTS**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 373)

PRE-PROFESSIONAL REQUIREMENTS		
E DSP 1050	Iss Aff Persons W/Disabil	3
EDEL 1240	Brain Rsch and Learning Theory <sup>1</sup>	3
or EDEC 1630	Child Development	
or HDF 1050	Human Development	
or PSYS 2400	Developmental Psych: Childhood	
ECLD 1560	Lang Policy Issues,Race&Sch	3
EDFS 1020	School and Society	3
or EDF S 3030	Soc, Hst & Phil Found of Educ	
EDEL 2550	Teachers &the Teaching Process	3
EDEL 2570	Mtg Needs of Diverse Learners	3
Praxis Core Requirement		
PROFESSIONAL REQUIREMENTS		
EDEL 3750	Lab Experience in Literacy	3
EDEL 3780	Teaching Math for Meaning	3
EDEL 3760	Language Arts&Literacy Skills	3
EDEL 3770	Children's Lit & Literacy	3
EDEL 3550	Lab Experience in Inquiry	3
EDEL 3570	Social Educ&Social Studies	3
EDEL 3580	Teaching Science for Meaning	3
EDEL 4760	Plng, Adptg, Dlvring Lit Instr <sup>2</sup>	3
EDEL 4991	Internship: Student Teaching <sup>3</sup>	12
EDEL 4880	Student Teaching Seminar	3
Praxis II Requirement		
CONTENT CONCENTRATION COURSES <sup>4,5</sup>		
Students must compete 12 credits in each area, with 6 additional credits in one of the content areas		
English Language Arts		12

ASL, CSD (except CSD 5740), EDEL 3770, EDLT 5220, EDLT 5360, ENGS, LING, WLIT	
Math	12
MATH 1111 or higher, CS, STAT	
Science	12
ANPS, ASTR, BCOR, BIOL, CHEM, COMU 1010, COMU 2310, EDEC 2510, EDHE 2460, EDTE 1740, ENSC, ENVS, FOR, GEOL, NFS, NR 1010, NR 1020, NR 2070, PBIO, PHYS, PSS, PSYS 2200, WFB	
Social Studies	12
HST 1610 or 1650, and POLS 1300 required	
ANTH, CDAE 1020, ECON, EDEC 1070, EDF S 1010, EDTE 1610, GEOG, HST, HSCI 1100, NR 1090, POLS, SOC, or SWSS 1040	
Additional 6 credits in one content area	6

**PERFORMANCE IN PRE-PROFESSIONAL AND PROFESSIONAL COURSES**

Students must achieve a grade of B- or better in all pre-professional and professional courses. If students receive a grade below B- in one of these courses, they will be placed on program probation for the following semester. They will need to submit a formal request to continue in the program, and they will attend a Student Support Team (SST) meeting to develop a plan for successfully moving forward in the program. Two consecutive semesters with a grade below B- in any pre-professional or professional course may result in dismissal from the program.

**PROGRESSION INTO THE PROFESSIONAL COURSES**

Students must complete the online Application to Teacher Education form during the spring semester after they have completed EDEL 2570. Students will follow the requirements specified in this application. Students will not be permitted to enroll in Professional courses until they have been accepted to Teacher Education, have a minimum GPA of 2.75, have a professional GPA of 3.0, and have passed the PRAXIS Core exam or equivalent.

**PROGRESSION INTO STUDENT TEACHING**

During their junior year, students are required to complete the online Application to Student Teaching before being assigned a placement. The Director of Educator Licensure will conduct a Student Teaching Orientation meeting. Students will be notified of the meeting by email, and are required to attend. Students will follow the requirements specified in the Application to Student Teaching. Students need minimum cumulative GPA of 3.0, Professional GPA of 3.0 and Content GPA of 2.75.

<sup>1</sup> PSYS 2400 has a prerequisite of PSYS 1400  
<sup>2</sup> Must be taken after EDEL 3760 & prior to Student Teaching  
<sup>3</sup> Grade of "B" or better required for licensure

- <sup>4</sup> Must maintain an overall GPA of 2.75 in all content area coursework
- <sup>5</sup> Credits can overlap with general education requirements

## TEACHER EDUCATION / MIDDLE LEVEL EDUCATION (GRADES 5-9) B.S.ED.

The organizing theme of the Middle Level Education program is “Education for High Achievement and Personal Efficacy.” The program provides a minimum of four supervised internships whereby university students participate in the most highly successful middle level school programs that are within reasonable commuting distance.

Students who satisfactorily complete the program earn a minimum of 120 credits of study across four areas: General Education, Content Concentration, Professional Studies, and Fieldwork. This design ensures that each student achieves a balance of academic and professional preparation to meet the expectations and challenges associated with teaching at any level. During the students’ first year, faculty guide them in devising an eight-semester plan that is balanced across four areas of study. Those four areas are briefly described below:

### GENERAL EDUCATION

Students earn credits in liberal arts and sciences from an array of disciplines such as: English, mathematics, social science, history, political science, humanities, diversity, and art. Most of these courses are generally completed during the first three to four semesters and, since students sometimes transfer from one program to another, these credits easily transfer to other degree programs in the College of Education and Social Services as well as other colleges within the university.

### PROFESSIONAL STUDIES

Courses that concentrate on the professional work of teaching span all four years. These studies are grounded in theory, research and policies associated with the very best practices in middle level education. Courses on young adolescent learning and development, learning theory, special education, and teaching culturally and linguistically students are taken in the first two years as pre-professional requirements. These courses include a minimum of one field placement with a middle level team of teachers. More heavily field-linked courses in curriculum, pedagogy, assessment, team organization, literacy, mathematics, and evaluation and assessment are taken the last two years.

### DUAL CONTENT CONCENTRATION AREAS

Students in Middle Level Education complete two Highly Qualified Teacher (HQT) content areas (English, mathematics, social studies, science). The students must work closely with their advisor to determine the two content areas and sequence of courses.

### FIELDWORK

The faculty is committed to providing students as many field experience as possible and deemed practical during a four-year course of study. Five courses (EDML 1890, EDML 2890, EDML 4890,

EDML 3890, EDML 3990) are primarily field-based and, while taking these courses, students will enjoy working with teachers on up to four different teaching teams. Emphasis is placed on high levels of integration between campus-based learning and field experience to ensure that students are sufficiently oriented and prepared for the real work of exemplary middle level schools.

The Middle Level Education program is designed to prepare teachers to create curriculum and learning environments that are responsive to the needs of students in grades 5-9. As such, all of our classes center on teaching that is specific to young adolescents. In keeping with the middle school model, great emphasis is placed on concepts such as collaborative teaming, interdisciplinary teaching, challenging and relevant curriculum, student voice, and teaching for equity.

Finally, like all teacher education students at UVM, participants in this program use authentic assessment to demonstrate their growth over time in relation to specific teaching skills. Over the course of their program of study, students will curate samples of their professional work, reflect on their learning, and ultimately create an evidence-based portfolio in their senior year. Students will refine this portfolio of work in conjunction with their student teaching experience and ultimately submit it for review as part of the licensure process. This evidence-based portfolio in turn becomes a valuable resource for seniors as they begin their job search.

## REQUIREMENTS

### MIDDLE LEVEL EDUCATION

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 373)

PRE-PROFESSIONAL REQUIREMENTS		
EDSP 1050	Iss Aff Persons W/Disabil	3
EDML 2890	Teachers & Teaching Process	3
EDML 1890	Foundations of Middle Level Ed	3
EDFS 1020	School and Society	3
or EDFS 3030	Soc, Hst & Phil Found of Educ	
ECLD 1560	Lang Policy Issues,Race&Sch	3
Praxis Core Requirement		
PROFESSIONAL COURSEWORK		
Choose one of the following courses:		3
EDML 3890	Mid Level Teaching Practicum I	
EDML 3990	Special Topics (Place-Based Teaching in the Middle Grades)	
EDML 3770	Young Adolescent ELA Methods	3

EDSC 2570	Intro to Teaching Math	3
EDML 3600	Teaching Young Adolescents	6
EDML 4890	Mid Lev Teaching Practicum II	3
EDML 3700	Middle School Org & Pedagogy	6
Choose one of the following courses:		3
EDML 3870	Content Literacy in Mid Grades	
EDML 3220	Social Justice Education	
EDML 4991	Student Teaching: Internship	12
EDML 4860	Internship Support Seminar	3
Praxis II Requirement		

### CONCENTRATION AREAS

Students must complete two of the following four areas of concentration.

#### ENGLISH LANGUAGE ARTS CONCENTRATION

Select 2 courses from the following options		6
ENGL 1001	Written Expression	
ENGL 1002	Topics In: Written Expression	
ENGL 1740	The Art of the Essay	
ENGL 1702	Topics in Intro Writing: Arts	
ENGL 1730	Intro to Creative Writing	
ENGL 2700	Topics in Writing	
ENGL 2740	Writing Creative Nonfiction	
ENGL 2760	Writing Poetry	
Choose 1 course from each of the following sets		
Multicultural Literature		3
EDLT 5360	Multicultural Children's Lit	
ENGL 1210	Topics in Race & Ethnic in Lit	
ENGL 2210	Topics in Race & Ethnic in Lit	
ENGL 2223	Topics in 20C AfAm Lit&Culture	
ENGL 2240	Colonial/Post-Col World Lit	
Survey Literature Courses		3
ENGL 1114	British Literature II	
ENGL 1122	American Literature I	
ENGL 1124	American Literature II	
Structure of the English Language Courses		3
LING 1500	Introduction to Linguistics	

LING 1400	Structure of English Language	
An elective from ENGS, LING or WLIT		3

#### MATH CONCENTRATION

MATH 1111	Elementary School Math	3
MATH 2111	Algebra for Educators	3
MATH 2180	Geometry for Educators	3
MATH 1212	Fundamentals of Calculus I	3
MATH 2001	Development of Mathematics	3
STAT 1410	Basic Statistical Methods 1	3
EDSC 3990	Special Topics (Tchg Math in Sec. Schls)	3

#### SCIENCE CONCENTRATION

BIOL 1400	Principles of Biology 1	4
or BCOR 1400	Exploring Biology 1	
BIOL 1450	Principles of Biology 2	4
or BCOR 1450	Exploring Biology 2	
CHEM 1100	Outline: General Chem w/lab	4
or CHEM 1400	General Chemistry 1	
GEOL 1400	Environmental Geology	4
PHYS 1400	Elementary Physics I	4
ASTR 1405	Exploring the Cosmos	3

#### SOCIAL STUDIES CONCENTRATION

POLS 1300	US Political System	3
GEOG 1760	Global Environments & Cultures	3
HST 1310	Global History to 1500	3
or HST 1315	Global History since 1500	
HST 1610	US History to 1865	3
HST 1615	US History since 1865	3
ECON 1400	Principles of Macroeconomics	3
or ECON 1450	Principles of Microeconomics	

### TEACHER EDUCATION / MUSIC EDUCATION (GRADES PREK-12) B.S.MS.

The college works cooperatively with the Music and Dance department in the College of Arts and Sciences to offer a program in Music Education which leads to both degree and licensure for grades PreK-12.

The curriculum in music education, leading to the degree of Bachelor of Science in Music Education, is recommended to students who

have sufficient training and musical ability to justify a career in music. Prospective students must audition before entering the program. Graduates are qualified for positions as instructors of music in public and private schools.

A minimum of 125 approved semester credits is required for the degree. Students must pass the piano proficiency and PRAXIS Core examinations before the semester prior to student teaching. Students are responsible for obtaining information regarding teaching licensure and degree requirements from the CESS Licensure Officer, 531 Waterman, or the Student Services Office website.

Techniques courses (brass, percussion, string, woodwind, vocal), and Methods and Practicum courses (choral, general, instrumental) are offered on a rotating schedule. Consult your advisor for available courses per semester.

## REQUIREMENTS MUSIC EDUCATION

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 373)

PROFESSIONAL REQUIREMENTS		
EDFS 3030	Soc, Hst & Phil Found of Educ	3
EDSP 1050	Iss Aff Persons W/Disabil	3
HDF 1050	Human Development	3
Praxis Core Requirement		
MU 2552	Brass Techniques	2
MU 2554	String Techniques	2
MU 2556	Woodwind Techniques	2
MU 2558	Percussion Techniques	2
MU 2560	Vocal Techniques	2
MU 1550	Intro to Teaching Music	3
MU 3560	Conducting I	3
MU 3550	General Music Methods	3
MU 3551	Practicum in Teaching Music	4
MU 3552	Choral Music Methods	2
MU 3554	Instrumental Music Methods	2
MU 3562	Conducting II	3
MU 4551	Teaching Internship Seminar	1
MU 4552	Internship: Student Teaching	11

Praxis II Requirement		
CONTENT COURSES		
Musicianship		
MU 1770	Intro to Music Technology	3
MU 2112	Music History & Literature I	3
MU 2114	Music History & Literature II	3
MU 2310	Harmony and Form I	3
MU 2311	Harmony and Form Lab I	1
MU 2313	Harmony and Form II	3
MU 2314	Harmony and Form Lab II	1
MU 3310	Chromatic Harmony, Large Forms	3
MU 3311	Chromatic Harmony Lab	1
MU 3313	Post-19c Theory and Practice	3
MU 3314	Post-19c Theory Lab	1
MU 2327	Theory/Practice Jazz Improv I	3
Performance		
Piano Proficiency Exam		
MUL 2111	Piano Proficiency I	1
MUL 2112	Piano Proficiency II	1
MUL 2113	Piano Proficiency III	1
Level II Exam		
MUL 2500	Private Lessons: MU Majors	8
Level III exam		
MUL 4500	Adv Private Lessons: MU Majors	5
MUL 4550	Senior Recital	1
MUL 1500	Required Secondary Lessons	4
Ensemble <sup>1</sup>		
MUE 2300	University Concert Choir	2
Large Ensemble (5 credits). Choose from:		5
MUE 2125	Jazz Vocal Ensemble	
MUE 2200	University Concert Band	
MUE 2400	University Symphony Orchestra	
MUE 2500	University Jazz Ensemble	
MUE 3200	Vermont Wind Ensemble	
Small Ensemble. Choose one from:		1
MUE 2111	Small Ensembles (B: Jazz Guitar Ensemble)	



MUE 2111	Small Ensembles (C: Latin Jazz Ensemble)	
MUE 2111	Small Ensembles (D : Percussion Ensemble)	
MUE 2111	Small Ensembles (E: Nonet)	
MUE 2111	Small Ensembles (F: Jazz Combo)	
MUL 2300	Accompanying	
MUE 3300	Catamount Singers	
MUE 3111	Advanced Small Ensembles (A: Post Bop Ensemble)	
MUE 3111	Advanced Small Ensembles (B: Chamber Music)	

## TEACHER EDUCATION: PHYSICAL EDUCATION (GRADES PREK-12) B.S.ED.

**This program is not currently accepting students.**

The Sports Leadership and Physical Education program contains the Physical Education licensure major, the Exercise and Sport Science concentration, the Coaching minor and elements of the Sport Management minor. The Physical Education major qualifies candidates for licensure to teach in grades PreK-12. Course work around the theme “Moving and Learning” includes a series of courses designed to provide a background to the field of physical education. Specialty courses assist the student in the development of Physical Education major content and teaching skills important in providing developmentally appropriate aspects of physical education to children and youth in today’s schools. Laboratory experiences in schools throughout the course of study aid students in recognizing the relationship between theory and practice. Students also receive a solid foundation in exercise science allowing a broader depth of knowledge in physical activity. The opportunity to pursue a concentration in exercise and sport science is available. The Sports Leadership and Physical Education program also boasts of a Coaching minor (non-licensure) that is available to all University students. Contact the program coordinator for more information.

A major concentration in Exercise and Sport Science is available to students in the Physical Education major. It is possible to have one course fulfill two requirements but the credits only count once.

### REQUIREMENTS PHYSICAL EDUCATION

All students must meet the University Requirements. (p. 473)

All students must meet the College Requirements. (p. 373)

PROFESSIONAL REQUIREMENTS		
EDSP 1050	Iss Aff Persons W/Disabil	3
EDFS 1020	School and Society	3
ECLD 1560	Lang Policy Issues,Race&Sch	3
Praxis Core Requirement		

EDPE 1230	Amer Red Cross Emergency Resp (or American Red Cross Emergency Response certification)	3
EDPE 1990	Special Topics (where topics include Games Education, Dance and Gymnastics, and Fitness Education)	9
EDPE 2040	Phys Ed Teaching Experience 1	4
EDPE 2050	Phys Ed Teaching Experience 2	4
EDHE 2460	Personal Health	3
EDPE 2550	Phys Educ in Secondary Schl	4
EDPE 2660	Kinesiology <sup>1</sup>	3
EDPE 2670	Exercise Physiology <sup>2</sup>	4
EDPE 3200	Sport in Society	3
EXSC 1650	Foundations Ex & Hlth Act Pop	3
EXSC 3400	Motor Skill Learning & Control	3
EXSC 3600	Adapted Physical Activity	3
EDPE 4991	Internship: Student Teaching <sup>3</sup>	12
EDPE 2820	Student Teaching Seminar	2
Praxis II Requirement		

<sup>1</sup> Fall only, even years

<sup>2</sup> Fall only, odd years

<sup>3</sup> Grade of "B" or higher required for licensure

### Exercise and sport science concentration

ANPS 1190	Ugr Hum Anatomy & Physiology 1	4
ANPS 1200	Ugr Hum Anatomy & Physiology 2	4
EDPE 2660	Kinesiology	3
EDPE 2670	Exercise Physiology	4
EDPE 2993	Independent Study	3
EDPE 3200	Sport in Society	3
EDPE 3650	Exercise & Sport Science	3
EXSC 3400	Motor Skill Learning & Control	3
MATH 1012 or higher		3
EDPE 3300	Philosophy of Coaching	3
EDPE 3670	Sci Strength Training&Condtnng	3

## TEACHER EDUCATION / SECONDARY EDUCATION (GRADES 7-12) B.S.ED.

### Overview

This major leads to a Bachelor of Science in Secondary Education. The Secondary Education program prepares teachers to work with students with diverse backgrounds and needs in public school

classrooms in grades 7–12. The curriculum includes general education, a content area concentration (ranging from thirty to sixty-one credits depending on the discipline), professional education coursework and field work, and electives. A minor is strongly encouraged but not required.

A minimum of 120 approved total credit hours is required for the degree. Specific requirements, including PRAXIS information, as approved by the Vermont Agency of Education, may be obtained from the CESS Student Services Office, 528 Waterman.

Professional education coursework and fieldwork is offered throughout the program, alongside general education and major concentration courses and minor requirements (if applicable). This allows our candidates to build their understanding of teaching over time.

### Academic Concentration and Minor Components

Students who successfully complete the teacher education program are recommended for licensure with a first endorsement in their content area concentration. Students must consult their faculty advisor in the selection of an academic concentration. It is recommended that Secondary Education students pursue an academic minor; however, an academic minor is not required for program completion.

### Professional Education Component

Students begin the professional education component of their Secondary Education program when they enter UVM. During the first two years, students take one or two professional courses each semester; these education courses lay the foundation for further professional course and field work in Phases 2 and 3 of the program. At the same time, students take courses in general education, their academic concentration, and their minor (if applicable).

PHASE 1: Exploring learners' needs and the school context: EDTE 1010, ECLD 1560, EDFS 1020, EDSP 1050, EDSC 1110, EDSC 2070. At the end of this sequence, if a student has:

- a 2.75 overall GPA
- a 2.50 GPA or higher in the content area concentration
- a grade of B or better in all courses with an EDXX prefix
- passing scores on the PRAXIS Core Test or meet state-approved waiver requirements
- favorable reviews from faculty teaching EDSC 1110 and EDSC 2070
- resolved all Student Support Team concerns (if applicable)

then a student will be able to continue in the Secondary Education program. Should a student fail to meet one or more program benchmarks, a student has the option of submitting a formal request to continue in the program.

Following the introductory phase, students begin the next series of professional courses. During this phase, students will continue taking course work in their academic concentration, with the goal of having the majority of courses completed prior to Phase 3.

PHASE 2: Exploring school context and curriculum, instruction and assessment: EDSC 2090, EDSC 2160 and EDSC 2150. EDSC 2150. Subject methods may be taken in Phase 2 or 3, depending on the student's academic plan. At the end of this sequence, if a student has:

- a 3.00 overall GPA
- a 2.75 GPA or higher in the content area concentration
- a grade of B or better in all courses with an EDXX prefix
- favorable reviews from faculty teaching in EDSC 2090, EDSC 2160 and EDSC 2150
- all Student Support Team concerns resolved (if applicable)

Then a student will be eligible to formally apply for a student teaching placement in the Secondary Education program. Should a student fail to meet one or more of these program benchmarks, a student has the option of submitting a formal request to continue in the program. Each eligible candidate is nominated for one placement; placement options are contingent on public school capacity. The placement process includes a records review and interview for each nominee. Should a nominee be unsuccessful securing a placement, they may appeal for a second nomination. Further details can be found on the CESS/DOE website.

PHASE 3: Full Semester Student Teaching Experience: EDSC 4991, EDSC 4300 and subject specific methods course if not taken previously. Students must:

- complete a full-time, semester-long internship
- complete and submit a portfolio that documents competence with program and state licensure requirements.

### Licensure Recommendation

Students must meet all of the standards below to be recommended for licensure:

- Passing score on Praxis II exam and OPI for World Languages
- a minimum overall GPA of 3.00
- a minimum GPA of 3.00 in both their content area concentration and professional course work
- a "meets standard" rating on each entry in the Vermont Licensure Portfolio (VLP)
- a grade of B or better in student teaching
- completion of all other degree requirements.

### Student's Responsibility

Information about application procedures for the Secondary Education program may be obtained from 411 Waterman. Students are responsible for obtaining information regarding the process and requirements, and for notifying the Secondary Education Office as to changes in their status, address, or intentions for completion of the program.

**Language Proficiency**

Two language proficiency tests are required for the Secondary Education Foreign Language majors (Praxis II and OPI)

**REQUIREMENTS**

**SECONDARY EDUCATION REQUIREMENTS**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 373)

PROFESSIONAL REQUIREMENTS		
Phase 1		
Part One		
EDTE 1010	Teaching to Make a Difference	3
EDSP 1050	Iss Aff Persons W/Disabil	3
EDFS 1020	School and Society	3
or EDFS 3030	Soc, Hst & Phil Found of Educ	
ECLD 1560	Lang Policy Issues,Race&Sch	3
Part Two		
EDSC 1110	Ed Tech in Sec Ed Classroom	3
EDSC 2070	Development: Theory & App	3
Praxis Core Requirement		
Phase 2		
EDSC 2090	Practicum in Teaching	4
EDSC 2160	Curriculum, Inst, & Assessment	3
EDSC 2090 and EDSC 2160 are taken concurrently		
EDSC 2150	Reading in Secondary Schools	3-4
Phase 3		
Special Methods (Choose one of the options below)		3-6
EDSC 3240	Teach English:Secondary School	
EDSC 3990	Special Topics (Tchg Language in Sec. Schools)	
EDSC 3990	Special Topics (Tchg Computer Science in Sec. Schools)	
EDSC 3990	Special Topics (Tchg Social Studies in Sec. Schls)	
EDSC 3990	Special Topics (Tchg Science in Sec. Schools)	
Math concentrators take the following 2 methods courses		
EDSC 2570	Intro to Teaching Math	

EDSC 3990	Special Topics (Tchh Math in Sec. Schools)	
EDSC 4991	Internship: Student Teaching	12
EDSC 4300	Teaching for Results	3
Praxis II Requirement (and OPI for World Languages Candidates) <sup>1</sup>		

<sup>1</sup> Official scores need to be sent to UVM

**CONCENTRATION REQUIREMENTS**

- Animal Science Concentration (p. 387)
- Biology Concentration (p. 388)
- Chemistry Concentration (p. 389)
- Computer Science Concentration (p. 389)
- Earth Science Concentration (p. 390)
- Economics Concentration (p. 390)
- English Concentration (p. 391)
- French Concentration (p. 391)
- German Concentration (p. 391)
- History Concentration (p. 391)
- Math Concentration (p. 392)
- Physics Concentration (p. 392)
- Political Science Concentration (p. 392)
- Spanish Concentration (p. 393)

**ANIMAL SCIENCE CONCENTRATION**

ASCI 1000	Introductory Animal Sciences	3
ASCI 2040	Animal Nutrit, Metab & Feeding	4
ASCI 2130	Animals in Soc/Animal Welfare	3
Select one course from each of the following categories <sup>1</sup>		
Biology		4
BIOL 1400	Principles of Biology 1	
Plant Science		3-4
PSS 1210	Intro to Agroecology	
PSS 2430	Forage and Pasture Mgmt	
PSS 2540	Composting Ecology & Mgmt	
PSS 2560	Permaculture	
PSS 2610	Fundmntls of Soil Science	
Genetics		3
BCOR 2300	Genetics	
ASCI 2160	Animal Genetics	
Inorganic Chemistry with lab		4
CHEM 1100	Outline: General Chem w/lab	
CHEM 1400	General Chemistry 1	
Organic Chemistry with lab		4

CHEM 1150	Outline: Organic & BIOC w/lab	
CHEM 1580	Intro Organic Chemistry w/lab	
CHEM 2580	Organic Chemistry 1	
Select four courses from the following categories		12-16
Advanced Physiology		
ASCI 3150	Physiology of Reproduction	
ASCI 3180	Endocrinology	
ASCI 3200	Lactation Physiology	
Animal Welfare		
ASCI 2600	Zoos, Exotics & Endang Species	
ASCI 4990	Special Topics (when the topic is : Humane Education Practicum)	
ASCI 3990	Special Topics (when the topic is : Humane Education Practicum)	
Animal Health		
ASCI 2180	Appl Animal Health	
ASCI 3580	Clin Top:Companion Animal Med	
ASCI 3280	Clin Topics:Livestock Medicine	
<b>Supplemental Science Courses<sup>2</sup></b>		<b>12</b>
Choose one course in each of these three subjects		
Chemistry		
Earth Science		
Physics		
Additional course in Chemistry, Earth Science or Physics if necessary to make 12 credits		
<b>Total Credits</b>		<b>52-57</b>

<sup>1</sup> Coursework equivalent to Precalculus (MATH 1034) or higher must be completed.

<sup>2</sup> Praxis Statement: Students completing Secondary Education Science concentrations must meet the passing scores set for the General Science Praxis II exam and the specific science exam (Biology, Chemistry, Earth Science or Physics.)

**BIOLOGY CONCENTRATION**

Students may not use more the 14 credits at the "less than 100 level" toward the biology concentration. Since BIOL 1400 and BIOL 1450 total 8 credits, this means that 6 credits remain.

BIOL 1400	Principles of Biology 1	4
or BCOR 1400	Exploring Biology 1	
BIOL 1450	Principles of Biology 2	4

or BCOR 1450	Exploring Biology 2	
BCOR 2300	Genetics	3
BCOR 2100	Ecology and Evolution	4
Select at least 20 credits from 4 of the following 8 areas. One area must be Evolution. <sup>1</sup>		20
1. Zoology		
BIOL 4240	Field Zoology of Arthropods	
BIOL 4245	Mammalogy	
BIOL 4400	Compar/Func Vertebrate Anatomy	
WFB 2310	Field Ornithology	
WFB 3610	Fisheries Biology & Techniques	
2. Botany		
PBIO 2080	Morph & Evo of Vascular Plants <sup>*</sup>	
PBIO 2090	Plant Systematics	
PBIO 3320	Plant Systematics in CostaRica	
3. Physiology		
BIOL 1105	Human Biology	
BIOL 1155	The Human Body	
BIOL 4405	Comparative Physiology	
PBIO 2040	Plant Physiology <sup>**</sup>	
4. Ecology		
BIOL 5990	Special Topics (when the topic is Intro to Marine Science)	
BIOL 3105	Community Ecology	
BIOL 3100	Plant-Animal Interactions	
BIOL 3130	Behavioral Ecology	
5. Genetics		
BIOL 4630	Adv Genetics Laboratory	
BIOL 4635	Adv Genetics & Proteomics Lab	
BIOL 4260	Population Genetics	
6. Microbiology		
MMG 1650	Microbiology & Pathogenesis	
MMG 2010	Microbiol & Infectious Disease	
MMG 3200	Environmental Microbiology	
7. Cell Biology		
BCOR 2500	Molecular & Cell Biology w/lab	
BIOL 3560	Developmental Biology	

BIOL 3505	Neurobiology	
8. Evolution		
BIOC 3005	Biochemistry I	
BIOL 1305	Evolutionary Biology	
BIOL 3165	Evolution	
BIOL 3160	Sociobiology	
Choose one Biology Research course		3
BIOL 2995	Undergraduate Research	
BIOL 3995	Undergraduate Research	
<b>Supplemental Science Courses<sup>2</sup></b>		<b>12</b>
Choose one course in each of these three subjects:		
Chemistry		
Earth Science		
Physics		
Additional course in Chemistry, Earth Science or Physics if needed to reach 12 credits		
<b>Total Credits</b>		<b>50</b>

\* This course can count toward the Evolution category

\*\* This course can also count toward the Botany category

<sup>1</sup> Mathematics prerequisites are required in addition to the courses below, and must include precalculus. This requirement can be fulfilled by taking one of the following courses; MATH 1034 - Precalculus Mathematics, or MATH 1212 - Fundamental of Calc. I, or MATH 1234 - Calculus I

<sup>2</sup> Praxis II Statement: Students completing the Secondary Education Science concentrations must currently meet the passing scores for the General Science Praxis II exam, and the Specific Science Exam (Biology, Chemistry, Earth Science or Physics.) Scores must be sent to UVM.

## CHEMISTRY CONCENTRATION

Introductory Chemistry		
CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
Organic Chemistry		
CHEM 2580	Organic Chemistry 1	4
CHEM 2585	Organic Chemistry 2	4
Inorganic Chemistry		
CHEM 2400	Inorganic Chemistry	3
Analytical Chemistry		
CHEM 2310	Quantitative Analysis	4

Physical Chemistry		
CHEM 2600	Intro Physical Chemistry	3
Biochemistry		
BIOC 3005	Biochemistry I	
Upper Level Elective Course (choose one)		3
CHEM 2050	Advanced Synthesis Techniques	
CHEM 4990	Special Topics	
CHEM 3990	Special Topics	
<b>Supplemental Science Courses.</b>		<b>12</b>
Choose one course in each of these three subject areas.		
Biology		
Earth Science		
Physics		
Additional course in Biology, Earth Science or Physics if needed to reach 12 credits		
<b>Total Credits</b>		<b>41</b>

· Mathematics prerequisites are as follows: MATH 1212/023 or MATH 1234/022.

· Careful curriculum planning with the Chair of the Chemistry Department is strongly urged.

· Praxis II statement: Students completing secondary education science concentrations currently need to meet the passing Praxis II scores for the General Science Praxis II exam and the science specific exam (Biology, Chemistry, Earth Science or Physics).

## COMPUTER SCIENCE concentration

CS 1080	Intro to Web Site Dev	3
CS 1210	Computer Programming I	3
CS 1640	Discrete Structures	3
CS 1870	Intro to Data Science	3
CS 2100	Intermediate Programming	4
CS 2210	Computer Organization	3
CS 2240	Data Struc & Algorithms	3
CS 2660	Cybersecurity Principles	3
CS 3920	Senior Seminar	1
MATH 1234	Calculus I	4
CS 1910	Instructing in Computer Sci	3

**EARTH SCIENCE CONCENTRATION**

GEOL 1400	Environmental Geology	4
GEOL 3515	Field Geology	4
GEOL 2105	Earth Materials	3
GEOL 3410	Geomorphology	4
Select one course from each of the following categories: <sup>1</sup>		
Astronomy		3
ASTR 1405	Exploring the Cosmos	
Meterology / Climatology		3
GEOG 1200	Weather, Climate & Landscapes	
GEOG 2230	Climatology: Concepts & Tools	
Earth Science Techniques		3
CEE 2000	Geomatics	
GEOG 1500	Geospatial Cncpt&Visualization *	
NR 2430	Intro to Geog Info Systems	
GEOG 2510	Geog Info:Cncpts & Applic	
GEOG 2520	Remote Sensing	
GEOG 3520	Topics in Remote Sensing	
Choose one additional elective from any of the categories above or below:		3
Soils		
PSS 2610	Fundmntls of Soil Science	
Water		
NR 2020	Water as a Natural Resource	
GEOG 2235	Geography of Water	
Environmental Engineering		
CEE 5430	Transportation & Air Quality	
CEE 3530	Environmental Quanti. Analysis	
Geology		
GEOL 1055	Topics in Intro to Geo (When topic is "Earth Through Time")	
GEOL 1400	Environmental Geology	
GEOL 2405	Environmental Geochemistry	
GEOL 2990	Special Topics (When topic is "Geology and Human Health")	
GEOL 2990	Special Topics (When topic is "Earth, Fire, Water, Ice")	
GEOL 4405	Geochemistry of Natural Waters	
<b>Supplemental Science Courses <sup>2</sup></b>		<b>12</b>

Choose one course in each of the three subject areas:	
Biology	
Chemistry	
Physics	
Additional course in Biology, Chemistry or Physics if needed to reach 12 credits	
<b>Total Credits</b>	<b>39</b>

<sup>1</sup> Mathematics prerequisites are in addition to the courses listed above and must include precalculus. It can be fulfilled by taking one of the following courses: MATH 1034: Precalculus Math or MATH 1212: Fundamentals of Calculus I, or MATH 1234 - Calculus I.

<sup>2</sup> Praxis II Statement: Students completing the Secondary Education Science concentrations must currently meet the passing scores for the General Science Praxis II exam, and the Specific Science Exam (Biology, Chemistry, Earth Science or Physics.) Scores must be sent to UVM.

\* Recommended

**ECONOMICS CONCENTRATION**

ECON 1400	Principles of Macroeconomics	3
ECON 1450	Principles of Microeconomics	3
ECON 2400	Macroeconomic Theory	3
ECON 2450	Microeconomic Theory	3
Select six courses at the 100 level or above in cooperation with an economics advisor and your CESS advisor. It may be recommended that STAT 1410 fulfill one of these courses		18
<b>Supplemental Social Studies Courses</b>		
History		9
HST 1610	US History to 1865	
or HST 1615	US History since 1865	
Two additional HST electives		
Cultural Geography (Choose one)		3
GEOG 1760	Global Environments & Cultures	
GEOG 1770	Geography/Race&Ethnicity in US	
GEOG 2780	Political Ecology	
GEOG 2760	Rural Geography	
GEOG 2790	Urban Geography	
GEOG 2774	Gender, Space & Environment	
Citizenship		3
POLS 1300	US Political System	
<b>Total Credits</b>		<b>45</b>

**ENGLISH CONCENTRATION**

ENGL 1001	Written Expression	3
or ENGL 1740	The Art of the Essay	
Complete three of the following four courses		9
ENGL 1112	British Literature I	
ENGL 1114	British Literature II	
ENGL 1122	American Literature I	
ENGL 1124	American Literature II	
ENGL 2000	Literary Theory	3
Complete one of the following diversity courses		3
ENGL 1210	Topics in Race & Ethnic in Lit	
ENGL 2210	Topics in Race & Ethnic in Lit	
Complete one of the following		3
LING 1500	Introduction to Linguistics	
LING 1400	Structure of English Language	
Complete one of the following British literature courses		3
ENGL 2312	Chaucer	
ENGL 2310	Topics in Medieval Literature	
ENGL 2322	Topics in Shakespeare	
ENGL 2320	Topics in Ren Lit & Culture	
ENGL 2332	Milton	
ENGL 2348	Topics in 18-19C Brit Lit&Cul	
ENGL 2360	Topics in Victorian Literature	
Complete one of the following American literature courses		3
ENGL 2340	Topics in Early Amer Studies	
ENGL 2387	19th Century American Fiction	
ENGL 2380	Topics in 19C American Studies	
Complete one of the following modern & contemporary literature courses		3
ENGL 2480	Topics in 20C American Studies	
ENGL 2162	Modern Poetry	
ENGL 2402	Topics in Modernism	
ENGL 2404	Topics in Post-Modernism	
ENGL 2160	Topics in Poetry	
ENGL 2240	Colonial/Post-Col World Lit	
Complete one of the following women's or African-American literature courses		3
ENGL 2357	Topics in 19C Women's Writing	

ENGL 2223	Topics in 20C AfAm Lit&Culture	
ENGL 2407	Topics in 20C Women's Writing	
Complete one English elective course numbered 201-282		3
<b>Total Credits</b>		<b>36</b>

**FRENCH CONCENTRATION**

		18
FREN 3110	Writing Workshop	3
FREN 3115	Focus on Oral Expression	3
FREN 3120	French Grammar in Review	3
FREN 3410	Contemporary France	3
FREN 3610	French Lit in Context I	3
FREN 3620	French Lit in Context II	3
Complete three additional FREN electives at THE 3700 level		9
<b>Total Credits</b>		<b>45</b>

**GERMAN CONCENTRATION**

Choose 24 credits of German at the 100 Level <sup>1</sup>		24
Choose 3 credits of German at 200 level		3
Choose 3 credits of World Literature with Significant German Content		3
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Students should work with an advisor to select a mixture of culture, composition, literature and language courses.

**HISTORY CONCENTRATION**

US History		
HST 1610	US History to 1865	3
HST 1615	US History since 1865	3
European History		
HST 1710	Early Europe	3
or HST 1715	Modern Europe	
Global History		
HST 1310	Global History to 1500	3
HST 1315	Global History since 1500	3
Select one Regional History course from the following:		3
HST 1422	Hst Islam&Mid East to 1258	
HST 1425	Hst Islam&Mid East since 1258	
HST 1440	History of China and Japan	

HST 1475	Modern Latin American History	
Select three HST electives at the 100 level or above. HST 2050 is recommended		9
Select one HST seminar at THE 3700 level (209-296)		3
<b>Supplemental Social Studies Courses</b>		
Citizenship		
POLS 1300	US Political System	3
Choose one additional POLS from the options below:		3
POLS 1200	Intro to Political Theory	
POLS 1500	Intro International Relations	
POLS 1700	Comparative World Politics	
ECLD 1570	US Citizenship and Education	
ECLD 2020	Bilingual Education & Policy	
Cultural Geography		3
GEOG 1760	Global Environments & Cultures	
Diversity, Unity, Identity and Interdependence (Choose one)		3
SOC 1500	Introduction to Sociology	
ANTH 1100	Cultural Anthropology	
GEOG 1770	Geography/Race&Ethnicity in US	
Economics (Choose one)		
ECON or CDAE 1610		
Physical Geography		3
GEOG 1200	Weather, Climate & Landscapes	
Psychology (Choose one)		3
PSYS 1400	Intro to Psychological Science	
HDF 1050	Human Development	
<b>Total Credits</b>		<b>48</b>

**MATH CONCENTRATION**

<b>MATH CONCENTRATION</b>		
CS 1210	Computer Programming I	3
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2180	Geometry for Educators	3
MATH 2055	Fundamentals of Mathematics	3
MATH 2544	Linear Algebra	3
MATH 2551	Groups and Rings	3
MATH 2001	Development of Mathematics	3

MATH 2678	Basic Combinatorial Theory	3
STAT 1410	Basic Statistical Methods I	3
<b>Total Credits</b>		<b>32</b>

**PHYSICS CONCENTRATION**

PHYS 1600	Fundamentals of Physics I	4
PHYS 1650	Fundamentals of Physics II	4
PHYS 2500	Waves and Quanta	4
PHYS 4100	Experimental Physics II	3
PHYS 2200	Classical Mechanics	3
PHYS 3300	Electricity & Magnetism	3
PHYS 3400	Thermal & Statistical Physics	3
PHYS 3500	Quantum Mechanics I	3
Select one elective:		3
PHYS 4300	Electromagnetism	
PHYS 4500	Applications of Quantum Mechanics	
<b>Supplemental Science Courses <sup>1</sup></b>		<b>12</b>
Choose one course in each of the three subject areas below:		
Biology		
Chemistry		
Earth Science		
Additional Bio, Chem or Earth science course if needed to reach 12 credits		
<b>Total Credits</b>		<b>42</b>

<sup>1</sup> Mathematics prerequisites are as follows: MATH 1234: Calculus I, MATH 1248: Calculus II, MATH 2248: Calculus III.  
 Recommended Courses: CHEM 1400 and 032: General Chemistry I and II, EE 2145: Electrical Engineering Concepts I, MATH 3230: Ordinary Differential Equations, MATH 3201: Advanced Engineering Mathematics  
 Praxis II statement: Students completing Secondary Education Science concentrations must currently meet the passing scores set for the General Science Praxis II exam and the Specific Science exam (Biology, Chemistry, Earth Science or Physics). Scores must be sent to UVM.

**POLITICAL SCIENCE CONCENTRATION**

POLS 1300	US Political System	3
POLS 1200	Intro to Political Theory	3
POLS 1500	Intro International Relations	3
POLS 1700	Comparative World Politics	3



Complete five POLS courses at the 100 level or above.		15
Select one POLS course at THE 3700 level		3
<b>Supplemental Social Studies Courses</b>		
History (Complete all four)		12
HST 1610	US History to 1865	3
HST 1615	US History since 1865	3
HST 1310	Global History to 1500	3
HST 1315	Global History since 1500	3
Cultural Geography (Choose one)		3
GEOG 1760	Global Environments & Cultures	
GEOG 1780	Society, Place, and Power	
Diversity, Unity, Identity and Interdependence (Choose one)		3
SOC 1500	Introduction to Sociology	
ANTH 1100	Cultural Anthropology	
GEOG 1770	Geography/Race&Ethnicity in US	
Economics (Choose one)		3
ECON 1400	Principles of Macroeconomics	
Any ECON course or CDAE 1610		
Physical Geography		3
GEOG 1200	Weather, Climate & Landscapes	
Psychology (Choose one)		3
PSYS 1400	Intro to Psychological Science	
HDF 1050	Human Development	
<b>Total Credits</b>		<b>69</b>

**SPANISH CONCENTRATION**

SPAN 3110	Topics in Composition & Convrns	3
SPAN 3610	Analyzing Hispanic Literatures	3
Complete 9 credits from:		9
SPAN 3615	Spain: Diversity & Expansion	
SPAN 3620	Spain: Monarchy to Democracy	
SPAN 3665	LatAm: Colonialism&Resistance	
SPAN 3670	LatAm: Revolutn&Globalizatn	
3 credits from Spanish Literature at THE 3700-level		3
3 credits from Spanish Culture and the Arts at THE 3700-level		3
9 additional credits at the 100-level or above		9

Only 3 credits of Reading and Research (SPAN 4995, SPAN 3995) may be counted toward the major.	
<b>Total Credits</b>	<b>30</b>

Course substitutions can and should be made in cases where individual experience and preparation in the language indicated the advisability of such changes. The Chair of the Romance Language department is able to provide such waivers. CESS students should go to the Romance Languages Department for advising in their choice of coursework.

**AMERICAN SIGN LANGUAGE MINOR**

Students in the American Sign Language (ASL) Minor will develop ASL and cultural competencies, interdisciplinary perspectives, and understanding of Deaf experiences through historical, social, and cultural lenses. A combination of ASL competency and cultural knowledge solidify students' candidacy for graduate studies or employment in deaf-related fields.

**REQUIREMENTS**

ASL 2100	American Sign Language III	4
ASL 2200	American Sign Language IV	4
ASL 3100	American Sign Language V	3
ASL 3200	American Sign Language VI	3
ASL 2300	Understanding Deaf Culture	3
ASL 3300	ASL Literature	3

**COACHING MINOR**

The minor in Coaching consists of a series of courses in preparation for coaching sports activities at any age or skill level. It provides knowledge and skills regarding age-appropriate exercise, coaching methods and ethics, instructional techniques, and practical coaching experiences.

**REQUIREMENTS**

Completion of 15 (or up to 16) credits is required for the Coaching minor:

EDPE 3000	Contemporary Issues (Coaching Issues & Legal Ethics)	3
EDPE 3300	Philosophy of Coaching	3
Choose Two Coaching Pedagogy Courses:		6
EDPE 2993	Independent Study	
EDPE 1990	Special Topics (Fitness Education)	
EDPE 1990	Special Topics (Games Education)	
EDPE 1990	Special Topics (Teaching Dance and Gymnastics)	

Choose One Sport Training Course:		3
EDPE 3650	Exercise & Sport Science (Sports Performance Seminar)	
EDPE 3670	Sci Strength Training&Condtnng	

**PRE/CO-REQUISITES**

HDF 1050	Human Development	3
EDPE 3200	Sport in Society	3

**OTHER INFORMATION**

The Coaching minor is open to any student at UVM.

**COMPUTER SCIENCE EDUCATION MINOR**

**REQUIREMENTS**

The Computer Science Education (CSE) minor is designed for undergraduate students interested in teaching computer science education in formal school settings and is open to other students who are interested in computer science education in other non-school settings. The minor includes 5 required courses (16 credits) in Computer Science and 1 required course (3 credits) in the Department of Education: EDSC 5237 - Methods of Teaching Computer Science in Secondary School, for a total of 19 credits for the CSE minor. Only teacher education students eligible for licensure in grades 7-12 will be eligible for a teaching endorsement in Computer Science Education.

CS 1080	Intro to Web Site Dev	3
CS 1210	Computer Programming I	3
CS 1870	Intro to Data Science	3
CS 2100	Intermediate Programming	4
CS 2210	Computer Organization	3
EDSC 3990	Special Topics (Teaching Computer Science in Sec.)	3

**EDUCATION FOR CULTURAL AND LINGUISTIC DIVERSITY MINORS**

The purpose of these minors are to enhance student understanding, cultural competency, and agency related to the complexity of schooling for multilingual learners in PreK-12 schools. To understand the full scope of the impact that a bilingual or multilingual classroom has on its citizenry, this program will include courses highlighting U.S. immigration, migration, transnationalism, culture, family school partnerships, education policy, and cultural and language learning considerations.

The Education for Cultural and Linguistic Diversity minor consists of a general track for both Education and non-Education majors who want to develop more culturally responsive skills

in a variety of professional and community settings, including schools, communities, nonprofit organizations, businesses and environmentally-focused organizations. Students will select courses that will provide a range of topics from immigration policy in the U.S. to food and culture, and community work involving refugees.

Two different Education for Cultural and Linguistic Diversity minors are available. One is for Education majors pursuing endorsement in their licensure program to work with English language learners (EL). The other is for students, regardless of major, who want to develop skills in working with culturally and linguistically diverse communities but are not seeking endorsement in a licensure program. Both minors require the same three core courses (a total of 9 credits); the remaining requirements differ.

The Education for Cultural and Linguistic Diversity minor for endorsement consists of a sequence of courses specifically for Education majors who are pursuing an additional teaching endorsement in their licensure program to work with English language learner students in the PreK-12 grades. Courses mostly focus on education topics pertaining to EL program planning and instructional strategies, as well as linguistics-related topics and English language acquisition. A practicum course is also offered to provide pre-service teachers experience in an EL classroom.

**EDUCATION FOR CULTURAL AND LINGUISTIC DIVERSITY MINOR: NON-ENDORSEMENT**

ECLD 1560	Lang Policy Issues,Race&Sch	3
ECLD 2020	Bilingual Education & Policy	3
ECLD 3050	Fmly Schl & Cmty Collaboration	3
Select three courses from the following (one course must be at the 2000-level or above):		9
CDAE 3990	Special Topics (when the topic is Multicultural Leadership)	
CSD 1200	Intro to Disordered Comm	
CSD 1250	Comm Diff & Dis in Media	
CSD 1940	Dev of Spoken Language	
ECLD 2890	Teach Reading & Writing to ELs	
ECLD 3040	Rlating/Rspndng To Cmnty Nds	
ECLD 3890	ELL Practicum	
EDFS 1010	Race and Racism in the U.S.	
EDHE 2520	Race, Bullying & Discrim	
EDSP 3110	Mtg Instretl Needs All Stdnets	
EDSP 3899	Global Resilience Fam-Schl-Com	
LING 1500	Introduction to Linguistics	
LING 2230	African American English	
LING 2320	Second Language Acquisition	

LING 2400	TESOL and Applied Linguistics	
SWSS 1040	Working with Refugees	
<b>Total Credits</b>		<b>18</b>

## EDUCATION FOR CULTURAL AND LINGUISTIC DIVERSITY MINOR: ENDORSEMENT

ECLD 1560	Lang Policy Issues,Race&Sch	3
ECLD 2020	Bilingual Education & Policy	3
ECLD 3050	Fmly Schl & Cmty Collaboration	3
ECLD 3010	Developing Curriculum for ELs	3
LING 1500	Introduction to Linguistics	3
ECLD 2890	Teach Reading & Writing to ELs	3
ECLD 3991	Internship (Student Teaching)	1-18
<b>Total Credits</b>		<b>19-36</b>

## PLACE-BASED EDUCATION UNDERGRADUATE CERTIFICATE

Place-based education is an approach grounded in the local environment, its various narratives, and the lived experience of students. Our local environment – with its natural and human histories, economic and social issues, and political and ecological dynamics – provides a robust and integrative context for teaching and learning. The certificate is open to all UVM students.

### REQUIREMENTS

EDTE 1610	Foundations of PBE	4
or NR 1610	Foundations of PBE	
EDTE 3510	Place-Based Education Capstone	3
Students complete 2 of the following, with at least 1 course at the 2000-level or above		6
CDAE 2020	Sustainable Community Dev	
CDAE 3710	Local Community Initiatives	
CDAE 3760	Community Design Studio	
CDAE 3780	Applied Community Planning	
EDEC 3810	K-3 Inquiry	
EDEL 3570	Social Educ&Social Studies	
EDML 3220	Social Justice Education	
EDML 3990	Special Topics (Place-Based Teaching in the Middle Grades)	
EDSC 3990	Special Topics (Tchg Science in Sec. Schools)	
EDTE 2889	Resilience-based Outdoor Educa	

GEOG 1760	Global Environments & Cultures	
GEOG 1765	Place, Lndscpe, Environment VT	
GEOG 1780	Society, Place, and Power	
NR 1010	Natural Hist & Human Ecology 1	
NR 1090	VT: Natural & Cultural Hst	
NR 2730	Landscape Natural History	
NR 2810	Environmental Justice	
NR 3950	Environmental Education	

## POST-BACCALAUREATE TEACHER PREPARATION

The Post Baccalaureate Teacher Preparation (PBTP) program is designed for individuals who have a bachelor's degree from an accredited four-year institution and who want to become licensed to teach in Vermont. Spaces are limited and acceptance is based on availability. The foundation of the PBTP is to fulfill the professional education requirements for state licensure. Areas and levels of licensure include:

- Birth-Grade 3: Early Childhood Education (currently not accepting applications)
- Grades PreK-12: Art, Music (currently not accepting applications)
- Grades Prek-12: Physical Education (currently not accepting applications)
- Grades K-6: Elementary (currently not accepting applications)

Applicants to the Post Baccalaureate Teacher Preparation (PBTP) program must meet the following entrance criteria:

1. Hold a bachelor's degree from an accredited institution of higher education.
2. Possess a general education background based on those studies known as liberal arts which embrace the broad areas of social and behavioral sciences, mathematics, biological and physical sciences, the humanities, and the arts.
3. Demonstrate a commitment to the teaching profession.
4. Possess a minimum undergraduate coursework GPA of 3.00 as specified on program specific applications.
5. For Art candidates: Previous coursework must include thirty-six credits of appropriate studio art and twelve credits of art history.
6. For Elementary candidates: Previous coursework must include thirty semester credits in a single liberal arts discipline.

The Post Baccalaureate Teacher Preparation curriculum includes both undergraduate and graduate courses. Specific course sequences are determined by each PBTP based on an applicant's earned undergraduate degree and other course work. Nine graduate credits may apply toward the M.Ed. degree at UVM, contingent on acceptance into the Graduate College.

Middle Level and Secondary Education have a Master of Arts in Teaching degree option offered jointly by the College of Education and Social Services and the Graduate College.

Requests for further information about the Art PBTP program and application forms may be obtained by contacting the Department of Art and Art History, 304 Williams Hall, (802) 656-2014.

Requests for further information about other PBTP programs may be obtained by contacting the CESS Student Services Office, 528 Waterman Building, (802) 656-3468.

## SPECIAL EDUCATION MINOR

The minors in Special Education offer courses in foundations of special education, assessment practices, and methods for supporting students with disabilities in general education classrooms and community contexts. Students apply to the minor by completing an application available through the Special Education program (spedmin@uvm.edu). Fall applications are due by October 15; Spring applications are due March 15. Accepted students must meet with an advisor to develop an approved program plan outlining a course of study in one of two minors:

### Special Education Minor

The 18-hour Special Education Minor is most often accessed by UVM students who wish to learn more about supporting persons with disabilities in inclusive classrooms and community settings. Students have the option of completing the 18-hour requirement through a range of options drawing from the fields of: Special Education and Behavioral Mental Health, Special Education and Communication Sciences, and Special Education and Psychology.

### Special Education Minor: Endorsement (Teacher Licensure students only)

The 21-24 credit hour minor with endorsement allows future preK-12 teachers to complete teacher licensure in their chosen area of general education along with dual certification as a Special Educator. Students complete designated core courses as well as a full year of student teaching in both special education and general education in one school. Students must complete an additional application during the fall of Junior year to be approved for special education student teaching. Acceptance into special education student teaching requires an overall grade point average of 3.0 or better, a grade point average of 3.5 or better in all special education courses, as well as meeting additional application criteria.

Students in CESS Teacher Licensure programs who are interested in learning more about dual certification and/or accelerated master's degree options should contact the Special Education program.

## REQUIREMENTS

### SPECIAL EDUCATION MINOR

Required prior to admission into minor:		
EDSP 1050	Iss Aff Persons W/Disabil	3
Required Course		

EDSP 2170	Behavior Management	3
Select at least 6 credits from the following EDSP/ ECSP Core Courses		6
ECSP 3100	Curriculum in ECSP	
ECSP 3110	EI for Infants and Toddlers	
ECSP 3120	Assessment in EI/ECSE	
EDSP 3040	Rlating/Rspndng To Cmnty Nds	
EDSP 3110	Mtg Instrctl Needs All Stdnts	
EDSP 3120	Assessment in Special Ed	
EDSP 3200	Preventing School Shootings	
EDSP 3220	Restorative Approaches Schools	
EDSP 3250	Culture of Disability	
EDSP 3899	Global Resilience Fam-Schl-Com	
EDSP 3900	Early Lit and Math Curriculum	
EDSP 3980	Laboratory Exp in Education	
Select at least 6 additional credits from the list above or from the following options:		6
ASL 1100	American Sign Language I	
ASL 1200	American Sign Language II	
ASL 2100	American Sign Language III	
ASL 2200	American Sign Language IV	
ASL 2300	Understanding Deaf Culture	
CSD 1200	Intro to Disordered Comm	
CSD 1220	Introduction to Phonetics	
CSD 1940	Dev of Spoken Language	
CSD 2010	Speech & Hearing Science	
CSD 3480	Cognition & Language	
CSD 3899	Autism Spect Dis:Assess&Interv	
ECLD 3010	Developing Curriculum for ELs	
ECLD 3050	Fmly Schl & Cmty Collaboration	
ECSP 2100	Indiv Prac for Inclusion	
EDEC 2990	Special Topics (Early Childhood Internship)	
EDHE 2460	Personal Health	
EDHE/EDSP 2520	Race, Bullying & Discrim	
EDSP 2990	Special Topics (Check with advisor)	
EDSP 3990	Special Topics (Travel Study to the Azores)	
EXSC 3600	Adapted Physical Activity	

HDF 2010	The Helping Relationship	
LING 1500	Introduction to Linguistics	
LING 2510	Phonetics	
LING 2560	Syntax	
LING 2620	Pragmatics	
PSYS 3400	Adolescence	
PSYS 3410	Emotional Devlmt & Temperament	
PSYS 3415	Social Development	
PSYS 3450	Fit Kids Applied Research	
PSYS 3505	Behav Disorders of Childhood	
PSYS 3520	Fit Kids: Special Populations	

### SPECIAL EDUCATION: ENDORSEMENT (Teacher Licensure students only)

EDSP 1050	Iss Aff Persons W/Disabil	3
EDSP 2170	Behavior Management	3
EDSP 3110	Mtg Instrctl Needs All Stdnts	3
EDSP 3120	Assessment in Special Ed	3
EDSP 3900	Early Lit and Math Curriculum	3
EDSP 3991	Internship	6

<sup>1</sup> The Special Education Internship occurs during the final year, preferably in the Spring semester. Ideally, the Special Education Internship occurs in the same setting as the student's general education student teaching creating a year-long experience.

### SPORTS MANAGEMENT MINOR REQUIREMENTS

A total of 18 credits is required for the minor.

EDPE 2010	Intro to Sports Management	3
EDPE 3200	Sport in Society	3
PRT 4350	Outdoor Recreation Planning	3
Choose 1 of the following Management courses:		3
BUS 2300	Leadership & Org Behavior	
EDPE 2190	Careers in College Athletics	
EDPE 3300	Philosophy of Coaching	
PRT 2570	Ski Area Management	
Choose 1 of the following Marketing/Communications courses:		3
BUS 2500	Marketing Management	

CDAE 1240	Fund of Public Communication	
CDAE 2190	Event Planning for Athletics	
CDAE 2430	Sports Media	
CDAE 2680	Marketing:Com Entrepreneurs	
PRT 2580	Resort Mgmt & Marketing	
Choose 1 of the following Entrepreneurship courses:		3
CDAE 2660	Intro to Comm Entrepreneurship	
CDAE 3670	Strat Plan:Comm Entrepreneurs	
PRT 3580	Entrepreneurship Rec&Tourism	
<b>Total Credits</b>		<b>18</b>

### OTHER INFORMATION

Consult your major advisor for any applicable course/major restrictions and information regarding the use of one course to meet multiple degree requirements. Majors in Parks, Recreation and Tourism, or Business Administration may double count at most two courses from the Sports Management minor towards the major.

At least half the courses must be taken at UVM. Students must earn at least a 2.0 cumulative GPA in their Sports Management minor courses to earn a minor in Sports Management.

### TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES UNDERGRADUATE CERTIFICATE

#### REQUIREMENTS

16 credits, including:

LING 1400	Structure of English Language	3
LING 1500	Introduction to Linguistics	3
LING 2320	Second Language Acquisition	3
LING 2400	TESOL and Applied Linguistics	3
LING 4400	Techniques & Procedures in ESL	4

#### RESTRICTIONS

Up to 2 courses may overlap between the TESOL certificate and the ELL endorsement offered in the College of Education & Social Services.

#### OTHER INFORMATION

In the College of Arts and Sciences (CAS), only one course may overlap between an undergraduate certificate and a major or between an undergraduate certificate and a minor.

For a Bachelor of Arts degree, no more than 45 credits in courses with the same departmental prefix may be used toward completion of the

120 credits required for graduation. For a Bachelor of Science degree in the College of Arts and Sciences, the maximum is 50 credits.

## DEPARTMENT OF SOCIAL WORK

<http://www.uvm.edu/~socwork/>

The undergraduate Bachelor of Social Work (BSW) program and graduate level Master of Social Work (MSW) program are both fully accredited by the Council of Social Work Education (CSWE). The principal educational objective of the BSW program is to prepare students for beginning, generalist and justice-oriented social work practice with diverse individuals, families, small groups, organizations, and communities. The principal educational objective of the MSW program is to prepare students for advanced social work practice within an area of specialization.

### MAJORS

#### SOCIAL WORK MAJOR

Social Work B.S.W. (p. 398)

#### GRADUATE

Social Work M.S.W.

See the online Graduate Catalogue for more information

#### SOCIAL WORK B.S.W.

The principal educational objective of the program is to prepare students for social work practice with individuals, families, and small groups within the context of organizations, and the larger community. This includes direct service practice as well as advocacy, policy, administrative, and community practice.

The program provides education for social worker practice while integrating a liberal arts education in the social sciences and humanities. Through their program of study, students develop the values, knowledge, and skills needed to emerge as an entry-level social work practitioner. This work is grounded in the principles of human rights and social justice. Many program graduates go on to pursue a Master's degree in Social Work (M.S.W.), and are qualified for "advanced standing" which reduces the credit hours and time required to complete a M.S.W. at many universities and colleges around the country.

### REQUIREMENTS

#### THE SOCIAL WORK PROGRAM

The Social Work curriculum is divided into two parts - the pre-professional curriculum and the professional curriculum (beginning in the junior year). Students must meet the pre-requisites for junior level courses in order to join their junior year cohort of social work majors. Students apply for SWSS 4730 field experience in the spring of junior year. Application for the field experience requires consultation with the student's advisor to determine that all introductory and intermediate professional and required courses have been successfully completed. The process includes a written statement by the student describing their interests and qualifications,

as well as self-reflection related to overarching skills needed for work within agencies and organizations. The advisor and Field Education Coordinator also review professional readiness issues, including strengths, conduct, maturity, and areas to strengthen.

In the senior year, students spend approximately sixteen hours per week (450 - 500 total hours over 9 months) interning in community agencies or organizations. These internships are supported by a team of faculty and community practitioners as well as the content of the two senior-level courses. In the fall semester, students must enroll concurrently in SWSS 4680, SWSS 4710, and SWSS 4730. In the spring semester, students must enroll concurrently in SWSS 4690, SWSS 4720, and SWSS 4740.

### REQUIREMENTS

#### SOCIAL WORK MAJOR REQUIREMENTS

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 373)

PROFESSIONAL COURSES <sup>1</sup>		
SWSS 1020	Foundations of Social Work	3
Select one of the following:		3
SWSS 1040	Working with Refugees	
SWSS 1990	Special Topics (Environmental Social Work)	
Select one of the following:		3
SWSS 1010	Ldrship for Racial Justice	
SWSS 1600	Racism & Contemporary Issue	
Each of the following are required:		
SWSS 3470	Theories in Social Work I	3
SWSS 3480	Theories in Social Work II	3
SWSS 3630	Theory & Integration Prep Sem	3
SWSS 3670	Intro Social Work Research	3
SWSS 3650	Iss & Pol in Social Welfare I	3
SWSS 3660	Iss & Pol in Social Welfare II	3
SWSS 4680	Social Work Practice I	3
SWSS 4690	Social Work Practice II	3
SWSS 4710	Field Experience Seminar I	3
SWSS 4720	Field Experience Seminar II	3
SWSS 4730	Field Experience I	6
SWSS 4740	Field Experience II	6

<sup>1</sup> Complete all SWSS courses with no more than 2 grades below a "B". Neither of these grades can be below a "C". Students must complete the Social Work courses with a Professional GPA of 3.0 or higher.

## THE COLLEGE OF ENGINEERING AND MATHEMATICAL SCIENCES

<http://www.uvm.edu/~cems/>

The College offers stimulating, professionally-oriented programs for students interested in pursuing cutting-edge careers in the fields of engineering, computer science, mathematics, statistics, data science, and physics. Each undergraduate program in the College contains a core curriculum, which prepares students to succeed in an increasingly interdisciplinary, diverse, and innovative global community. Each program offers unique opportunities for students to actively engage in their learning experience and to develop as individuals and as global citizens. In addition to building technical acumen, the core curriculum supports students as they develop competencies in professional ethics, technical communication, teamwork, leadership, and data dexterity. Coursework provides multiple active, project-based, field- and service-learning opportunities. Professional development is offered in the form of elective courses, internships, research experience, and other high-impact practices. Students can expect a well-rounded academic experience, including required courses in the humanities and social sciences, mathematics, and computer programming as well as intensive faculty interaction and a culminating capstone experience.

### MAJORS

Biomedical Engineering B.S.BME. (p. 407)

Civil Engineering B.S.CE. (p. 403)

Computer Science B.S.CS. (p. 417)

Computer Science and Information Systems B.S. (p. 418)

Data Science B.S. (p. 419)

Electrical Engineering B.S.EE. (p. 408)

Engineering B.S.E. (p. 412)

Engineering Management B.S.EM. (p. 413)

Environmental Engineering B.S.EV. (p. 405)

Mathematics B.S.MSC. (p. 423)

Mechanical Engineering B.S.ME. (p. 410)

Physics B.S. (p. 429)

Statistics B.S.MSC. (p. 427)

### MINORS AND CERTIFICATES

Astronomy (p. 430)

Computer-Aided Engineering Technology (p. 415) - Undergraduate Certificate

Computer Science (p. 421)

Electrical Engineering (p. 409)

Geospatial Technologies (p. 410)

Mathematics: Pure (p. 428)

Physics (p. 431)

Statistics (p. 429)

### REQUIREMENTS

#### LAPTOP REQUIREMENTS AND RECOMMENDATIONS

##### Engineering Programs and physics

Engineering is a professional field that leverages mathematics and the sciences to design and implement solutions to societal problems. Along with the fundamentals of math and science, practicing engineers must utilize computational tools to accomplish their tasks. With this reality in mind, all UVM engineering programs and physics require students to have a laptop computer. The engineering laptop is large enough to enable students to design complex CAD models and powerful enough to allow instructors to incorporate computational analysis and numerical examples in the classroom for immediate and powerful praxis of engineering theory.

##### Mathematics, Statistics, Computer Science and Data Science Programs

The computer is an essential tool for learning and professional work in all CEMS programs, and students utilize computing technologies throughout the CEMS curricula. The laptop requirement in the Mathematics, Statistics, Computer Science or Data Science programs specifies a laptop that is designed to provide ample power and meet a student's needs throughout the duration of their studies.

Laptop specifications are available on the CEMS website.

### DEGREE REQUIREMENTS

All students must meet the Degree and University Requirements.

All students must meet the Catamount Core Curriculum Requirements.

### CEMS CORE CURRICULUM

The Catamount Core and the CEMS Core Curriculum work in tandem to support the vision and mission of the University of Vermont. General education requirements, including those in the arts, social sciences and humanities are satisfied through the Catamount Core. The CEMS Core Curriculum provides additional requirements in technical communication, teamwork and leadership, data dexterity, and professional ethics, tailored to the objectives of the

various programs in CEMS. Details regarding the First Year Seminar requirement, Professional Development electives, and Capstone courses can be found below.

### First Year seminar

The First Year Seminar CEMS 1500 is designed for all first-year students in the college. Students entering the college after their first year should contact their specific program for how this requirement should be fulfilled.

### Professional Development Electives

ME 1310, ME 1020, ME 2120, ME 3320, ME 5980, ME 3530, ME 5520; CIS 1010, CIS 2990; CS 1060, CS 1080, CS 1910, CS 2450, CS 2480, CS 2660, CS 2994, CS 2920, CS 2995, CS 2993, CS 3050, CS 3750, CS 3930; EE 2830; CEMS 3991, CEMS 3899.

Students in Mathematics & Statistics should consult with their advisor to identify appropriate courses and/or experiences to fulfill the Professional Development requirement. Students are required to complete the course substitution request form available via CEMS Program Electives webpage.

### Senior Capstone

Senior capstone experience courses provide students the opportunity to integrate and apply knowledge gained over the duration of their program, often in the context of a semester-long project. Students must complete three credits of capstone experience. Engineering capstone includes courses in Biomedical Engineering (BME 4600 & BME 4650), Electrical and Mechanical Engineering (EE 4100 & EE 4200, ME 4010 & ME 4020), and Civil and Environmental Engineering (CEE 4950).

Students in Mathematics & Statistics may fulfill the capstone requirement by completing an Undergraduate Honors Thesis or taking either MATH 4344 or MATH 4788 (for those majoring in Mathematics), or STAT 4810 (for those majoring in Statistics).

## REGULATIONS

### ACADEMIC STANDARDS

The required minimum semester and cumulative grade point average (GPA) for good academic standing in the College of Engineering & Mathematical Sciences (CEMS) is 2.00. Additional regulations for each CEMS degree are outlined in the individual department, program or degree sections of this catalogue.

Academic performance is reviewed at the end of each regular (fall and spring) semester. CEMS Student Services – a division of the CEMS Dean's Office – is responsible for reviewing academic performance and notifying students who are not in good academic standing. Notification of trial status and dismissal for low scholarship is sent to the student's UVM email account.

### Criteria for Placement on Trial

A student earning less than a 2.00 semester or cumulative GPA will be placed on trial.

### Criteria for Continuation on Trial

A student who has been on trial for one or more semesters but does not meet the criteria for removal from trial or dismissal for low scholarship (see below) will be continued on trial.

### Criteria for Dismissal for Low Scholarship

A student earning less than a 2.00 semester GPA for two successive semesters, or less than 2.00 cumulative GPA for three successive semesters will be dismissed for low scholarship. A student will be dismissed for low scholarship only after the student has been on trial for the preceding graded term of attendance.

### Appealing Dismissal for Low Scholarship

A student who has been dismissed for low scholarship normally has the opportunity to appeal the dismissal in writing to the CEMS Studies Committee within the timeframe stipulated in the dismissal letter. As a condition of a student's reinstatement following an initial dismissal, the CEMS Studies Committee may prohibit a future dismissal appeal as specified in the student's reinstatement letter.

### Criteria for Removal from Academic Trial

A student who has been placed on trial or continued on trial is removed from trial when both the semester and cumulative GPA are 2.00 or higher.

## DISMISSAL FOR LOW SCHOLARSHIP

### First Dismissal

A student who is dismissed for low scholarship for the first time is dismissed from CEMS and UVM for a full academic year. If dismissal occurs at the end of fall semester, the student will be suspended from continued enrollment through the end of the following fall semester. If dismissal occurs at the end of spring semester, the student will be suspended from continued enrollment through the end of the following spring semester. (Note: A student dismissed at the end of spring semester is eligible to return in the summer or fall term of the following year).

### Second Dismissal

A student who is dismissed for low scholarship for the second time is dismissed from CEMS and UVM for two full academic years.

### Third Dismissal

A student who is dismissed for low scholarship for the third time is dismissed from CEMS and UVM. The third dismissal for low scholarship is final.

## READMISSION AFTER DISMISSAL

A dismissed student who presents evidence of the ability to perform satisfactorily may be considered for readmission on trial. A student who has been dismissed for low scholarship for a second time will not be considered for readmission on trial until at least two years have elapsed. A student who has been dismissed for low scholarship for a third time will only be considered for readmission if the student is granted an Academic Reprieve. Further information regarding readmission may be obtained from CEMS Student Services.



A student must earn a minimum 2.00 semester GPA the first semester after readmission. A student must raise the cumulative GPA to at least 2.00 by the end of the second semester after readmission, or earn a minimum semester GPA of 2.50 during the second semester back and all subsequent semesters until the cumulative GPA is 2.00 or higher. A student who fails to meet these academic performance requirements will be dismissed for low scholarship.

For additional information on academic standing and the trial, dismissal and readmission processes, please contact CEMS Student Services.

## INTERNAL TRANSFER GUIDELINES

Students currently enrolled in another College or School at UVM who would like to transfer into or pursue a dual degree in CEMS should complete the appropriate form(s) available through the myUVM portal. In order to be admitted for transfer into CEMS, internal transfer applicants must be in good academic standing (not currently "on trial") in their current program(s) of study and have no pending incompletes in current or previous coursework.

Internal transfer inquiries are welcome at any time of the year. Exceptions to the requirements and timeline outlined below may be considered for students with extraordinary circumstances. To discuss the internal transfer process and curriculum matters, please contact CEMS Student Services.

MAJOR(S)	MINIMUM GPA (cumulative & semester)	ADDITIONAL GPA RESTRICTIONS	PREREQUISITE COURSES/ GRADES
Engineering (All)	2.0	Minimum 2.0 in Engineering, Mathematics, Statistics, Physics, Chemistry and Computer Science coursework	MATH 1234 w/ B- or higher OR MATH 1212 w/ B or higher; lab science course w/ C or higher
Computer Science; Computer Science & Information Systems	2.0	Minimum 2.0 in all courses with CS prefix	One of CS 1080, CS 1210 w/ C or higher
Mathematics; Statistics	2.0	None	MATH 1234 w/ C or higher OR MATH 1212 w/ B or higher

Data Science	2.0	None	MATH 1234 w/ C or higher OR MATH 1212 w/ B or higher & one of CS 1080, CS021 w/ C or higher
Physics	2.0	None	None

## TRANSFER APPLICATION TIMELINE

### Fall Transfers

Students who wish to begin a CEMS major at the start of the fall semester are strongly encouraged to complete the application process by July 1st. CEMS cannot guarantee consideration of applications submitted during the fall add/drop period until after the close of the fall semester. All internal transfer requests submitted after the fall add/drop period will be considered after the close of the fall semester.

### Spring Transfers

Students who wish to begin a CEMS major at the start of the spring semester are strongly encouraged to complete the application process by January 1st. CEMS cannot guarantee consideration of applications submitted during the spring add/drop period until after the close of the spring semester. All internal transfer requests submitted after the spring add/drop period will be considered after the close of the spring semester.

## POLICY ON INTERNSHIPS FOR ACADEMIC CREDIT

### Rationale for a Policy

Internships provide CEMS students the opportunity to gain practical, hands-on experience in their disciplines. Students are able to apply what they learn in the classroom within a real-world setting and, in turn, bring knowledge and skills gained in the field back to the classroom. When combined with related academic coursework, internship experiences are valuable educational experiences.

### Policy Provisions

- Academic credit for internships within the College of Engineering & Mathematical Sciences (CEMS) is offered in accordance with the University's Academic Internships Policy.
- All internships for credit are overseen and facilitated by the CEMS Career Readiness Program. This enables CEMS to:
  - Appropriately advise students on the academic implications of internship credit.
  - In collaboration with the Office of International Education, appropriately advise international students on internship credit as it relates to their visa requirements.
  - Hold students accountable for establishing goals and objectives that relate to their curricula.
  - Work with employers to ensure that the internship experience aligns with college and program objectives.
  - Collect, track and report data on the internship experiences of students and employers.

- f. Establish a feedback loop for continuous process improvement.
3. Determinations of the applicability of internship credits toward degree requirements are determined by each department and/or program within CEMS. Each credit requires a minimum of 40 hours per semester. For example, 3 credits require a minimum of 120 hours, or at least 8 hours per week during a 15-week semester or 10 hours per week during 12 weeks in the summer.
4. Students are responsible for confirming with their academic advisor that internship credits will count toward their degree plan before the beginning of the semester of their internship.
5. Instructor permission overrides are required for registration and overrides will be processed only after a completed Learning Agreement with signatures from the internship supervisor and the student are emailed to the CEMS 2991 Instructor.
6. The Internship Learning Agreement must be submitted by the add/drop deadline for the semester the internship will be completed.
7. CEMS Internships for credit are allowed during fall, spring, and summer terms and are not allowed during winter break.
8. International students are required to meet with the Office of International Education to understand how immigration status impacts paid internship opportunities before requesting a registration override into SINT or CEMS 2991.
9. All CEMS internships for credit will be graded S/U.

## INTERNSHIP COURSE APPLICABILITY BY DEGREE

CEMS 2991 counts toward up to 3 credits of free electives for the following degrees:

Civil Engineering B.S.

Computer Science B.S.

Computer Science and Information Systems B.S.

Data Science B.S.

Electrical Engineering B.S.

Engineering B.S.

Engineering Management B.S.

Environmental Engineering B.S.

Mathematical Sciences - Mathematics B.S.

Mathematical Sciences - Statistics B.S.

CEMS 2991 does not count toward the following degrees:

Biomedical Engineering B.S.

Mechanical Engineering B.S.

## UVM HONORS COLLEGE

CEMS students who are co-enrolled in the University's Honors College must follow the requirements outlined in the Honors College section of this catalogue. Specific HCOL coursework is required for first year students and sophomores. CEMS students must follow the steps outlined on the HCOL website while writing their Honors College thesis. Note that prescribed deadlines are based upon a standard eight semester path to graduation in which students enroll in thesis credits during the fall and spring semesters of a single academic year. Deadlines will be appropriately adjusted for students following an alternate path. Such students are expected to work closely with the Honors Thesis Advisor to designate deadlines.

Students are strongly encouraged to do a semester of paid research experience for undergraduates by the fall of junior year or participate in a summer research experience.

The College offers HCOL seminars each semester (about 2 / semester). Students are required to participate in at least three over the course of their sophomore and junior year.

### Thesis Prep

CEMS Honors College students must do the following during the junior year:

1. Enroll in CEMS 2010 (1 credit - fall semester). This course introduces students to a variety of careers through industry and faculty speakers. It also provides examples of prior thesis work. Students choose an advisor by the end of the course.
2. Enroll in CEMS 2020 (1 credit - spring semester). Students learn research methods and work with their advisors to finish a thesis proposal.
3. Identify an Honors Thesis Advisor and an Honors Thesis Committee. The Committee is comprised of two members, including the advisor. At least one Committee member must be in the student's major department.

### Thesis Proposal

In CEMS 2020, CEMS/HCOL students prepare a five-page thesis proposal, which should include sections on background, related literature, a specific work plan, and the anticipated format of the final thesis. This proposal should be submitted to the student's Honors Thesis Committee during CEMS 2020; The student's advisor will notify the appropriate CEMS HCOL Representative that a thesis project has been approved.

### Thesis

CEMS Honors College students must enroll in a two-semester, six-credit Honors Thesis Course sequence. Course sequences vary by department. The following options exist:

1. The thesis credits can be taken in the fall and spring of the senior year. This is the most common option, and the thesis must be defended by April 15.
2. The thesis can begin in the spring of the Junior year and be combined with a paid summer Research Experience at UVM or in industry.

- The thesis can begin in the spring of the Junior year and be combined with a 3 credit non paid experience in the summer.

In cases 2 and 3, the thesis is submitted in the fall of the senior year and must be defended by November 10. Coordination with industry requires prior planning to ensure that the industry project is consistent with the thesis proposal.

Students who defend a thesis are required to participate in either the CEMS undergraduate research conference or the UVM undergraduate research conference.

When thesis credits are spread across two semesters, students making satisfactory progress towards completion of the thesis during the first semester are awarded a grade of Satisfactory Progress (SP) for a semester of thesis research, and course credit is awarded. Students not making satisfactory progress toward the thesis earn a grade of Unsatisfactory Progress (UP), and no credit is awarded. When the student finishes the second semester and earns a final grade, the instructor assigns that grade for the second semester, and changes the grade of SP that had been entered for the previous semester to match the final grade. The temporary SP grade does not affect a student's GPA. Once the final grade is entered and the SP is converted to a standard letter grade, that letter grade is calculated as part of the GPA.

Timing of specific thesis progress reports is at the discretion of the student's Honors Thesis Advisor and the student's Honors Thesis Committee, and should be consistent with the approved thesis proposal, as described above. The thesis is due to the student's Honors Thesis Committee by April 1 of the senior year.

### Thesis Defense

Students must give some public oral presentation of the thesis, within two weeks following the initial thesis submission, and no later than April 15 of the senior year. The presentation should be about thirty minutes long, and must be attended by the Honors Thesis Committee and announced publicly at least one week prior to the presentation date. No formal evaluation is associated with the presentation, which should serve as a discussion of the thesis, with the goal of providing constructive suggestions towards improving the final manuscript. A final grade for the thesis is assigned by the thesis advisor, who also makes the determination as to whether or not the thesis work warrants honors designation. All revisions are due by April 30.

## DEPARTMENTS AND PROGRAMS

- Civil and Environmental Engineering (p. 403)
- Electrical and Biomedical Engineering (p. 406)
- Mechanical Engineering (p. 410)
- Interdisciplinary Engineering Programs (p. 412)
- Computer Science (p. 416)
- Mathematics and Statistics (p. 421)
- Physics (p. 429)

## CIVIL AND ENVIRONMENTAL ENGINEERING

The Department of Civil & Environmental Engineering offers two ABET-accredited degrees: a Bachelor of Science in Civil Engineering and a Bachelor of Science in Environmental Engineering. Additional information is available in the individual program sections of this catalogue.

### REGULATIONS

Students pursuing the Bachelor of Science in Civil Engineering or the Bachelor of Science in Environmental Engineering are subject to the Academic Standards in CEMS outlined in this catalogue.

### ADDITIONAL REGULATIONS

In order to earn the Bachelor of Science in Civil Engineering or the Bachelor of Science in Environmental Engineering, students must achieve a minimum 2.00 GPA in all Engineering (BME, CEE, EMGT, ENGR, EE, ME), Mathematics, Statistics, Physics, Chemistry and Computer Science coursework.

### MAJORS

#### CIVIL AND ENVIRONMENTAL ENGINEERING MAJORS

Civil Engineering B.S.CE. (p. 403)

Environmental Engineering B.S.EV. (p. 405)

### GRADUATE

See the online Graduate Catalogue for more information.

## CIVIL ENGINEERING B.S.CE.

The curriculum in civil engineering provides and builds upon a strong foundation in mathematics, and physical, natural and engineering sciences. Instruction in civil engineering disciplines includes structural, geotechnical, environmental, water resources, materials, and transportation engineering. The B.S. in Civil Engineering curriculum is embedded with several courses that meet the University's Sustainability (SU) requirement. The degree as a whole also meets the Sustainability requirement, as approved by the University's Sustainability Curriculum Review Committee.

A Civil Engineering degree is excellent preparation for immediate employment in consulting firms, government agencies, non-profits, and industry. Additionally, many graduates continue their education at the graduate- level.

A systems approach to engineering problem solving is central to the curriculum and involves integrating the short and long-term social, environmental and economic aspects and impacts into sustainable engineering solutions. Hands-on laboratories and/or project-based learning are incorporated into each year of the Civil Engineering curriculum. As part of this approach, service-learning projects with local communities and non-profit groups are featured in some courses. Real-world engineering design culminates in a required major design experience in the senior year, which draws

upon prior course work and focuses on technical and non-technical issues and expectations of professional practice. Other aspects of the program include opportunities for laboratory and research experience, development of communication and professional skills, and participation in a community of students and the faculty in the program.

Students are encouraged to pursue minors or focus areas in other disciplines that complement their engineering experience. International education, work experiences and participation in student clubs are also encouraged. Students should consult their advisors early in their program in order to plan accordingly.

## CIVIL ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES

The educational objectives of the civil engineering program are to provide our graduates with disciplinary breadth and depth to fulfill complex professional and societal expectations by:

1. Pursuing careers as practicing engineers or using their program knowledge in a wide range of other professional, educational and service activities.
2. Assuming leadership roles and seeking continuous professional development.
3. Contributing to their profession and society while appreciating the importance of ethical and sustainable practices, diversity, and inclusion.

## REQUIREMENTS

### THE CURRICULUM FOR THE B.S. IN CIVIL ENGINEERING

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

Note that the University's Sustainability (SU), Quantitative and Data Literacy (QD), Global Citizenship (GC), Writing & Information Literacy Tier 2 (WIL2), Natural Sciences (N2) and Mathematics (MA) requirements are built into the Civil Engineering curriculum. Minimum of 129 credits required.

GENERAL EDUCATION REQUIREMENTS (21 credits) <sup>1</sup>	
University WIL1: Writing & Information Literacy	3
University D1: Diversity 1	3
University D1/D2: Diversity 1 or Diversity 2	3
University AH1/AH2/AH3: Arts and Humanities	6
University S1: Social Sciences	6
MATHEMATICS & STATISTICS REQUIREMENTS (21 credits)	

MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 2522	Applied Linear Algebra	3
MATH 3201	Adv Engineering Mathematics	3
STAT 2430	Statistics for Engineering	3
COMPUTING & SCIENCE REQUIREMENTS (15-16 credits)		
CS 1210	Computer Programming I	3
CHEM 1400	General Chemistry 1	4
GEOL 1400	Environmental Geology	4
or BIOL 1400	Principles of Biology 1	
or BIOL 1450	Principles of Biology 2	
PHYS 1500	Physics for Engineers I	4
PHYS 1510	Physics Problem Solving I (Optional)	1
CIVIL & ENVIRONMENTAL ENGINEERING COURSE REQUIREMENTS (59 credits)		
CEE 1000	Intro to Civil & Envir Engr <sup>2</sup>	2
CEE 1100	Statics	3
CEE 1900	Career Preparation	1
CEE 2000	Geomatics	4
CEE 2100	Mechanics of Materials	3
CEE 2120	Environmental Systems	3
CEE 2130	System Focused Design Engr	3
CEE 3010	Materials and Structures Lab	3
CEE 3400	Transportation Systems	3
CEE 3510	Water Quality Engineering	3
CEE 3600	Hydraulics	3
CEE 3610	Hydraulics Lab	2
CEE 3700	Structural Analysis	3
CEE 3800	Geotechnical Engineering	3
CEE 3810	Geotechnical Principles Lab	2
CEE 4950	Capstone Design	3
Design Electives <sup>3</sup>		6
CEE Electives <sup>4</sup>		9
ADDITIONAL ENGINEERING COURSE REQUIREMENTS (13 credits)		
CEMS 1500	CEMS First Year Seminar <sup>2</sup>	1

EE 2175	Electrical Circuits & Sensors	4
ENGR 1020	Graphical Communication	2
ME 1120	Dynamics	3
CEE/Science/Technical Elective <sup>5</sup>		3

<sup>1</sup> General education requirements need to satisfy Catamount Core Requirements including Diversity (D1 & D1/D2 for 6 credits), Arts & Humanities (AH1 & AH2 for 6 credits), and Social Sciences (S1 for 6 credits). It is possible that a single course can be counted toward more than one category. A minimum of 12 credits should be on D1/D2, AH1/AH2, and S1 courses. Up to 6 credits could be applied to Free Electives (e.g. a combination of internship credits, courses toward a minor, another major or double major, etc.). To satisfy 3 credits of Writing & Information Literacy (WIL1), students must take ENGL 1001 or HCOL 1000 (only for students enrolled in the Honors College).

<sup>2</sup> CEMS 1500 & CEE 1000 are degree requirements designed for first-year students. Internal and external transfer students may substitute with any engineering (BME, CE, EE, EMGT, ENGR and ME credits except ENGR 1100) credits not used to satisfy other requirements.

<sup>3</sup> Design Electives: CEE 4410, CEE 4440, CEE 4570, CEE 4650, CEE 4720, CEE 4730, CEE 4810, CEE 4860, and some CEE 3990 (Special Topics) courses (consult advisor). At least one design elective must be from CEE 4440, CEE 4720, CEE 4730, and CEE 4810.

<sup>4</sup> CEE Electives: All CEE Design Electives plus CEE 4600, CEE 4710 and some CEE 3990 (Special Topics) courses (consult advisor).

<sup>5</sup> Any 2000-level or higher course in CEE as well as BME, EE, ENGR, EMGT (except EMGT 2041), ME or Science (BIOL, CHEM, GEOL, PHYS, MMG).

## ENVIRONMENTAL ENGINEERING B.S.EV.

The curriculum leading to a B.S. degree in Environmental Engineering provides a strong foundation in mathematics, physical, natural and engineering sciences. Instruction in environmental engineering includes air pollution, surface and groundwater hydrology, water and wastewater engineering, and geoenvironmental engineering. The B.S. in Environmental Engineering curriculum is embedded with several courses that meet the University's Sustainability (SU) requirement. The degree as a whole also meets the Sustainability requirement, as approved by the University's Sustainability Curriculum Review Committee.

An Environmental Engineering degree is excellent preparation for immediate employment in consulting firms, government agencies, non-profits, and industry. Additionally, many graduates continue their education at the graduate-level.

A systems approach to engineering problem solving is central to the curriculum and involves integrating the short and long-term social, environmental and economic aspects and impacts into sustainable engineering solutions. Hands-on laboratories and/or project-based

learning are incorporated into each year of the Environmental Engineering curriculum. As part of this approach, service-learning projects with local communities and non-profit groups are featured in some courses. Real-world engineering design culminates in a required major design experience in the senior year, which draws upon prior course work and focuses on technical and non-technical issues and expectations of professional practice. Other aspects of the program include opportunities for laboratory and research experience, development of communication and professional skills, and participation in a community of students and the faculty in the program.

Students are encouraged to pursue minors or focus areas in other disciplines that complement their engineering experience. International education, work experiences and participation in student clubs are also encouraged. Students should consult their advisors early in their program in order to plan accordingly.

## ENVIRONMENTAL ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES

The educational objectives of the environmental engineering program are to provide our graduates with disciplinary breadth and depth to fulfill complex professional and societal expectations by:

1. Pursuing careers as practicing engineers or using their program knowledge in a wide range of other professional, educational and service activities.
2. Assuming leadership roles and seeking continuous professional development.
3. Contributing to their profession and society while appreciating the importance of ethical and sustainable practices, diversity, and inclusion.

## REQUIREMENTS

### THE CURRICULUM FOR THE B.S. IN ENVIRONMENTAL ENGINEERING

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

Students must meet University requirements. Note that the University's Sustainability (SU), Quantitative and Data Literacy (QD), Global Citizenship (GC), Writing & Information Literacy Tier 2 (WIL2), Natural Sciences (N2) and Mathematics (MA) requirements are built into the Environmental Engineering curriculum. Minimum of 129 credits required.

GENERAL EDUCATION REQUIREMENTS (21 Credits) <sup>1</sup>	
University WIL1: Writing & Information Literacy	3
University D1: Diversity 1	3

University D1/D2: Diversity 1 or Diversity 2		3
University AH1/AH2/AH3: Arts and Humanities		6
University S1: Social Sciences		6
MATHEMATICS & STATISTICS REQUIREMENTS (21 CREDITS)		
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 2522	Applied Linear Algebra	3
MATH 3201	Adv Engineering Mathematics	3
STAT 2430	Statistics for Engineering	3
COMPUTING & SCIENCE REQUIREMENTS (19-20 Credits)		
CS 1210	Computer Programming I	3
BIOL 1400	Principles of Biology 1	4
CHEM 1400	General Chemistry 1	4
GEOL 1400	Environmental Geology	4
PHYS 1510	Physics Problem Solving I (Optional)	1
PHYS 1500	Physics for Engineers I	4
CIVIL & ENVIRONMENTAL ENGINEERING COURSE REQUIREMENTS (55 Credits)		
CEE 1000	Intro to Civil & Envir Engr <sup>2</sup>	2
CEE 1150	Applied Mechanics	3
CEE 1900	Career Preparation	1
CEE 2000	Geomatics	4
CEE 2120	Environmental Systems	3
CEE 2130	System Focused Design Engr	3
CEE 3415	Transportation Climate Environ	3
CEE 3510	Water Quality Engineering	3
CEE 3520	Env Eng Chemistry & Microbio	3
CEE 3530	Environmental Quanti. Analysis	4
CEE 3610	Hydraulics Lab	2
CEE 3615	Hydraulics for Environ Engrng	3
CEE 3815	Geoenvironmental Engineering	3
CEE 4950	Capstone Design	3
Design Electives <sup>3</sup>		6
Environmental Engineering Electives <sup>5</sup>		9
ADDITIONAL ENGINEERING COURSE REQUIREMENTS (13 Credits)		

CEMS 1500	CEMS First Year Seminar <sup>2</sup>	1
ENGR 1020	Graphical Communication	2
ME 1210	Thermodynamics	3
EE 2175	Electrical Circuits & Sensors	4
CEE/Science/Technical Elective <sup>5</sup>		3

- <sup>1</sup> General education requirements need to satisfy Catamount Core Requirements including Diversity (D1 & D1/D2 for 6 credits), Arts & Humanities (AH1 & AH2 for 6 credits), and Social Sciences (S1 for 6 credits). It is possible that a single course can be counted toward more than one category. A minimum of 12 credits should be on D1/D2, AH1/AH2, and S1 courses. Up to 6 credits could be applied to Free Electives (e.g. a combination of internship credits, courses toward a minor, another major or double major, etc.). To satisfy 3 credits of Writing & Information Literacy (WIL1), students must take ENGL 1001 or HCOL 1000 (only for students enrolled in the Honors College).
- <sup>2</sup> CEMS 1500 & CEE 1000 are degree requirements designed for first-year students. Internal and external transfer students may substitute with any engineering (BME, CE, EE, EMGT, ENGR, ME credits except ENGR 1100/ENGR 1100) credits not used to satisfy other requirements.
- <sup>3</sup> Design Electives: CEE 4440, CEE 4570, CEE 4650, CEE 4810 and some CEE 3990 (Special Topics) courses (consult advisor).
- <sup>4</sup> Environmental Engineering Electives: All Design Electives plus CEE 4600, CEE 4710 and some CEE 3990 (Special Topics) courses (consult advisor).
- <sup>5</sup> Any 2000-level or higher course in CEE as well as BME, EE, ENGR, EMGT (except EMGT 2041), ME or Science (BIOL, CHEM, GEOL, PHYS, MMG).

## ELECTRICAL AND BIOMEDICAL ENGINEERING

The Department of Electrical and Biomedical Engineering offers two ABET-accredited Bachelor of Science degrees: (1) Electrical Engineering and (2) Biomedical Engineering. Additional information on the EE and BME degrees is available in the individual program sections of this catalogue.

### REGULATIONS

Students pursuing the Bachelor of Science in Electrical Engineering or the Bachelor of Science in Biomedical Engineering are subject to the Academic Standards in CEMS outlined in this catalogue.

### ADDITIONAL REGULATIONS

In order to earn the Bachelor of Science in Electrical Engineering or the Bachelor of Science in Biomedical Engineering, students must achieve a minimum 2.00 GPA in all Engineering (BME, CEE, EMGT, ENGR, EE, ME), Mathematics, Statistics, Physics, Chemistry and Computer Science coursework.

**MAJORS****ELECTRICAL AND BIOMEDICAL ENGINEERING MAJORS**

Biomedical Engineering B.S.BME. (p. 407)

Electrical Engineering B.S.EE. (p. 408)

**MINORS****ELECTRICAL AND BIOMEDICAL ENGINEERING MINOR**

Electrical Engineering Minor (p. 409)

**GRADUATE**

Biomedical Engineering AMP  
 Biomedical Engineering M.S.  
 Biomedical Engineering Ph.D.  
 Electrical Engineering AMP  
 Electrical Engineering M.S.  
 Electrical Engineering Ph.D.

See the online Graduate Catalogue for more information.

**BIOMEDICAL ENGINEERING B.S.BME.**

The B.S. in Biomedical Engineering trains engineers to work at the interface between engineering and the biomedical sciences. The curriculum is structured into three phases: Foundational, Core, and Specialization.

In the Foundational Phase, students take courses in math and science to build a solid foundation in quantitative engineering methods and biomedical science, and to expose them to the opportunities in biomedical engineering. In the BME Core Phase, students develop the breadth of engineering skills need to address the multidisciplinary nature of biomedical engineering. This phase is complemented by a multi-semester design sequence. In the final three semesters, Specialization Phase, students pursue electives germane to their interests and have their Capstone Design Experience.

The B.S. in Biomedical Engineering leverages strong ties between UVM's College of Engineering & Mathematical Sciences and its Larner College of Medicine. This collaboration provides students unique biomedical opportunities in a professional setting.

**BIOMEDICAL ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES**

The educational objectives of the Biomedical Engineering program are to provide our graduates with disciplinary breadth and depth to fulfill complex professional and societal expectations by:

1. Pursuing careers as practicing engineers or using their program knowledge in a wide range of other professional, educational and service activities;
2. Assuming leadership roles and seeking continuous professional development;

3. Contributing to their profession and society while appreciating the importance of ethical and sustainable practices, diversity, and inclusion.

**REQUIREMENTS****THE CURRICULUM FOR THE B.S. IN BIOMEDICAL ENGINEERING**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

Note that the University's Quantitative and Data Literacy (QD), Natural Sciences (both N1 and N2), Mathematics (MA), and Oral Communication (OC) requirements are built into the Biomedical Engineering curriculum. A minimum of 129 credits are required.

GENERAL EDUCATION REQUIREMENTS (27 Credits)		
University WIL: Writing & Information Literacy		3
University D1: Diversity 1		3
University D1/D2: Diversity 1 or Diversity 2		3
University AH1/AH2/AH3: Arts and Humanities		6
University S1: Social Sciences		6
University GC: Global Citizenship		3
University SU: Sustainability		3
COMPUTING & MATHEMATICS REQUIREMENTS (22 Credits)		
CS 1210	Computer Programming I	3
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 2500	Eng Math Linear Algebra Lab	1
MATH 3201	Adv Engineering Mathematics	3
STAT 2430	Statistics for Engineering	3
GENERAL ENGINEERING & SCIENCE REQUIREMENTS (23 Credits)		
ENGR 1020	Graphical Communication	2
CEMS 1500	CEMS First Year Seminar <sup>1</sup>	1
ANPS 1190	Ugr Hum Anatomy & Physiology 1	4
ANPS 1200	Ugr Hum Anatomy & Physiology 2	4
BHSC 1340	Human Cell Biology	4
CHEM 1400	General Chemistry 1	4

PHYS 1500	Physics for Engineers I	4
BIOMEDICAL ENGINEERING COURSE REQUIREMENTS (30 Credits)		
BME 1600	BME Design 0 <sup>1</sup>	2
BME 2000	Core 1: Biomechanics & Sensing	6
BME 2050	Core 2: Materials & Transport	6
BME 2600	BME Design 1	1
BME 2650	BME Design 2	1
BME 3000	Core 3: Systems & Signals	6
BME 3600	BME Design 3	2
BME 4600	Capstone Design I	3
BME 4650	BME Capstone Design II <sup>5</sup>	3
BIOMEDICAL ENGINEERING AND SPECIALIZATION ELECTIVES (27 Credits)		
Math/Science Electives <sup>2</sup>		3
BME Engineering Electives <sup>3</sup>		12
BME Specialization Electives <sup>4</sup>		12
TOTAL		129
Optional/Recommended Courses		1
PHYS 1510	Physics Problem Solving I	1

<sup>1</sup> BME 1600 & CEMS 1500 are degree requirements designed for first-year students. Internal and external transfer students may substitute 2000-level or higher engineering (BME, CE, EE, EMGT, ENGR, ME) credits for these requirements.

<sup>2</sup> Any MATH, STAT, CHEM, PHYS, BIO, BHSC or other science courses that has a prerequisite of one of the required foundational math or science courses.

<sup>3</sup> Any engineering course at the 1000-level or higher. At least 9 credits must be BME courses at the 3000-level or above.

<sup>4</sup> ENGR, MATH/STAT, CS, physical or life science courses at the 1000-level or above. At least 9 credits must be at the 3000-level or above.

<sup>5</sup> BME 4650 may be replaced by a BME 3000-level or above course. These 3 credits would be in addition to the 9 credits of BME 3000-level or above detailed in footnote 3.

## ELECTRICAL ENGINEERING B.S.EE.

The curriculum leading to the degree of Bachelor of Science in Electrical Engineering includes instruction in electrical and electronic circuits, energy systems, electromagnetics, semiconductor devices, signal processing, control systems, communications, digital systems, as well as in the physical sciences, humanities, and social sciences.

Engineering design is developed and integrated into each student's program and culminates in a required major design experience which

draws upon prior course work and which focuses on the issues and expectations of professional practice.

The Electrical Engineering Program provides a flexible and hands-on experience for its students. Students can explore the breadth of electrical engineering through electives or focus their studies in areas such as energy systems, computer systems, or autonomous systems.

## ELECTRICAL ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES

The educational objectives of the Electrical Engineering program are to provide our graduates with disciplinary breadth and depth to fulfill complex professional and societal expectations by:

1. Pursuing careers as practicing engineers or using their program knowledge in a wide range of other professional, educational and service activities;
2. Assuming leadership roles and seeking continuous professional development;
3. Contributing to their profession and society while appreciating the importance of ethical and sustainable practices, diversity, and inclusion.

## REQUIREMENTS

### THE CURRICULUM FOR THE B.S. IN ELECTRICAL ENGINEERING

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

Note that the University's Sustainability (SU), Quantitative and Data Literacy (QD), Natural Sciences (both N1 and N2), Mathematics (MA), and Writing and Information Literacy Tier 2 (WIL 2) requirements are built into the Electrical Engineering curriculum. A minimum of 128 credits are required.

GENERAL EDUCATION REQUIREMENTS (24 Credits)		
University WIL: Writing & Information Literacy		3
University D1: Diversity 1		3
University D1/D2: Diversity 1 or Diversity 2		3
University AH1/AH2/AH3: Arts & Humanities		6
University S1: Social Sciences		6
University GC: Global Citizenship		3
2000-Level or Higher Free Electives <sup>1</sup>		12
MATHEMATICS & STATISTICS REQUIREMENTS (19 Credits)		
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4



MATH 2248	Calculus III	4
MATH 2500	Eng Math Linear Algebra Lab	1
MATH 3201	Adv Engineering Mathematics	3
STAT 2510	Applied Probability	3
COMPUTING & SCIENCE REQUIREMENTS (14 Credits)		
CS 1210	Computer Programming I	3
CHEM 1400	General Chemistry 1	4
PHYS 1500	Physics for Engineers I	4
PHYS 1550	Physics for Engineers II	3
ENGINEERING COURSE REQUIREMENTS (47 Credits)		
CEMS 1500	CEMS First Year Seminar <sup>2</sup>	1
CEE 1150	Applied Mechanics	3
EE 1100	EE Principles and Design <sup>2</sup>	2
EE 2125	Circuits I	4
EE 2135	Circuits II	4
EE 2185	Circuits Design Project	2
EE 3110	Electronics I	4
EE 2810	Fundamentals of Digital Design	4
EE 3100	Electromagnetic Field Theory	4
EE 3150	Signals & Systems	4
EE 3000	Engineering Ethics/Leadership	1
EE 3115	Electronics Laboratory	2
EE 3415	Electronics Design Project	3
EE 4100	Capstone Design I	3
EE 4200	Capstone Design II	3
EMGT 2041	Engineering Economics	3
JUNIOR ELECTIVES (CHOOSE AT LEAST THREE OF THE FOLLOWING) (12 Credits) <sup>3</sup>		
EE 3515	Control Systems	4
EE 3315	Electric Energy Systems	4
EE 3410	Electronics II	4
EE 3815	Microcontroller Systems	4
EE 3610	Communication Systems	4
TOTAL CREDITS		128
OPTIONAL/RECOMMENDED COURSES		
PHYS 1510	Physics Problem Solving I	1
PHYS 1560	Physics Problem Solving II	1

ENGR 1020	Graphical Communication	2
CS 2100	Intermediate Programming	4

<sup>1</sup> 2000-Level or Higher Free Electives: Free Electives allow students to further tailor their studies through, e.g., technical, general, and/or professional development electives. Students are encouraged to work with their advisor(s) to select courses that complement their curricula and support their academic and career goals (such as the pursuit of an EE certificate, additional EE courses in their field of interest, a minor in another discipline, or semester abroad).

<sup>2</sup> CEMS 1500 & EE 1100 are degree requirements designed for first-year students. Internal and external transfer students may substitute additional 2000-level or higher engineering (BME, CE, EE, ENGR, ME) credits for these requirements.

<sup>3</sup> If a student takes more than three of these courses, they may count as 2000-level or Higher Free Electives (see footnote 1). Note that some of these courses are offered only in Fall, some only in Spring. Students need to work with their Academic Advisor to create a balanced schedule.

## ELECTRICAL ENGINEERING MINOR REQUIREMENTS

A minimum of eighteen credits in Electrical Engineering.

CHOOSE ONE OF THE FOLLOWING:		4
EE 2125	Circuits I	
EE 2175	Electrical Circuits & Sensors	
EE 2145	Electrical Engr Concepts	
CHOOSE OPTION 1 OR 2:		14
OPTION 1:		
EE 2135	Circuits II	
10 Credits of EE numbered 2185 or above		
OPTION 2: <sup>1</sup>		
14 Credits of EE numbered 2185 or above		

<sup>1</sup> Many Electrical Engineering courses require EE 2125 as a prerequisite. Students who choose Option 2 must receive a B or better in EE 2125, EE 2175 or EE 2145 to receive prerequisite waivers.

## OTHER INFORMATION

No credit for more than one of EE 2125, EE 2175 or EE 2145. Students must obtain a co-advisor from the EE program.

## GEOSPATIAL TECHNOLOGIES MINOR

### REQUIREMENTS

15 credits in minor courses.

COURSE REQUIREMENTS		
GEOSPATIAL TECHNOLOGIES IN THE DISCIPLINES. Choose one of the following:		3-4
ENGR 1020	Graphical Communication	
CDAE 2010	Drafting & Design: SketchUp II	
ENSC 2300	Global Environmental Assessment	
GEOL 2525	Geocomputing	
GEOL 3410	Geomorphology	
FOR 2110	Nat Res Ecol and Assessment 1	
CEE 2000	Geomatics	
BREADTH REQUIREMENTS: Choose 2 courses/6 credits from at least 2 of the following categories:		6
GEOGRAPHIC INFORMATION SYSTEMS:		
NR 2430	Intro to Geog Info Systems	
GEOG 2510	Geog Info: Concepts & Applic	
REMOTE SENSING		
NR 2460	Remote Sensing	
GEOG 2520	Remote Sensing	
DATA SCIENCE:		
CS 1080	Intro to Web Site Dev	
CS 1210	Computer Programming I	
CS 1870	Intro to Data Science	
or STAT 1870 Intro to Data Science		
CS 2100	Intermediate Programming	
CS 2480	Database Design for Web	
CS 2870	Basics of Data Science	
CAPSTONE/ADVANCED EXPERIENCE. Choose 1 or more of the following:		3
NR 3430	Adv Geospatial Techniques	
NR 4430	GIS Practicum	
NR 5450	Data Vis & Communication	
NR 5460	Geospatial Computation	
GEOG 3505	Spatial Analysis	
GEOG 3520	Topics in Remote Sensing	
CS 3040	Database Systems	

MATH 3766	Chaos, Fractals & Dynamical Syst	
STAT 3010	Stat Computing & Data Analysis	
With the approval of a minor advisor, a maximum of 3 credits of relevant applied research or internship credit may be applied to the capstone requirement.		
ELECTIVES: 3 additional credits from any of the categories listed in the minor.		3
<b>LEVEL REQUIREMENT</b>		
At least 9 credits must be at the 2000-level or above.		

### PRE/CO-REQUISITES

Introductory and intermediate courses for various subjects may be necessary to reach the courses at the 2000-level or above applicable to the minor.

### REMINDERS

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

## MECHANICAL ENGINEERING

At the undergraduate level, the Department of Mechanical Engineering offers an ABET-accredited Bachelor of Science in Mechanical Engineering. Additional information is available in that program's section of this catalogue.

### REGULATIONS

Students pursuing the Bachelor of Science in Mechanical Engineering are subject to the Academic Standards in CEMS outlined in this catalogue.

### ADDITIONAL REGULATIONS

Students may apply no more than three credits graded D, D+ or D- in any engineering (BME, CEE, EE, ENGR or ME) course toward the degree.

In order to earn the Bachelor of Science in Mechanical Engineering, students must achieve a minimum 2.00 GPA in all Engineering (BME, CEE, EMGT, ENGR, EE, ME), Mathematics, Statistics, Physics, Chemistry and Computer Science coursework.

### MAJORS

#### MECHANICAL ENGINEERING MAJORS

Mechanical Engineering B.S.ME. (p. 410)

### GRADUATE

See the online Graduate Catalogue for more information.

## MECHANICAL ENGINEERING B.S.ME.

The curriculum leading to a degree of Bachelor of Science in Mechanical Engineering offers instruction in design, solid and thermo-fluid mechanics, materials, manufacturing processes

and systems, as well as in engineering, life and physical sciences, humanities, and social sciences.

Engineering design is developed and integrated into each student's program and culminates in a required major design experience which draws upon prior course work and which focuses on the issues and expectations of professional practice.

## MECHANICAL ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES

The educational objectives of the Mechanical Engineering program are to provide our graduates with disciplinary breadth and depth to fulfill complex professional and societal expectations by:

1. Pursuing careers as practicing engineers or using their program knowledge in a wide range of other professional, educational and service activities.
2. Assuming leadership roles and seeking continuous professional development.
3. Contributing to their profession and society while appreciating the importance of ethical and sustainable practices, diversity, and inclusion.

## REQUIREMENTS

### THE CURRICULUM FOR THE B.S. IN MECHANICAL ENGINEERING

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

Note that the University's Sustainability (SU), Quantitative and Data Literacy (QD), Natural Sciences (both N1 and N2), and Mathematics (MA) requirements and the College's Professional Development requirement are built into the Mechanical Engineering curriculum. Total credits for this degree range from 128 to 134, depending on whether or not students take courses that fulfill multiple university and college requirements. Minimum of 128 credits required.

GENERAL EDUCATION REQUIREMENTS (27 CREDITS) <sup>1</sup>	
University WIL1: Writing & Information Literacy	3
University WIL2: Writing & Information Literacy Tier 2	3
University D1: Diversity 1	3
University D1/D2: Diversity 1 or Diversity 2	3
University AH1/AH2/AH3: Arts and Humanities	6
University S1: Social Sciences	6
University GC: Global Citizenship	3

MATHEMATICS & STATISTICS REQUIREMENTS (21 CREDITS)		
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 2522	Applied Linear Algebra	3
or MATH 2544	Linear Algebra	
MATH 3201	Adv Engineering Mathematics	3
STAT 2430	Statistics for Engineering	3
COMPUTING & SCIENCE REQUIREMENTS (14 CREDITS)		
CS 1210	Computer Programming I	3
CHEM 1400	General Chemistry 1	4
PHYS 1500	Physics for Engineers I	4
PHYS 1550	Physics for Engineers II	3
MECHANICAL ENGINEERING COURSE REQUIREMENTS (53 CREDITS)		
ME 1010	First-Year Design Experience <sup>2</sup>	2
ME 1020	Engineering Shop Experience	1
ME 1120	Dynamics	3
ME 1140	Mechanics of Solids	3
ME 1210	Thermodynamics	3
ME 1220	Applied Thermodynamics	3
ME 1510	Computational Mech Engr Lab	1
ME 2110	Materials Engineering	3
ME 2111	Materials and Mechanics Lab	2
ME 2120	System Dynamics	3
ME 2230	Fluid Mechanics	3
ME 2231	Thermo-Fluid Lab	2
ME 2240	Heat Transfer	3
ME 2310	Design of Elements	3
ME 4010	Capstone Design I	3
ME 4020	Capstone Design II	3
ME Electives <sup>3</sup>		12
ADDITIONAL ENGINEERING/TECHNICAL COURSE REQUIREMENTS (19 CREDITS)		
CEE 1100	Statics	3
EE 2145	Electrical Engr Concepts	4
EE 2845	Digital Control w/Embedded Sys	4

ENGR 1020	Graphical Communication	2
Technical Electives <sup>4</sup>		6
OPTIONAL/RECOMMENDED COURSES (4 CREDITS)		
ME 1310	Intro to Robotics and Coding	1
CEMS 1500	CEMS First Year Seminar	1
PHYS 1510	Physics Problem Solving I	1
PHYS 1560	Physics Problem Solving II	1

<sup>1</sup> A single course can satisfy multiple requirements in this category.

<sup>2</sup> First Year Design Experience: ME 1010 is a degree requirement designed for first-year students. Internal and external transfer students may substitute 200-level or higher engineering (BME, CEE, EE, ENGR, ME) credits for this requirement.

<sup>3</sup> ME Electives: All 3 credit 3000-level ME courses except ME 3994, ME 399S, and ME 3899. All 3 credit 5000-level ME courses.

<sup>4</sup> Technical Electives: All 2000-level (or higher) courses in BME, CEE, EE, EMGT, ENGR, ME, CS, CSYS, MATH, ASTR, BIOC, BIOL, CHEM, GEOL, MMG & PHYS; STAT 2510 or higher.

## INTERDISCIPLINARY ENGINEERING PROGRAMS

CEMS offers two undergraduate Interdisciplinary Engineering Programs: a Bachelor of Science in Engineering and a Bachelor of Science in Engineering Management. These programs are not ABET-accredited, nor are they designed to be. They are flexible, cross-disciplinary degrees that allow students to study engineering alongside the liberal arts, sciences and/or business administration. Additional Interdisciplinary Engineering offerings include an Undergraduate Certificate in Computer-Aided Engineering Technology.

The Interdisciplinary Engineering Programs are collaboratively overseen by the Department of Civil & Environmental Engineering, the Department of Electrical & Biomedical Engineering and the Department of Mechanical Engineering. More information is available within the individual program sections of this catalogue.

## REGULATIONS

Students pursuing any of the undergraduate Interdisciplinary Engineering Programs (BS Engineering or BS Engineering Management) are subject to the Academic Standards in CEMS outlined in this catalogue.

## ADDITIONAL REGULATIONS

Students may apply no more than three credits graded D, D+ or D- in any engineering (BME, CEE, EMGT, ENGR or ME) course toward the degree.

In order to earn the Bachelor of Science in Engineering or the Bachelor of Science in Engineering Management, students must achieve a minimum 2.00 GPA in all Engineering (BME, CEE, EMGT,

ENGR, EE, ME), Mathematics, Statistics, Physics, Chemistry and Computer Science coursework.

## MAJORS

### INTERDISCIPLINARY ENGINEERING PROGRAM MAJORS

- Engineering B.S.E. (p. 412)
- Engineering Management B.S.EM. (p. 413)

## MINORS AND CERTIFICATES

### INTERDISCIPLINARY ENGINEERING PROGRAMS MINORS AND CERTIFICATES

- Computer-Aided Engineering Technology (p. 415) - Undergraduate Certificate
- Geospatial Technologies Minor (p. 410)

## ENGINEERING B.S.E.

The College of Engineering and Mathematical Sciences offers instruction leading to the Bachelor of Science in Engineering degree. This degree is designed for those students desiring a program with a strong technical science base and flexibility to pursue interdisciplinary applications of engineering in the humanities, arts, and sciences. Each student will be expected to declare a concentration before completing the first four semesters of study. At that time, the student and advisor(s) will plan an integrated series of courses directed towards the concentration and tailored to the student's interest.

## REQUIREMENTS

### THE CURRICULUM FOR THE B.S. IN ENGINEERING

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

Note that the University's Quantitative and Data Literacy (QD), Natural Sciences (both N1 and N2), and Mathematics (MA) requirements are built into the BS Engineering curriculum. Minimum of 128 credits required.

UNIVERSITY & BSE GENERAL EDUCATION AND FREE REQUIREMENTS (30 CREDITS) <sup>1</sup>	
University WIL1: Writing & Information Literacy Tier 1	3
University WIL2: Writing & Information Literacy Tier 2	3
University D1: Diversity 1	3
University D1/D2: Diversity 1 or Diversity 2	3
University AH1/AH2/AH3: Arts and Humanities	6

University S1: Social Sciences		6
Free Electives <sup>2</sup>		6
MATHEMATICS & STATISTICS REQUIREMENTS (21 CREDITS)		
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 2544	Linear Algebra	3
MATH 3201	Adv Engineering Mathematics	3
STAT 2430	Statistics for Engineering	3
or STAT 2510	Applied Probability	
COMPUTING & SCIENCE REQUIREMENTS (14 CREDITS)		
CS 1210	Computer Programming I	3
CHEM 1400	General Chemistry I	4
PHYS 1500	Physics for Engineers I	4
PHYS 1550	Physics for Engineers II	3
ENGINEERING SCIENCE CORE REQUIREMENTS (13 CREDITS)		
CEMS 1500	CEMS First Year Seminar <sup>3</sup>	1
CEE 1100	Statics	3
EE 2125	Circuits I	4
or EE 2175	Electrical Circuits & Sensors	
or EE 2145	Electrical Engr Concepts	
ENGR 1020	Graphical Communication	2
ME 1210	Thermodynamics	3
ENGINEERING SCIENCE ELECTIVES (30 CREDITS) <sup>4</sup>		
ENGINEERING DESIGN REQUIREMENTS (8 CREDITS)		
BME 1600	BME Design 0 <sup>3</sup>	2
or CEE 1000	Intro to Civil & Envir Engr	
or EE 1100	EE Principles and Design	
or ME 1010	First-Year Design Experience	
BME 4600	Capstone Design I <sup>5</sup>	3
or CEE 2130	System Focused Design Engr	
or EE 4100	Capstone Design I	
or ME 4010	Capstone Design I	
BME 4650	BME Capstone Design II <sup>5</sup>	3
or CEE 4950	Capstone Design	

or EE 4200	Capstone Design II	
or ME 4020	Capstone Design II	
TECHNICAL ELECTIVES (12 CREDITS) <sup>6</sup>		
RECOMMENDED/OPTIONAL COURSES (2 CREDITS)		
PHYS 1510	Physics Problem Solving I	1
PHYS 1560	Physics Problem Solving II	1
Total		128

- <sup>1</sup> University General Education Requirements include: 3 credits of Writing & Information Literacy (WIL1). Students must take ENGL 1001 or HCOL 1000 (only for students enrolled in the Honors College) to satisfy this requirement. A single course can satisfy multiple requirements in this category.
- <sup>2</sup> Free Electives: Students may use free elective credits to pursue coursework germane to their interests, including Professional Development Electives. Students are encouraged to work with their advisor(s) to select courses that complement their curricula and support their academic and career goals. Students should select one course that meets the University Sustainability Requirement (SU) if they have not taken an SU engineering course. Students should also select a course to satisfy the University Global Citizenship (GC) Requirement if they have not taken a GC engineering course.
- <sup>3</sup> First Year Curriculum: These degree requirements are designed for first-year students. Internal and external transfer students may substitute additional 2000-level or higher engineering (BME, CEE, EE, ENGR, ME, EMGT) credits for this requirement.
- <sup>4</sup> Engineering Science Electives: All BME, CEE, EE, ENGR, ME and EMGT courses (except ENGR 1100). Must have a minimum of 9 credits at the 3000-level.
- <sup>5</sup> Capstone Design I and II courses must have the same course prefix.
- <sup>6</sup> Technical Electives: Any 2000-level or higher course in CEMS or BSAD; natural sciences courses with advisor approval. BSE students may not double count BSAD courses as both Tech Electives and General Education.

## ENGINEERING MANAGEMENT B.S.EM.

Engineering Management is an interdisciplinary degree that combines engineering fundamentals, analysis and design with business administration and resource management. It is the art and science of planning, organizing, directing and controlling activities that have technical components. Graduates work as Project Engineers, Operations Managers, Cost Estimators, and Quality Engineers, to give a few examples.

The curriculum combines a basic education in the engineering disciplines with the study of economics, accounting and finance, operations, and management. The curriculum is offered in cooperation with the Grossman School of Business.

## ENGINEERING MANAGEMENT PROGRAM EDUCATIONAL OBJECTIVES

The educational objectives of the Engineering Management program are to provide our graduates with the disciplinary breadth and depth to:

1. Develop actionable solutions to complex problems by applying critical thinking and engineering, management and mathematics knowledge.
2. Communicate effectively across a variety of mediums and cultures.
3. Grow intellectually through continued self-study, continuing education, and professional development.
4. Uphold responsible ethical and moral standards, and consider the impact of decisions across social, environmental, economic, and technological facets.

## REQUIREMENTS

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

Note that the University's Social Sciences (S1), Natural Sciences (N1, N2), Mathematics (MA), and Quantitative and Data Literacy (QD) requirements are built into the Engineering Management curriculum. Minimum of 128 credits required.

GENERAL EDUCATION REQUIREMENTS (21 CREDITS) <sup>1</sup>		
University WIL1: Writing & Information Literacy		3
University WIL2: Writing & Information Literacy Tier 2 or Oral Communication		3
University AH1/AH2/AH3: Arts and Humanities		6
University D1: Diversity 1		3
University D1/D2: Diversity 1 or Diversity 2		3
University GC1/GC2: Global Citizenship		3
MATHEMATICS & STATISTICS REQUIREMENTS (24 CREDITS)		
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 2522	Applied Linear Algebra	3
or MATH 2544	Linear Algebra	
MATH 3201	Adv Engineering Mathematics	3
STAT 2430	Statistics for Engineering	3

STAT 3240	Stats for Quality&Productvty	3
COMPUTING & SCIENCE REQUIREMENTS (14 CREDITS)		
CS 1210	Computer Programming I	3
CHEM 1400	General Chemistry I	4
PHYS 1500	Physics for Engineers I	4
PHYS 1550	Physics for Engineers II	3
ECONOMICS & BUSINESS REQUIREMENTS (24 CREDITS)		
ECON 1400	Principles of Macroeconomics <sup>3</sup>	3
ECON 1450	Principles of Microeconomics <sup>3</sup>	3
BUS 1610	Financial Accounting	3
BUS 2130	Decision Analysis	3
BUS 2300	Leadership & Org Behavior	3
BUS 2620	Managerial Accounting	3
BUS 2700	Operations Management	3
BUS 2800	Managerial Finance	3
or BUS 2792	Business Process Improvement	
ENGINEERING SCIENCE REQUIREMENTS (37 CREDITS)		
CEE 1100	Statics	3
CEMS 1500	CEMS First Year Seminar <sup>2</sup>	1
EE 2145	Electrical Engr Concepts	4
or EE 2175	Electrical Circuits & Sensors	
EMGT 2041	Engineering Economics	3
ENGR 1020	Graphical Communication	2
ME 1210	Thermodynamics	3
Engineering Science Electives <sup>3</sup>		21
ENGINEERING DESIGN REQUIREMENTS (8 CREDITS)		
CEE 1000	Intro to Civil & Envir Engr <sup>2</sup>	2
or EE 1100	EE Principles and Design	
or ME 1010	First-Year Design Experience	
CEE 2130	System Focused Design Engr <sup>4</sup>	3
or EE 4100	Capstone Design I	
or ME 4010	Capstone Design I	
CEE 4950	Capstone Design <sup>4</sup>	3
or EE 4200	Capstone Design II	
or ME 4020	Capstone Design II	
RECOMMENDED/OPTIONAL COURSES (0-3 CREDITS)		

PHYS 1510	Physics Problem Solving I	
PHYS 1560	Physics Problem Solving II	
TOTAL		128

- <sup>1</sup> Students who meet the Univ WIL2, OC or GC requirements with an Engineering Science Elective<sup>5</sup>, may replace these credits with free elective credits to meet minimum degree requirements.
- <sup>2</sup> CEMS 1500 & First-year Design courses are degree requirements for first-year students. Internal and external transfer students may substitute 2000-level or higher engineering (BME, CEE, EE, EMGT, ENGR, ME) credits for this requirement.
- <sup>3</sup> Engineering Science Electives: All BME, CEE, EE, EMGT, ENGR & ME courses (except ENGR 1100). Must include a minimum of 6 EMGT credits.
- <sup>4</sup> For 4000-level Capstone courses, students must choose courses with the same course prefix.

## COMPUTER-AIDED ENGINEERING TECHNOLOGY UNDERGRADUATE CERTIFICATE

Computer-Aided Engineering Technology (CAET) is the term for an evolving set of computer based tools used for the development, communication and evaluation of product and building designs. The Undergraduate Certificate in CAET will provide students with a critical skill set identified by industry and government at both the state and national levels. Core classes provide students with a solid foundation in computerized automation techniques, three dimensional form and location geometry. Elective courses facilitate a focus into specific sub-disciplines.

### REQUIREMENTS

Minimum of fifteen credits required.

Required core courses:		
ENGR 1020	Graphical Communication	2
ENGR 2120	Building Information Modeling	3
ENGR 2140	Advanced 3D Drafting	3
Choose 7 credits of elective coursework from the following:		
ARTS 2610	Digital Art	
CDAE 2010	Drafting & Design: SketchUp II	
CEE 2000	Geomatics	
CEE 5730	Structural Design - Wood	
ENGR 2150	Infrastructure & Terrain Model	
ENGR 2160	Virtual Instrument Engineering	

GEOG 1500	Geospatial Cncpt&Visualization	
ME 1510	Computational Mech Engr Lab	
NR 2430	Intro to Geog Info Systems	
Other electives may be approved by CAET program coordinator.		

## GEOSPATIAL TECHNOLOGIES MINOR REQUIREMENTS

15 credits in minor courses.

<b>COURSE REQUIREMENTS</b>		
GEOSPATIAL TECHNOLOGIES IN THE DISCIPLINES. Choose one of the following:		3-4
ENGR 1020	Graphical Communication	
CDAE 2010	Drafting & Design: SketchUp II	
ENSC 2300	Global Environmental Assessmnt	
GEOG 2525	Geocomputing	
GEOG 3410	Geomorphology	
FOR 2110	Nat Res Ecol and Assessment 1	
CEE 2000	Geomatics	
BREADTH REQUIREMENTS: Choose 2 courses/6 credits from at least 2 of the following categories:		6
GEOGRAPHIC INFORMATION SYSTEMS:		
NR 2430	Intro to Geog Info Systems	
GEOG 2510	Geog Info:Cncpts & Applic	
REMOTE SENSING		
NR 2460	Remote Sensing	
GEOG 2520	Remote Sensing	
DATA SCIENCE:		
CS 1080	Intro to Web Site Dev	
CS 1210	Computer Programming I	
CS 1870	Intro to Data Science	
or STAT 1870 Intro to Data Science		
CS 2100	Intermediate Programming	
CS 2480	Database Design for Web	
CS 2870	Basics of Data Science	
CAPSTONE/ADVANCED EXPERIENCE. Choose 1 or more of the following:		3
NR 3430	Adv Geospatial Techniques	
NR 4430	GIS Practicum	

NR 5450	Data Vis & Communication	
NR 5460	Geospatial Computation	
GEOG 3505	Spatial Analysis	
GEOG 3520	Topics in Remote Sensing	
CS 3040	Database Systems	
MATH 3766	Chaos,Fractals&Dynamcal Syst	
STAT 3010	Stat Computing&Data Analysis	
With the approval of a minor advisor, a maxium of 3 credits of relevant applied research or internship credit may be applied to the capstone requirement.		
ELECTIVES: 3 additional credits from any of the categories listed in the minor.		3
<b>LEVEL REQUIREMENT</b>		
At least 9 credits must be at the 2000-level or above.		

## PRE/CO-REQUISITIES

Introductory and intermediate courses for various subjects may be necessary to reach the courses at the 2000-level or above applicable to the minor.

## REMINDERS

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

## COMPUTER SCIENCE DEPARTMENT

<http://www.uvm.edu/~cems/cs/>

Computer Science (CS) is a vibrant subject with academic depth, enormous growth, and universal economic impact. Computers are now ubiquitous in society and influence the way we learn, the way we do science and business, and the way we interact with and understand our world.

Edsger Dijkstra (a renowned computer scientist, 1930-2002) is reputed to have said “Computer Science is no more about computers, than astronomy is about telescopes.” Rather, CS is aptly defined as the science of problem solving. CS requires a combination of logical thinking, creativity, problem decomposition, implementation, verification and validation, and teamwork. Computing Careers are extremely versatile, lucrative, and in tremendous and growing demand.

UVM CS courses provide a mixture of lecture-based and hands-on experiential learning exercises. The curricula provide a solid foundation in both applied and theoretical aspects of computing, preparing students for future careers and/or graduate study in computing. Many students complete paid internships over the summer.

## CURRICULA

At the undergraduate level, UVM Computer Science offers bachelor’s degrees, an accelerated M.S. degree, a minor, and a non-degree Certificate in Computer Software:

### **bachelor of science in computer science (bs cs)**

The Bachelor of Science in Computer Science provides the most depth in computer science, mathematics and statistics, and the most flexibility in the remaining electives. A minor is encouraged, but not required. The BS CS is offered through the College of Engineering & Mathematical Sciences.

### **Bachelor of science - computer science and information systems major (bs csis)**

The Bachelor of Science, major in Computer Science and Information Systems, is an interdisciplinary degree that combines computer science with business, offering a competitive combination of skills and knowledge. The BS CSIS is offered through the College of Engineering & Mathematical Sciences, in cooperation with the Grossman School of Business.

### **Bachelor of science - data science major (bs ds)**

The Bachelor of Science, major in Data Science, is a transdisciplinary program that provides students with a strong education at the intersection of computer science, mathematics, and statistics. A minor is encouraged, but not required. The BS DS is offered through the College of Engineering & Mathematical Sciences.

### **Bachelor of arts - computer science major (ba cs)**

The Bachelor of Arts, major in Computer Science, provides a computer science major in the context of a liberal education with breadth in social science, humanities, foreign language, literature, and fine art. A minor is required. The BA CS is offered through the College of Arts & Sciences. Information on this program can be found in the College of Arts & Sciences portion of the Undergraduate Catalogue.

### **accelerated masters programs**

The Accelerated Masters Programs in Computer Science and in Complex Systems & Data Science are open to academically strong juniors (GPA 3.2 or higher) from any major who have met the prerequisites. The AMP allows students to apply two upper division courses towards both bachelor's and master's degrees, enabling completion of the M.S. in Computer Science or M.S. in Complex Systems & Data Science in as little as one additional year beyond the Bachelor's degree. No GRE is required, and 30% tuition scholarships are available. Information on the AMP can be found on the CEMS website.

### **computer science minor**

The minor in Computer Science is a flexible 6-course program, which is a great complement to virtually any other UVM major and adds marketable skills.

### **CERTIFICATE IN Computer science**

A non-degree Certificate in Computer Software is a flexible 5-course program offered jointly with the Division of Continuing Education. It



can be used to obtain career skills or to make up pre-requisites for the MS program in CS. Information about this program can be found on the Professional and Continuing Education Website.

**REGULATIONS**

Students pursuing the Bachelor of Science in Computer Science, or the Bachelor of Science degree with majors in Computer Science & Information Systems or Data Science, are subject to the Academic Standards in CEMS outlined in this catalogue.

**ADDITIONAL REGULATIONS**

In order to earn the Bachelor of Science in Computer Science or the Bachelor of Science degree with a major in Computer Science & Information Systems, students must achieve a minimum GPA of 2.0 in all courses with a CS prefix. The minimum 2.0 GPA also includes courses without a CS prefix that are substituted for a CS course requirement.

**MAJORS**

**COMPUTER SCIENCE MAJORS**

Computer Science B.S.CS. (p. 417)

Computer Science and Information Systems B.S. (p. 418)

Data Science B.S. (p. 419)

**MINORS**

**COMPUTER SCIENCE MINOR**

Computer Science (p. 421)

**GRADUATE**

Complex Systems and Data Science AMP

Complex Systems and Data Science M.S.

Complex Systems and Data Science Ph.D.

Computer Science AMP

Computer Science M.S.

Computer Science Ph.D.

See the online Graduate Catalogue for more information.

**COMPUTER SCIENCE B.S.CS.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

A minimum of 120 credits are required and must include the following:

COMPUTER SCIENCE (52 CREDITS)		
Core:		
CS 1210	Computer Programming I <sup>1</sup>	3
CS 1500	Seminar for New CS Majors	1
CS 1640	Discrete Structures	3
CS 2100	Intermediate Programming <sup>1</sup>	4
CS 2300	Advanced Programming	3
CS 2210	Computer Organization	3
CS 2240	Data Struc & Algorithms	3
CS 2250	Computability & Complexity	3
CS 3010	Operating Systems	3
CS 3240	Algorithm Design & Analysis	3
CS 3920	Senior Seminar	1
CEMS 1500	CEMS First Year Seminar <sup>3</sup>	1
Capstone Experience		3
A comprehensive, project-based experience, typically occurring during the Senior year, that draws from the full breadth of skills and knowledge developed throughout a student's undergraduate program. Students may choose from the following courses:		
CS 3020	Compiler Construction	
CS 3050	Software Engineering	
CS 3060	Evolutionary Robotics	
CS 3110	Data Privacy	
CS 3250	Programming Languages	
CS 3260	Software Verification	
CS 3280	Human-Computer Interaction	
CS 3530	Reinforcement Learning	
CS 3540	Machine Learning	
CS 3750	Mobile App Development	
18 additional credits in CS, including 3 at the 1000-level (or above), 6 at the 2000-level (or above), and 9 credits at the 3000-level (or above).		18
MATHEMATICS (14 CREDITS)		
MATH 1234	Calculus I <sup>2</sup>	4
MATH 1248	Calculus II <sup>2</sup>	4
Choose 2 of the following courses:		6-7
MATH 2248	Calculus III	
MATH 2522	Applied Linear Algebra	
or MATH 2544 Linear Algebra		

MATH 2678	Basic Combinatorial Theory	
MATH 3201	Adv Engineering Mathematics	
PROBABILITY & STATISTICS (6 CREDITS)		
STAT 2430	Statistics for Engineering	3
STAT 2510	Applied Probability	3
NATURAL SCIENCES (7 CREDITS):		
2 courses, one of which must be a lab adding up to 4 credits, chosen from:		
Astronomy (ASTR) - All courses		
Biology (BIOL) - All courses		
BioCore (BCOR) - All courses		
Chemistry (CHEM) - All courses		
Geology (GEOL) - All courses		
Physics (PHYS) - All courses		
Plant Biology (PBIO) - All courses		
GEOG 1200	Weather, Climate & Landscapes	
GEOG 2205	Biogeography	
GEOG 2230	Climatology: Concepts & Tools	
GEOG 2250	Global Environmental Change	
MMG 1650	Microbiology & Pathogenesis	
PSYS 2100	Learning, Cognition & Behavior	
PSYS 2200	Biopsychology	
PSYS 3100	Learning	
PSYS 3200	Physiological Psychology w/lab	
PSYS 3250	Psychopharmacology	
PSYS 3205	Hormones and Behavior	

<sup>1</sup> C- or higher required in CS 1210 and CS 2100.  
<sup>2</sup> MATH 1212 and MATH 1242 are acceptable substitutions for MATH 1234 and MATH 1248.  
<sup>3</sup> CEMS degree requirement designed for first-year students.

## COMPUTER SCIENCE AND INFORMATION SYSTEMS B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

A minimum of 120 credits are required and must include the following:

COMPUTER SCIENCE (46 CREDITS)		
Core:		
CS 1080	Intro to Web Site Dev	3
CS 1210	Computer Programming I <sup>1</sup>	3
CS 1500	Seminar for New CS Majors	1
CS 1640	Discrete Structures	3
CS 2100	Intermediate Programming <sup>1</sup>	4
CS 2300	Advanced Programming	3
CS 2210	Computer Organization	3
CS 2240	Data Struc & Algorithms	3
CS 2480	Database Design for Web	3
CS 3240	Algorithm Design & Analysis	3
CS 3920	Senior Seminar	1
CEMS 1500	CEMS First Year Seminar <sup>3</sup>	1
Capstone Experience		3
A comprehensive, project-based experience, typically occurring during the Senior year, that draws from the full breadth of skills and knowledge developed throughout a student's undergraduate program. Students may choose from the following courses:		
CS 3020	Compiler Construction	
CS 3050	Software Engineering	
CS 3060	Evolutionary Robotics	
CS 3110	Data Privacy	
CS 3250	Programming Languages	
CS 3260	Software Verification	
CS 3280	Human-Computer Interaction	
CS 3530	Reinforcement Learning	
CS 3540	Machine Learning	
CS 3750	Mobile App Development	
12 additional CS credits at the 2000-level or above (CS 2250 recommended for students who wish to pursue graduate study in CS); 6 credits at the 3000-level or above.		12
BUSINESS ADMINISTRATION (24 CREDITS)		
BUS 1610	Financial Accounting	3
BUS 2130	Decision Analysis	3
BUS 2620	Managerial Accounting	3

BUS 2300	Leadership & Org Behavior	3
BUS 2500	Marketing Management	3
BUS 2700	Operations Management	3
BUS 2800	Managerial Finance	3
BSAD Elective (2000-level or above)		3
ECONOMICS (6 CREDITS)		
ECON 1400	Principles of Macroeconomics	3
ECON 1450	Principles of Microeconomics	3
MATHEMATICS (8 CREDITS)		
MATH 1234	Calculus I <sup>2</sup>	4
MATH 1248	Calculus II <sup>2</sup>	4
PROBABILITY & STATISTICS (6 CREDITS)		
STAT 2430	Statistics for Engineering	3
STAT 2510	Applied Probability	3
NATURAL SCIENCES (7 CREDITS)		
2 courses, one of which must be a lab course that totals 4 credits, chosen from:		
Astronomy (ASTR) - All courses		
Biology (BIOL) - All courses		
BioCore (BCOR) - All courses		
Chemistry (CHEM) - All courses		
Geology (GEOL) - All courses		
Physics (PHYS) - All courses		
Plant Biology (PBIO) - All courses		
GEOG 1200	Weather, Climate & Landscapes	
GEOG 2205	Biogeography	
GEOG 2230	Climatology: Concepts & Tools	
GEOG 2250	Global Environmental Change	
MMG 1650	Microbiology & Pathogenesis	
PSYS 2100	Learning, Cognition & Behavior	
PSYS 2200	Biopsychology	
PSYS 3100	Learning	
PSYS 3200	Physiological Psychology w/lab	
PSYS 3250	Psychopharmacology	
PSYS 3205	Hormones and Behavior	

<sup>1</sup> C- or higher required in CS 1210 and CS 2100.

<sup>2</sup> MATH 1212 and MATH 1242 are acceptable substitutions for MATH 1234 and MATH 1248.  
<sup>3</sup> CEMS degree requirement designed for first-year students.

## DATA SCIENCE B.S.

### DATA SCIENCE MAJOR

The study and applications of Data Science impacts our lives in myriad ways every moment of every day. Often we are unaware of the role this important field plays in our daily routines. We have data scientists to thank as we read the latest news on our social media feed of choice, or watch a movie suggested by our go-to streaming app. Even the food we eat has likely been guided by the study of big data. For example, researchers are working hand-in-hand with farms of all sizes to help analyze data which in turn can identify and reduce areas of inefficiency and waste, and bring food to your table in a faster, safer, and more cost-effective way.

The curriculum of the Bachelor of Science with a major in Data Science combines courses from the disciplines of Statistics, Mathematics, and Computer Science to prepare students for careers in Big Data Science & Analytics: rapidly growing fields with huge unmet demand. The unique interdisciplinary educational experience allows students the opportunity to acquire the broad base of knowledge and skills that employers are seeking.

### REGULATIONS

Students pursuing the Bachelor of Science degree with a major in Data Science are subject to the Academic Standards in CEMS outlined in this catalogue.

### REQUIREMENTS

#### THE CURRICULUM FOR THE B.S. IN DATA SCIENCE

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

A minimum of 120 credits is required. Students are required to complete a minimum of 3 cr. Professional Development Electives that are listed on the College Requirements page.

CORE (6 CREDITS):		
CEMS 1500	CEMS First Year Seminar	1
CS 1640	Discrete Structures	3
or MATH 2055	Fundamentals of Mathematics	
STAT 2510	Applied Probability	3

or STAT 5510	Probability Theory	
COMPUTER SCIENCE CORE (20 to 23 CREDITS):		
CS 1210	Computer Programming I	3
CS 2100	Intermediate Programming	4
CS 2240	Data Struc & Algorithms	3
CS 3040	Database Systems	3
CS 3240	Algorithm Design & Analysis	3
CS 3540	Machine Learning	3
or STAT 3880	Statistical Learning	
or CS 3880	Statistical Learning	
CS 3920	Senior Seminar	1
2000-Level (or above) CS Elective <sup>1</sup>		3
STATISTICS CORE (18 to 21 CREDITS):		
STAT 1870	Intro to Data Science	3
STAT 1410	Basic Statistical Methods 1	3
or STAT 2430	Statistics for Engineering	
STAT 2830	Basic Statistical Methods 2	3
STAT 3010	Stat Computing&Data Analysis	3
STAT 3210	Advanced Statistical Methods	3
STAT 4810	Capstone Experience	1-8
or STAT 3996	Undergrad Honors Thesis	
or MATH 4996	Undergraduate Honors Thesis	
or CS 4996	Undergraduate Honors Thesis	
STAT/CS 3870	Data Science I - Pinnacle	3
MATHEMATICS CORE (11 CREDITS):		
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2522	Applied Linear Algebra	3
or MATH 2544	Linear Algebra	
Choose 12 Credits in Data Science (DS) electives selected from the list of approved courses (see below) in MATH/STAT/CS/CSYS/NR, with at least 9 of these credits in courses numbered 3400 or above: <sup>2</sup>		12
CS 2300	Advanced Programming	
CS 2480	Database Design for Web	
CS 2660	Cybersecurity Principles	
CS 2670	Cybersecurity Defense	
CS 3050	Software Engineering	

CS 3240	Algorithm Design & Analysis	
CS 3280	Human-Computer Interaction	
CS 3540	Machine Learning	
MATH 2248	Calculus III	
MATH 2678	Basic Combinatorial Theory	
MATH 5775	Mathematical Models&Anlysis <sup>3</sup>	
MATH/CS 3737	Intro to Numerical Analysis	
MATH 3766	Chaos,Fractals&Dynmcal Syst	
MATH 5788	Mathematical Biology&Ecol <sup>3</sup>	
STAT 3240	Stats for Quality&Productvty	
STAT 5310	Experimental Design <sup>3</sup>	
STAT 5350	Categorical Data Analysis <sup>3</sup>	
STAT 3410	Statistical Inference	
STAT/CS 3880	Statistical Learning	
STAT 5290	Survivl/Logistic Regression <sup>3</sup>	
NR 2430	Intro to Geog Info Systems	
CHOOSE ONE 2-COURSE NATURAL SCIENCE (W/ LAB) SEQUENCE:		8
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	
PHYS 1600 & PHYS 1650	Fundamentals of Physics I and Fundamentals of Physics II	

- <sup>1</sup> Students should select appropriate courses from list of approved Data Science (DS) electives. Alternative courses may be approved by the DS Curriculum Committee.
- <sup>2</sup> Additional courses, including special topics courses, may be granted approval if appropriate (consult advisor)
- <sup>3</sup> Undergraduate students require instructor permission to enroll in 5000-level courses.

**GRADUATE**

Complex Systems and Data Science AMP

Complex Systems and Data Science M.S.

Complex Systems and Data Science Ph.D.

See the online Graduate Catalogue for more information

## COMPUTER SCIENCE MINOR

### REQUIREMENTS

19 credits in computer science including CS 2100 QR: Intermediate Programming and 6 additional credits at the 2000-level or above.	19
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Minor curricula must be approved by a Computer Science advisor. Optional pre-approved tracks are available on the Computer Science Department's website.

## MATHEMATICS AND STATISTICS DEPARTMENT

<http://www.uvm.edu/~cems/mathstat/>

### CURRICULA

The College of Engineering and Mathematical Sciences offers programs in several areas of the mathematical sciences and their applications. The following section outlines the curricula for the Bachelor of Science in Mathematical Sciences with majors in mathematics and statistics.

The Handbook for Majors and Minors, available on the department website or from the department office, provides additional information on the mathematics and statistics programs, honors in mathematics and statistics, mathematics and statistics courses, advising and other support for students, extracurricular activities, career options, and other material of interest to potential majors.

### ACCELERATED MASTER'S PROGRAMS

A master's degree in Mathematical Sciences, Statistics or Biostatistics can be earned in a shortened period of time by careful planning during the junior and senior years. The B.S. and M.S. may be earned in five years, as six credits of undergraduate coursework may be counted concurrently toward the M.S. degree requirements.

Students must declare their wish to enter the Accelerated Master's program in Mathematical Sciences in writing to the chair of the Department of Mathematics and Statistics before the end of their sophomore year, and before they have taken MATH 3468. Students must apply to the Graduate College for admission, noting their interest in the Accelerated Master's Program. Once admitted, AMP students receive concurrent undergraduate and graduate credit for one or two courses. Please refer to the Handbook for Graduate Studies in Mathematics for detailed information.

Students should discuss the possibility of an Accelerated Master's program in statistics or in biostatistics with the director of the Statistics program as soon as they think they may be interested in this program.

### MAJORS

#### MATHEMATICS AND STATISTICS MAJORS

Data Science B.S. (p. 419)

Mathematics B.A. (p. 335) - This major is administered by the College of Arts and Sciences.

Mathematics B.S.MSC. (p. 423)

Statistics B.S.MSC. (p. 427)

### MINORS

#### MATHEMATICAL SCIENCES AND STATISTICS MINORS

Mathematics: Pure (p. 428)

Statistics (p. 429)

### GRADUATE

Biostatistics AMP

Biostatistics M.S.

Mathematical Sciences AMP

Mathematical Sciences M.S.

Mathematics M.S.T.

Mathematical Sciences Ph.D.

Statistics AMP

Statistics M.S.

See the online Graduate Catalogue for more information

### DATA SCIENCE B.S.

#### DATA SCIENCE MAJOR

The study and applications of Data Science impacts our lives in myriad ways every moment of every day. Often we are unaware of the role this important field plays in our daily routines. We have data scientists to thank as we read the latest news on our social media feed of choice, or watch a movie suggested by our go-to streaming app. Even the food we eat has likely been guided by the study of big data. For example, researchers are working hand-in-hand with farms of all sizes to help analyze data which in turn can identify and reduce areas of inefficiency and waste, and bring food to your table in a faster, safer, and more cost-effective way.

The curriculum of the Bachelor of Science with a major in Data Science combines courses from the disciplines of Statistics, Mathematics, and Computer Science to prepare students for careers in Big Data Science & Analytics: rapidly growing fields with huge unmet demand. The unique interdisciplinary educational experience allows students the opportunity to acquire the broad base of knowledge and skills that employers are seeking.

### REGULATIONS

Students pursuing the Bachelor of Science degree with a major in Data Science are subject to the Academic Standards in CEMS outlined in this catalogue.

**REQUIREMENTS**

**THE CURRICULUM FOR THE B.S. IN DATA SCIENCE**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

A minimum of 120 credits is required. Students are required to complete a minimum of 3 cr. Professional Development Electives that are listed on the College Requirements page.

CORE (6 CREDITS):		
CEMS 1500	CEMS First Year Seminar	1
CS 1640	Discrete Structures	3
or MATH 2055	Fundamentals of Mathematics	
STAT 2510	Applied Probability	3
or STAT 5510	Probability Theory	
COMPUTER SCIENCE CORE (20 to 23 CREDITS):		
CS 1210	Computer Programming I	3
CS 2100	Intermediate Programming	4
CS 2240	Data Struc & Algorithms	3
CS 3040	Database Systems	3
CS 3240	Algorithm Design & Analysis	3
CS 3540	Machine Learning	3
or STAT 3880	Statistical Learning	
or CS 3880	Statistical Learning	
CS 3920	Senior Seminar	1
2000-Level (or above) CS Elective <sup>1</sup>		3
STATISTICS CORE (18 to 21 CREDITS):		
STAT 1870	Intro to Data Science	3
STAT 1410	Basic Statistical Methods 1	3
or STAT 2430	Statistics for Engineering	
STAT 2830	Basic Statistical Methods 2	3
STAT 3010	Stat Computing&Data Anlysis	3
STAT 3210	Advanced Statistical Methods	3
STAT 4810	Capstone Experience	1-8
or STAT 3996	Undergrad Honors Thesis	
or MATH 4996	Undergraduate Honors Thesis	

or CS 4996	Undergraduate Honors Thesis	
STAT/CS 3870	Data Science I - Pinnacle	3
MATHEMATICS CORE (11 CREDITS):		
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2522	Applied Linear Algebra	3
or MATH 2544	Linear Algebra	
Choose 12 Credits in Data Science (DS) electives selected from the list of approved courses (see below) in MATH/STAT/CS/CSYS/NR, with at least 9 of these credits in courses numbered 3400 or above: <sup>2</sup>		12
CS 2300	Advanced Programming	
CS 2480	Database Design for Web	
CS 2660	Cybersecurity Principles	
CS 2670	Cybersecurity Defense	
CS 3050	Software Engineering	
CS 3240	Algorithm Design & Analysis	
CS 3280	Human-Computer Interaction	
CS 3540	Machine Learning	
MATH 2248	Calculus III	
MATH 2678	Basic Combinatorial Theory	
MATH 5775	Mathematical Models&Anlysis <sup>3</sup>	
MATH/CS 3737	Intro to Numerical Analysis	
MATH 3766	Chaos,Fractals&Dynmcal Syst	
MATH 5788	Mathematical Biology&Ecol <sup>3</sup>	
STAT 3240	Stats for Quality&Productvty	
STAT 5310	Experimental Design <sup>3</sup>	
STAT 5350	Categorical Data Analysis <sup>3</sup>	
STAT 3410	Statistical Inference	
STAT/CS 3880	Statistical Learning	
STAT 5290	Survivl/Logistic Regression <sup>3</sup>	
NR 2430	Intro to Geog Info Systems	
CHOOSE ONE 2-COURSE NATURAL SCIENCE (W/ LAB) SEQUENCE:		8
BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	

PHYS 1600 & PHYS 1650	Fundamentals of Physics I and Fundamentals of Physics II	
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- <sup>1</sup> Students should select appropriate courses from list of approved Data Science (DS) electives. Alternative courses may be approved by the DS Curriculum Committee.
- <sup>2</sup> Additional courses, including special topics courses, may be granted approval if appropriate (consult advisor)
- <sup>3</sup> Undergraduate students require instructor permission to enroll in 5000-level courses.

## GRADUATE

Complex Systems and Data Science AMP

Complex Systems and Data Science M.S.

Complex Systems and Data Science Ph.D.

See the online Graduate Catalogue for more information

## MATHEMATICS B.S.MSC.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

## MATHEMATICS MAJOR

Mathematics permeates every aspect of our daily lives. In support of this, the mathematics curriculum is designed to provide a strong foundation for anyone who is interested in developing their ability to navigate our increasingly quantitative society. All students are introduced to the power and breadth of mathematics and to core ideas and techniques in the discipline. Courses that emphasize written and oral communication of quantitative information increase the value to the student of this mathematical knowledge.

The flexible curriculum enables each student to focus on a particular area of interest. This flexibility is especially important given the widely varying interests and career goals of our students. Students planning on a career in a technical field may choose to focus on courses in applied mathematics. Those planning on graduate school in mathematics or in a closely related field will benefit from the more advanced elective courses needed for graduate-level studies. Those interested in law, business, teaching, or other pursuits have the opportunity to freely sample from all areas according to their interests.

A Bachelor of Arts with a major in mathematics is offered and supervised by the College of Arts and Sciences (CAS). Students opting for this degree require an advisor from the Department of Mathematics and Statistics. Refer to the CAS section of this catalogue for more information.

Concentrations that provide suggested preparation for a student's career plans are listed in the next section, along with the courses recommended for each concentration.

## REGULATIONS

Students pursuing the Bachelor of Science in Mathematical Sciences (Majoring in Mathematics) or the Bachelor of Science degree with a major in Data Science are subject to the Academic Standards in CEMS outlined in this catalogue.

### Additional Regulations

No more than three grades of D, D+, or D- in 3000-level (or higher) mathematics (MATH) or statistics (STAT) courses may be used to satisfy "Core Curriculum" and "Major Courses" requirements.

## REQUIREMENTS

A minimum of 120 credits is required. Students must satisfy all University requirements.

## A. CORE CURRICULUM

CEMS 1500	CEMS First Year Seminar	1
MATH 1234	Calculus I <sup>1</sup>	4
MATH 1248	Calculus II	4
MATH 2055	Fundamentals of Mathematics	3
MATH 2248	Calculus III	4
MATH 2522	Applied Linear Algebra	3
or MATH 2544	Linear Algebra	
MATH 3468	Anyln in Several Real Vars I	3
MATH 3551	Abstract Algebra I	3
CS 1210	Computer Programming I	3

- <sup>1</sup> A student with a MATH 1234 waiver can use it to fulfill the requirement of MATH 1234 in the Core Curriculum. However, at least three extra credits of mathematics numbered above MATH 1242 must be added to the Major Courses requirement.

## B. MAJOR COURSES

A minimum of twenty-one additional credits in mathematics, statistics, or computer science courses numbered 2000-level or above, excluding MATH 2111 and MATH 2180. At least twelve credits must be in courses numbered 3000-level or above and no more than twelve credits can be taken in computer science.

In consultation with their advisor, students should choose an area of interest within the mathematics major and plan a coherent program that addresses their interests in mathematics and its applications. This area might be one of those listed in the Recommendations for Major Courses section below, or it might be another area suggested by the student.

## C. ALLIED FIELD COURSES

Twenty-four credits selected from the following Allied Fields:

1. Physical Sciences
2. Biological Sciences
3. Medical Sciences
4. Engineering
5. Computer Science (CS 2100 or higher)
6. Agricultural Sciences
7. Business Administration
8. Psychology
9. Economics
10. Environmental Sciences/Studies
11. Natural Resources

Students, in consultation with their advisors, must plan a sequence of Allied Field courses consistent with their professional and personal goals. Students interested in pursuing intensive studies in an area not specifically listed are encouraged to plan a program with their advisor and submit it to the appropriate departmental committee for review and approval. The requirements are as follows:

Twenty-four credits selected from the above list of Allied Fields, including at least one laboratory experience in science or engineering. Of these twenty-four credits, at least six must be in courses numbered 2000-level or above, and at least six must be taken in fields 1 to 5. Courses used to satisfy requirement B above may not be used to satisfy this requirement.

## D. HUMANITIES AND SOCIAL SCIENCE COURSES

(Courses used to satisfy requirement C above may not be used to satisfy this requirement.)

Twenty-four credits of courses selected from categories I, II, and III listed below. These twenty-four credits must be distributed over at least two categories, and at least six credits must be taken in each of the two categories chosen.

### Category I: Language and Literature

American Sign Language (ASL); Arabic (ARBC); Chinese (CHIN); Classics (CLAS); English (ENGS); English for Speakers of Other Languages (ESOL); Foreign Language (LANG); French (FREN); German (GERM); Greek (GRK); Hebrew (HEBR); Italian (ITAL); Japanese (JAPN); Latin (LAT); Linguistics (LING); Portuguese (PORT); Russian (RUSS); Spanish (SPAN); World Literature (WLIT).

### Category II: Humanities and Fine Arts

Art History (ARTH); Art Studio (ARTS); Dance (DNCE); Film & Television Studies (FTS); Humanities (HUMN); Music (MU); Philosophy (PHIL); Religion (REL); Speech (SPCH); Theatre (THE).

### Category III: Social Sciences

Anthropology (ANTH); Communication Sciences & Disorders (CSD); Community Development & Applied Economics (CDAE); Critical Race & Ethnic Studies (CRES); Economics (EC); Environmental Studies (ENVS); Gender, Sexuality & Women's Studies (GSWS); Geography (GEOG); Global & Regional Studies (GRS); History (HST); Holocaust Studies (HS); Human Development & Family Studies (HDFS); Political Science (POLS); Psychological Science (PSYS); Sociology (SOC); Vermont Studies (VS).

## RECOMMENDATIONS FOR MAJOR COURSES

Students should discuss an area of specialization with their advisor. This is especially important for students interested in graduate school in mathematics or a related field (including those interested in the Accelerated Masters Program). Below are listed several areas of specialization.

Given the wide variety of paths after graduation pursued by students graduating with a B.S.MSC. in Mathematics, the department does not list specific courses which must be taken in order to satisfy the Professional Development Electives requirement of the CEMS Core Curriculum. However, students should work with their advisor to find appropriate courses which are consistent with their future career goals.

### 1. CLASSICAL MATHEMATICS

Classical mathematics encompasses those areas having their roots in the great traditions of mathematical thought, such as geometry and topology, mathematical analysis, algebra and number theory, and discrete mathematics. Courses in this area include the following:

MATH 2468	Real Anlys in One Variable	3
MATH 2551	Groups and Rings	3
MATH 2678	Basic Combinatorial Theory	3
MATH 3468	Anyl in Several Real Vars I <sup>1</sup>	3
MATH 3472	Anyl Several Real Vrbes II	3
MATH 3456	Complex Analysis	3
MATH 3551	Abstract Algebra I <sup>1</sup>	3
MATH 3555	Abstract Algebra II	3
MATH 4344	Topology	3
MATH 3517	Elementary Number Theory	3
MATH 5360	Foundations of Geometry	3
MATH 5678	Combinatorial Graph Theory	3
MATH 6441	Theory of Func of Complex Var	3

<sup>1</sup> These courses are central to the given area and should be taken as early as is feasible.



## 2. Applied Mathematics

Applied mathematics involves the use of mathematical methods to investigate problems originating in the physical, biological, and social sciences, and engineering. Mathematical modeling, coupled with the development of mathematical and computational solution techniques, illuminates mechanisms which govern a problem and allows predictions to be made about an actual physical situation. Current research interests of the faculty include biomedical mathematics, fluid mechanics and hydrodynamic stability, asymptotics, and singular perturbation theory. Courses in this area include the following:

MATH 3230	Ordinary Diffrentl Equation <sup>1</sup>	3
MATH 3737	Intro to Numerical Analysis <sup>1</sup>	3
MATH 5678	Combinatorial Graph Theory	3

<sup>1</sup> These courses are central to the given area and should be taken as early as is feasible.

## 3. Computational Mathematics

Computational mathematics involves both the development of new computational techniques and the innovative modification and application of existing computational strategies to new contexts where they have not been previously employed. Intensive computation is central to the solution of many problems in areas such as applied mathematics, number theory, engineering, and the physical, biological and natural sciences. Computational mathematics is often interdisciplinary in nature, with algorithm development and implementation forming a bridge between underlying mathematical results and the solution to the physical problem of interest. Courses in this area include the following:

MATH 2678	Basic Combinatorial Theory	3
MATH 3230	Ordinary Diffrentl Equation	3
MATH 3737	Intro to Numerical Analysis <sup>1</sup>	3
MATH 4344	Topology	3
STAT 3010	Stat Computing&Data Anlysis	3

<sup>1</sup> These courses are central to the given area and should be taken as early as is feasible.

## 4. Theory of Computing

The mathematical theory of computing deals with the mathematical underpinnings allowing effective use of the computer as a tool in problem-solving. Aspects of the theory of computing include: designing parallel computing strategies (graph theory), analyzing strengths and effectiveness of competing algorithms (analysis of algorithms), examining conditions which ensure that a problem can be solved by computational means (automata theory and

computability), and rigorous analysis of run times (complexity theory). Courses in this area include the following:

MATH 2678	Basic Combinatorial Theory	3
MATH 5678	Combinatorial Graph Theory	3
CS 3240	Algorithm Design & Analysis <sup>1</sup>	3
CS 3430	Theory of Computation	3

<sup>1</sup> These courses are central to the given area and should be taken as early as is feasible.

## 5. Mathematics of Management

Mathematics of Management involves the quantitative description and study of problems particularly concerned with the making of decisions in an organization. Problems are usually encountered in business, government, service industries, etc., and typically involve the allocation of resources, inventory control, product transportation, traffic control, assignment of personnel, and investment diversification. Courses in this area include the following:

MATH 2678	Basic Combinatorial Theory	3
MATH 3230	Ordinary Diffrentl Equation	3
MATH 5678	Combinatorial Graph Theory	3
STAT 1410	Basic Statistical Methods 1	3
or STAT 2430	Statistics for Engineering	
STAT 2510	Applied Probability	3
STAT 3240	Stats for Quality&Productvty	3
STAT 3410	Statistical Inference	3

## 6. Actuarial Mathematics

Actuaries use quantitative skills to address a variety of risk-related problems within financial environments. A unique feature of the actuarial profession is that a considerable amount of the formal training is typically completed after graduation “on-the-job”.

The Society of Actuaries is an international organization that regulates education and advancement within the profession. Candidates may earn designation as an Associate of the Society of Actuaries (ASA) by satisfying three general requirements. These are:

1. Preliminary Education Requirements, PE;
2. the Fundamentals of Actuarial Practice Course, FAP; and
3. the Associateship Professionalism Course, APC.

The multiple component FAP is based on an e-learning format, and can be pursued independently. After completing the PE and at least one of the FAP components, candidates are eligible to register for the one-half day APC.

The Preliminary Education Requirements consist of

1. prerequisites
2. subjects to be validated by educational experience (VEE), and
3. four examinations.

While at the university, students can satisfy the prerequisites, the VEE courses, and the first two preliminary examinations. The following courses are recommended as preparation for the specific requirements.

### Prerequisites

CALCULUS		
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
LINEAR ALGEBRA		
MATH 2544	Linear Algebra	3
INTRODUCTORY ACCOUNTING		
BUS 1610	Financial Accounting	3
BUS 2620	Managerial Accounting	3
MATHEMATICAL STATISTICS		
STAT 5610	Statistical Theory	3

These are topics that will assist candidates in their exam progress and work life but will not be directly tested or validated.

### Subjects Validated by Educational Experience

ECONOMICS		
ECON 1400	Principles of Macroeconomics	3
ECON 1450	Principles of Microeconomics	3
CORPORATE FINANCE		
BUS 2800	Managerial Finance	3
BUS 2810	Intermediate Financial Mgmt	3
APPLIED STATISTICAL METHODS		
STAT 3210	Advanced Statistical Methods	3

Candidates will demonstrate proficiency in these subjects by submitting transcripts.

### Preliminary Examinations

EXAM P - PROBABILITY		
STAT 2510	Applied Probability	3
STAT 5510	Probability Theory	3
EXAM FM - MATHEMATICS OF FINANCE		

BUS 2800	Managerial Finance	3
BUS 2810	Intermediate Financial Mgmt	3

Other applicable departmental courses include:

STAT 2990	Special Topics	1-18
STAT 3010	Stat Computing&Data Anlysis	3
STAT 5290	Survivl/Logistic Regression	3
STAT 5350	Categorical Data Analysis	3
MATH 2678	Basic Combinatorial Theory	3

## 7. Probability and Statistical Theory

Probabilistic reasoning is often a critical component of practical mathematical analysis or risk analysis and can usefully extend classical deterministic analysis to provide stochastic models. It also provides a basis for statistical theory, which is concerned with how inferences can be drawn from real data in any of the social or physical sciences. Courses in this area include the following:

MATH 3468	Anyl in Several Real Vars I	3
MATH 3472	Anyl Several Real Vrbes II	3
STAT 2510	Applied Probability	3
STAT 3410	Statistical Inference <sup>1</sup>	3
STAT 5610	Statistical Theory	3

<sup>1</sup> These courses are central to the given area and should be taken as early as is feasible.

## RECOMMENDATIONS FOR ALLIED FIELD COURSES

Students should discuss Allied Field courses with their advisor and choose ones that complement their mathematical interests. Students with certain mathematical interests are advised to emphasize an appropriate Allied Field as indicated below and take at least six credits in courses numbered 2000-level or above in that field.

### Applied Mathematics

Allied Field (1), (2), (3), (4), (6), or (9).

### Computational Mathematics

Allied Field (4) or (5).

### Mathematics of Management

Allied Field (7). Students interested in Mathematics of Management are advised to include economics (ECON 1400 and ECON 1450) in their choice of Humanities and Social Sciences courses, and to include business administration (BUS 1610 and BUS 2620) in their choice of Allied Field courses. Those wishing to minor in business administration should contact the School of Business Administration

and also take BUS 2700 and two other courses chosen from business administration Allied Field courses.

## DOUBLE MAJOR IN MATHEMATICS AND STATISTICS

Students may earn a double major in mathematics and statistics by meeting the requirements of the statistics major and earning an additional fifteen credits in mathematics, to include:

MATH 2055	Fundamentals of Mathematics	3
Choose two of the following:		6
MATH 3230	Ordinary Diffrentl Equation	3
MATH 3737	Intro to Numerical Analysis	3
MATH 3468	Anyl in Several Real Vars I	3
MATH 3551	Abstract Algebra I	3

Note: Students pursuing the double major in mathematics and statistics must earn a total of 120 credits. The above outlined courses must be additional to the courses defined for the stat major (core, major, allied field and HSS).

## STATISTICS B.S.MSC.

### STATISTICS MAJOR

Statistics is a mathematical science extensively used in a wide variety of fields. Indeed, every discipline which gathers and interprets data uses statistical concepts and procedures to understand the information implicit in their data. Statisticians become involved in efforts to solve real world problems by designing surveys and experimental plans, constructing and interpreting descriptive statistics, developing and applying statistical inference procedures, and developing and investigating stochastic models or computer simulations. To investigate new statistical procedures requires a knowledge of mathematics and computing as well as statistical theory. To apply concepts and procedures effectively also calls for an understanding of the field of application and oral/written presentation skills.

The curriculum is designed for students who plan to enter business, industry, or government as statisticians or data scientists; to become professional actuaries; or to continue to graduate school in statistics/biostatistics, data science or another field where quantitative ability is valuable (operations research, medicine, public health, demography, psychology, etc.). Students are encouraged to undertake special projects to gain experience in data analysis, design, and statistical computing. Also, experience may be gained with local industry and other organizations for those interested in quality control, industrial statistics, survey and market research or forecasting, for example.

Students pursuing the Bachelor of Science in Mathematical Sciences in CEMS may select statistics as their major. In addition, students pursuing a Bachelor of Arts from the College of Arts and Sciences may concentrate in statistics as a part of their mathematics major.

## REGULATIONS

Students pursuing the Bachelor of Science in Mathematical Sciences (Majoring in Statistics) are subject to the Academic Standards in CEMS outlined in this catalogue.

### ADDITIONAL REGULATIONS

No more than three grades of D, D+, or D– in 3000-level (or higher) mathematics (MATH) or statistics (STAT) courses may be used to satisfy “Core Curriculum” and “Major Courses” requirements.

## REQUIREMENTS

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

A minimum of 120 credits is required.

Statistics majors may count no more than two of the following courses toward their degree requirements: STAT 1050, STAT 1110, STAT 1410, and STAT 2430. Credit not given for more than one of STAT 1410 and STAT 2430. STAT 2430 is recommended.

## A. CORE CURRICULUM

CEMS 1500	CEMS First Year Seminar	1
SPCH 1400	Effective Speaking	3
MATH 1234	Calculus I <sup>1</sup>	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 2522	Applied Linear Algebra	3
or MATH 2544	Linear Algebra	
CS 1210	Computer Programming I	3
STAT 1410	Basic Statistical Methods 1	3
or STAT 2430	Statistics for Engineering	
STAT 2830	Basic Statistical Methods 2	3
STAT 2870	Basics of Data Science	3
STAT 3010	Stat Computing&Data Anlysis	3
STAT 3210	Advanced Statistical Methods	3
STAT 2510	Applied Probability	3
STAT 3410	Statistical Inference	3
STAT 4810	Capstone Experience	1-8
or STAT 3996	Undergrad Honors Thesis	

<sup>1</sup> A student with a MATH 1234 waiver can use it to fulfill the requirement of MATH 1234 in the Core Curriculum. However, at least three extra credits of mathematics numbered above MATH 1242 must be added to the Major Courses requirement.

## B. MAJOR COURSES

Three additional credits of statistics at the 3000-level or above, so that a total of at least forty-five credits in the core and major classes are earned, and a total of eighteen credits in the core and major classes are at the 3000-level or above.

Given the wide variety of paths after graduation pursued by students graduating with a B.S.MSC. in Statistics, the department does not list specific courses which must be taken to satisfy the Professional Development Electives requirement of the CEMS Core Curriculum. However, students should work with their advisor to find appropriate courses which are consistent with their future career goals.

### C. Allied Field Courses

Twenty-four credits selected from the following Allied Fields:

1. Physical Sciences
2. Biological Sciences
3. Medical Sciences
4. Engineering
5. Computer Science (CS 2100 or higher)
6. Agricultural Sciences
7. Business Administration
8. Psychology
9. Economics
10. Environmental Sciences/Studies
11. Natural Resources

Students, in consultation with their advisors, must plan a sequence of Allied Field courses consistent with their professional and personal goals. Students interested in pursuing intensive studies in an area not specifically listed are encouraged to plan a program with their advisor and submit it to the appropriate departmental committee for review and approval. The requirements are as follows:

Twenty-four credits selected from the above list of Allied Fields, including at least one laboratory experience in science or engineering. Of these twenty-four credits, at least six must be in courses numbered 2000-level or above, and at least six must be taken in fields 1 to 5. Courses used to satisfy requirement B above may not be used to satisfy this requirement.

### OPTIONAL PRE-MEDICAL CONCENTRATION

Each student electing the Pre-Medical concentration in statistics will fulfill the general requirements for the statistics major. STAT 3000 is recommended as an important elective for students interested in medicine or allied health. In addition, the pre-medical concentration should include, at a minimum:

Two semesters of general chemistry and two semesters of organic chemistry with laboratory:		16
Choose one of the following sequences:		
CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	
CHEM 1500 & CHEM 1550	Organic Chemistry for Majors 1 and Organic Chemistry for Majors 2	
Complete the following sequence:		
CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2	
Choose one of the following physics sequences with laboratory:		7-8
PHYS 1500 & PHYS 1550 & PHYS 1460	Physics for Engineers I and Physics for Engineers II and Elem Physic Problem Solving II	
PHYS 1600 & PHYS 1650	Fundamentals of Physics I and Fundamentals of Physics II	
At least one year of biology with laboratory:		8
BIOL 1400	Principles of Biology 1	
BIOL 1450	Principles of Biology 2	

## DOUBLE MAJOR IN MATHEMATICS AND STATISTICS

Students may earn a double major in mathematics and statistics by meeting the requirements of the statistics major and earning an additional fifteen credits in mathematics, to include:

MATH 2055	Fundamentals of Mathematics	3
Choose two of the following:		6
MATH 3230	Ordinary Diffrentl Equation	
MATH 3737	Intro to Numerical Analysis	
MATH 3468	Anyl in Several Real Vars I	
MATH 3551	Abstract Algebra I	

Note: Student pursuing the double major in mathematics and statistics must earn a total of 120 credits. The above outlined courses must be additional to the courses defined for the stat major (core, major and allied field).

## MATHEMATICS: PURE MINOR REQUIREMENTS

MATH 1234 & MATH 1248	Calculus I and Calculus II <sup>1</sup>	8
MATH 2055	Fundamentals of Mathematics <sup>2</sup>	3-4
or MATH 2248	Calculus III	

Plus 9 additional credits in Mathematics courses numbered 2000-level or above, excluding MATH 2111 and MATH 2180.	9
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The course plan for a mathematics minor must be approved by a mathematics faculty advisor.

<sup>1</sup> A student who has taken MATH 1212 prior to declaring the Mathematics minor may substitute MATH 1212 & MATH 1242 in place of MATH 1234 & MATH 1248.

<sup>2</sup> If both MATH 2055 and MATH 2248 are taken, MATH 2248 counts toward the Mathematics courses numbered 2000-level or above.

## STATISTICS MINOR

Requirements		
1 COURSE IN CALCULUS SELECTED FROM THE FOLLOWING:		3-4
MATH 1212	Fundamentals of Calculus I	
MATH 1234	Calculus I	
TOTAL OF 15 CREDITS OF STATISTICS COURSES INCLUDING:		
1 INTRODUCTORY STATISTICS COURSE SELECTED FROM THE FOLLOWING:		3
STAT 1410	Basic Statistical Methods 1	
STAT 2430	Statistics for Engineering	
1 INTERMEDIATE STATISTICS COURSE SELECTED FROM THE FOLLOWING:		3
STAT 2830	Basic Statistical Methods 2	
STAT 3210	Advanced Statistical Methods	
1 COMPUTING/PROGRAMMING COURSE SELECTED FROM THE FOLLOWING: <sup>1</sup>		3
STAT 2870	Basics of Data Science	
STAT 3010	Stat Computing&Data Analysis (Recommended)	
6 ADDITIONAL CREDITS OF STATISTICS		6

<sup>1</sup> Students may fill the computing/programming requirement with an approved CS programming course, such as CS 1210. A CS programming course meets the computing/programming requirement for the statistics minor, but does not count toward the required fifteen credits of statistics course work.

## RESTRICTIONS

No more than 6 credits selected from the following courses may count toward the minor: STAT 1050, STAT 1110, STAT 1410, STAT 1870 or STAT 2430.

**Ineligible Majors:** Statistics major in CEMS (within B.S. Mathematical Sciences degree); Statistics Concentration in CAS (within Mathematics major)

Students pursuing the statistics minor can be assigned a minor advisor if requested. Please contact a department administrative assistant or the Director of the Statistics Program to request an advisor.

## PHYSICS DEPARTMENT

<https://www.uvm.edu/cas/physics>

An education in physics provides students with the foundation for a variety of careers. In addition to preparation for graduate study in physics and related fields, undergraduate study in physics is an excellent preparation for professional careers in engineering, management, teaching, law, and medicine.

The curriculum consists of core courses on the fundamentals of physics, such as mechanics, electromagnetism, and quantum theory. Students can then choose from an array of electives to explore subfields in physics, such as astrophysics, biological physics, condensed matter physics, general relativity, nanotechnology, quantum optics, and nuclear and particle physics.

Under the guidance of faculty members, many physics majors become active in research in their second or third year of study. For eligible students, this experience can lead to college honors with the completion of a senior thesis project.

## MAJORS

### PHYSICS MAJORS

Physics B.S. (p. 429)

Physics B.A. (p. 346) - This major is administered by the College of Arts and Sciences

## MINORS

### PHYSICS MINORS

Astronomy (p. 430)

Physics (p. 431)

## GRADUATE

Physics AMP

Physics M.S.

Physics Ph.D.

See the online Graduate Catalogue for more information.

## PHYSICS B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 399)

### MAJOR REQUIREMENTS

All courses in core and all courses in one of the listed options.

CORE:		
Suggested:		
CEMS 1500	CEMS First Year Seminar	1
Choose 1 of the following sequences:		8
PHYS 1600 & PHYS 1650	Fundamentals of Physics I and Fundamentals of Physics II	
PHYS 1500 & PHYS 1550 & PHYS 1560	Physics for Engineers I and Physics for Engineers II and Physics Problem Solving II	
PHYS 2500	Waves and Quanta	4
PHYS 2200	Classical Mechanics	3
PHYS 3300	Electricity & Magnetism	3
PHYS 3500	Quantum Mechanics I	3
PHYS 4500	Applications of Quantum Mechanics	3
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 3230	Ordinary Differential Equation	3
MATH 2544	Linear Algebra	3
or MATH 2522	Applied Linear Algebra	
CHEM 1400	General Chemistry I	4
One additional course in chemistry (CHEM 1450 recommended)		4
CS 1210	Computer Programming I	3
or PHYS 3150	Computational Physics I	
OPTIONS		
Pure Physics:		21
PHYS 2100	Experimental Physics I	
PHYS 4100	Experimental Physics II	
PHYS 3400	Thermal & Statistical Physics	
Intermediate Level or Above. 6 additional credits from the following:		
PHYS 2000 to 2989		
PHYS 3000 to 3989		
PHYS 4000 to 4989		
6 additional credits from the following:		
PHYS 2000 to 2989		

PHYS 3000 to 3989		
PHYS 4000 to 4989		
Internship: PHYS 3991, ASTR 3991		
Special Topics: PHYS 2990, PHYS 3990, PHYS 4990, ASTR 2990		
Independent Study: PHYS 2993, PHYS 3993, ASTR 2993, ASTR 3993		
Teaching Assistant: PHYS 3994, PHYS 4994, ASTR 3994, ASTR 4994		
Undergraduate Research: PHYS 2995, PHYS 3995, ASTR 2995, ASTR 3995		
Honors: PHYS 4996		
Electrical Engineering (Circuits and Devices):		22
EE 2125	Circuits I	
EE 2135	Circuits II	
EE 2185	Circuits Design Project	
EE 3110	Electronics I	
EE 3115	Electronics Laboratory	
EE 3415	Electronics Design Project	
The EE concentration should include 3 credits of approved physics or electrical engineering electives.		
3 additional credits from the following:		
PHYS 2000 to 2989		
PHYS 3000 to 3989		
PHYS 4000 to 4989		
EE 2000 to 2989		
EE 3000 to 3989		
EE 4000 to 4989		
Internship: PHYS 3991, EE 3991		
Special Topics: PHYS 2990, PHYS 3990, PHYS 4990, ASTR 2990		
Independent Study: PHYS 2993, PHYS 3993, EE 2993, EE 3993, EE 4993		
Teaching Assistant: PHYS 3994, PHYS 4994, EE 2994, EE 3994, EE 4994		
Undergraduate Research: PHYS 2995, PHYS 3995, EE 2995, EE 3995		
Honors: PHYS 4996		

### ASTRONOMY MINOR REQUIREMENTS

16 credits in astronomy including:

ASTR 1400	Exploring the Cosmos w/lab	4
Choose 3 of the following:		9
ASTR 2160	Moons & Planets	
ASTR 2100	The Big Bang	
ASTR 2140	Stars & Galaxies	
ASTR 2120	Spacecraft Astronomy	
3 additional credits from the following:		3
ASTR 1000 - 1989		
ASTR 2000 - 2989		
Special Topics: ASTR 1990, ASTR 2990		

## PHYSICS MINOR REQUIREMENTS

Select 1 of the following options:		8
Option A		
PHYS 1600	Fundamentals of Physics I	
PHYS 1650	Fundamentals of Physics II	
Option B		
PHYS 1500	Physics for Engineers I	
PHYS 1550 & PHYS 1560	Physics for Engineers II and Physics Problem Solving II	
PHYS 2500	Waves and Quanta	4
3 additional credits from the following:		3
PHYS 2000 - 2989		
PHYS 3000 - 3989		
PHYS 4000 - 4989		

## RESTRICTIONS

Ineligible Majors: Physics (B.A., B.S.)

## PRE/CO-REQUISITES

MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4

## THE COLLEGE OF NURSING AND HEALTH SCIENCES

<http://www.uvm.edu/cnhs/>

The College of Nursing and Health Sciences (CNHS) offers undergraduate and graduate programs in a variety of health

disciplines. The entry-level degree programs prepare the student for initial entry into clinical or health-related practice and provide a solid foundation for further education. The curricula include rigorous academic preparation and most programs include extensive field experience at selected facilities. The graduate programs prepare students for advanced practice in the health care disciplines and to assume leadership roles in practice, education, and research. The faculty of the CNHS is committed to excellence in teaching, the conduct of research that extends knowledge and contributes to the science of each discipline, and public service to improve the health of citizens of state, national, and global communities.

The following entry-level degree programs are offered: Bachelor of Science degree programs in Communication Sciences and Disorders; Exercise Science; Public Health Sciences; Medical Laboratory Science; Medical Radiation Sciences; and Nursing. A post-baccalaureate program in Medical Laboratory Science to prepare students with a degree in another field to sit for the national certification exam is offered through Continuing and Distance Education. Continuing and Distance Education also offers a post-baccalaureate certificate program in Communication Sciences and Disorders that prepares students to practice as speech-language pathology assistants, and a post-baccalaureate certificate program that prepares students to enter a master's degree program. The baccalaureate degree in Public Health Sciences offered by the Department of Biomedical and Health Sciences may be selected by either four-year residential or degree-completion students who have previously earned at least one year (30 credit hours) of college credit.

A Master of Science degree is offered by the Communication Sciences and Disorders Department; and a Master of Science in Medical Laboratory Science degree is offered by the Department of Biomedical and Health Sciences. A minor in Medical Diagnostics is also available. A Master of Science in Physical Activity and Wellness Science, entry-level doctorate in Occupational Therapy, doctoral degree in Physical Therapy, and an Emergency Medical Services minor are offered through the Rehabilitation and Movement Sciences Department. The Nursing Department offers a direct-entry degree program (DEPN) for non-nurse college graduates; a master's degree as a Clinical Nurse Leader, and a doctoral program (D.N.P.) in Primary Care for practice as either a Family or Adult-Gerontological Nurse Practitioner. The Executive Nurse Leader credential may be achieved through the D.N.P. program. Post-graduate certificates in nursing are also available. The College also offers a doctoral degree in Interprofessional Health Sciences.

The College offers minors in Integrative Health Care and Integrative Health and Wellness Coaching, which are also available as certificates to non-degree students through Professional and Continuing Education.

Graduates of baccalaureate-level professional programs are eligible to sit for the appropriate licensure examination and enter practice or go on to other health-related fields. All of the professional programs needing accreditation and/or state approval for licensure eligibility have achieved and maintained such status.

## MAJORS

- Communication Sciences and Disorders B.S. (p. 443)
- Exercise Science B.S. (p. 447)
- Medical Laboratory Science B.S. (p. 433)
- Medical Radiation Sciences B.S. (p. 435)
- Nursing B.S. (p. 445)
- Public Health Sciences B.S. (p. 437)

## MINORS AND CERTIFICATES

- Communication Sciences and Disorders (p. 445)
- Emergency Medical Services (p. 449)
- Integrative Health (p. 449)
- Integrative Health and Wellness Coaching (p. 450)
- Medical Diagnostics (p. 442)

## REQUIREMENTS

### DEGREE REQUIREMENTS

Requirements for admission, retention and graduation are detailed below for each of the undergraduate degree programs. The College of Nursing and Health Sciences reserves the right to require the withdrawal of any student whose academic record, performance, or behavior in the professional programs is judged unsatisfactory. All candidates for admission and continuation must be able to perform the essential clinical, as well as academic, requirements of the CNHS programs. These requirements include, but are not limited to: the capacity to observe and communicate; sufficient motor ability to perform physical diagnostic examinations and basic laboratory and clinical procedures; emotional stability to exercise good judgment and to work effectively in stressful situations; and intellectual ability to synthesize data and solve problems. CNHS students must be able to meet these technical standards either with, or without, reasonable accommodations. Some professional licensing examiners, clinical affiliates and potential employers may require students and graduates to disclose personal health history, substance abuse history, and/or criminal convictions, which may, under certain conditions, impact eligibility for professional examinations, licensing, clinical affiliation, or employment. Some programs have additional clinical requirements such as CPR certification and up-to-date-immunizations. Radiation therapy students must demonstrate professionalism, professional development, and competency in the clinical setting in addition to the aforementioned requirements.

### COMPUTER REQUIREMENTS

Beginning with the Fall 2020 semester, all undergraduate students are required to have a laptop computer that meets the minimum specifications determined annually by the university (see Degree and University Requirements section of the Catalogue for more detailed information). Students are not required to purchase a new laptop if they have an existing laptop that meets the established specifications. If students need to purchase a laptop, they are not required to purchase it through UVM.

## RESPONSIBILITIES

There are some special elements associated with clinical education. Students are responsible for their own transportation to and from clinical sites and, where relevant, the costs of housing for clinical experiences. Students may need to complete a criminal background check prior to clinical placement. Evidence of a criminal record may prevent students from being eligible for clinical placement and/or professional licensure. All students must carry professional liability insurance during clinical rotations and will be billed for this insurance.

Students engaging in clinical education experiences must comply with required health clearances including testing, immunizations, and titers for certain infectious diseases (costs vary depending on students' insurance). Applicants to the college's clinical programs must realize there is always an element of risk through exposure to infectious disease. The university is not responsible for medical costs resulting from injury during clinical rotation, or during any other curricular activity, unless this injury is due to negligence by the university.

## DEPARTMENTS AND PROGRAMS

- Biomedical and Health Sciences (p. 432)
- Communication Sciences and Disorders (p. 442)
- Nursing (p. 445)
- Rehabilitation and Movement Science (p. 447)

## BIOMEDICAL AND HEALTH SCIENCES

<https://www.uvm.edu/cnhs/bhsc>

Students in the Department of Biomedical and Health Sciences study and work at the intersection of human health, medicine, and technology. Programs offered lead to Bachelor of Science degrees in Medical Laboratory Science, Medical Radiation Sciences, and Public Health Sciences. A minor in Medical Diagnostics is also available.

The B.S. in Medical Laboratory Science offers two concentrations: Clinical Laboratory Science or Public Health Laboratory Science.

The B.S. in Medical Radiation Science offers a clinical track in Radiation Therapy.

The B.S. in Public Health Sciences program offers both a four-year, residential option and a degree completion option for students who have previously earned at least one year (30 credit hours) of college credit.

All programs offer an integrated curriculum, with courses in the humanities, basic, health and medical sciences, and direct hands-on experience through clinical practica, research or field work. Students have the opportunity to interact with faculty from the department and throughout the university, including the College of Medicine. Graduates of all three programs are prepared for immediate employment in the healthcare arena, or graduate study.

Requirements for admission are the same as the general university requirements, with the addition that applicants must have taken high



school biology, mathematics through trigonometry or precalculus, and chemistry; physics is highly recommended.

## MAJORS

### BIOMEDICAL AND HEALTH SCIENCES MAJORS

- Medical Laboratory Science B.S. (p. 433)
- Medical Radiation Sciences B.S. (p. 435)
- Public Health Sciences B.S. (p. 437)

## MINORS

### BIOMEDICAL AND HEALTH SCIENCES MINORS

- Medical Diagnostics (p. 442)

## GRADUATE

- Interprofessional Health Sciences Ph.D.
- Medical Laboratory Science M.S.

See the online Graduate Catalogue for more information.

## MEDICAL LABORATORY SCIENCE B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 432)

Medical Laboratory Scientists (MLS) are health professionals involved in the development, performance, and evaluation of laboratory tests that lead to assessment of health status, diagnosis of disease, and monitoring of therapeutic treatment. Students in this major work closely with faculty members and engage in hands-on learning in the classroom, laboratory and clinical environment to develop critical thinking and technical skills.

Students select a concentration in clinical laboratory science or public health laboratory science at the end of their second year. The curriculum provides balance between general and professional education, with coursework in the sciences and liberal arts serving as a foundation for the medical laboratory science courses. In the fourth year, the final semester consists of a full time clinical or public health laboratory practicum at an off-campus affiliate site, which may require additional room, meal, and/or transportation expenses. Site selection for the final semester is determined by a lottery system.

Students in Biomedical and Health Sciences (BHSC) programs must maintain a cumulative grade point average of 2.3 or higher. Students with a cumulative grade point average below 2.3 will be placed on academic trial. First-year students must achieve a cumulative GPA of 2.3 or higher by the end of two subsequent semesters to be removed from trial. Students who fail to raise their cumulative GPA to 2.3 after the trial semesters may be discontinued from the program. Students beyond the first year must achieve a cumulative GPA of 2.3 or higher by the end of the subsequent semester to be removed from trial. Students who fail to raise their cumulative GPA to 2.3 after the trial semester may be discontinued from the program. Students

who earn one grade below a C in any non-practicum, non-internship, professional/core course will be placed on “academic warning” and will receive a letter informing them of such. Professional or core courses are identified on each major curriculum sheet. In order to remain in good standing within the BHSC programs, students must also be consistently progressing in the program curriculum. Failure to follow the required sequence of courses outlined in the BHSC program of study for more than one semester is grounds for discontinuation from the major.

Graduates in medical laboratory science are qualified for a national certification exam administered by the American Society for Clinical Pathology (ASCP). Students in medical laboratory science with a concentration in public health laboratory science may elect to complete a clinical rotation in microbiology to qualify to take the ASCP microbiology-only certification exam. Taking and passing the ASCP Certification Exam is not a requirement for graduation. ASCP certification is required by most clinical diagnostic and public health laboratories. This four-year curriculum leading to the baccalaureate degree is accredited by the National Accrediting Agency for Clinical Laboratory Sciences.

### CLINICAL LABORATORY SCIENCE CONCENTRATION

Clinical laboratory science students complete course work which prepares them for practica in medical laboratories where they will apply their biomedical knowledge and technical skills and further learn about the health and disease status of patients.

### PRACTICUM SITES\* HAVE INCLUDED:

- Albany Medical Center, Albany, NY
- Beth Israel Deaconess Medical Center, Boston, MA
- Brigham and Women’s Hospital, Boston, MA
- Champlain Valley Physicians Hospital, Plattsburgh, NY
- Central Vermont Medical Center, Berlin, VT
- Dartmouth Hitchcock Medical Center, Lebanon, NH
- Elliot Hospital, Manchester, NH
- Glens Falls Hospital, Glens Falls, NY
- Massachusetts General Hospital, Boston, MA
- NorDx, Portland and Scarborough, ME
- Rutland Regional Medical Center, Rutland, VT
- St. Peter’s Hospital, Albany, NY
- University of Vermont Medical Center, Burlington, VT
- Yale New Haven Hospital, New Haven, CT

\* Note: Clinical affiliations subject to change.

### PUBLIC HEALTH LABORATORY SCIENCE CONCENTRATION

Public health laboratory scientists work in public health laboratories at the state, federal, and international levels. The curriculum focuses on the use of microbiology and molecular biology in the field of public health, in support of epidemiology, and to monitor health status and disease prevention strategies.

**PRACTICUM SITES\* HAVE INCLUDED:**

- District of Columbia Health Department, Washington DC
- New Hampshire Department of Health Laboratory, Concord, NH
- Vermont Department of Health Laboratory, Burlington, VT
- Wadsworth Center, New York Department of Health, Albany, NY

\* Note: Public health laboratory affiliations subject to change.

**PLAN OF STUDY**

The Medical Laboratory Science major offers two concentrations:

Clinical Laboratory Science Concentration

Public Health Laboratory Science Concentration

**CLINICAL LABORATORY SCIENCE CONCENTRATION**

First Year	Credits	
	Fall	Spring
NH 1500 App to Hlth: From Pers to Syst	1	
HSCI 1100 Introduction to Public Health (S1)	3	
ENGL 1001 Written Expression (WIL2)	3	
CHEM 1400 General Chemistry 1 (N2)	4	
MATH 1212 Fundamentals of Calculus I (MA)	3	
BHSC 1980 Intro to Scientific Writing (WIL2)		3
BHSC 1340 Human Cell Biology (N2)		4
CHEM 1450 General Chemistry 2 (N2)		4
Catamount Core – AH1, AH2 with D1, D2 or SU		6
Year Total:	14	17
<b>Sophomore</b>		
	<b>Fall</b>	<b>Spring</b>
ANPS 1190 Ugr Hum Anatomy & Physiology 1	4	
STAT 1110 Elements of Statistics or STAT 1410 Basic Statistical Methods 1	3	
MMG 2010 Microbiol & Infectious Disease	4	
NH 2200 Health Care Ethics	3	
Catamount Core – D1, D2 or SU	3	3
ANPS 1200 Ugr Hum Anatomy & Physiology 2		4
CHEM 1580 Intro Organic Chemistry w/lab		4
Elective		3
Year Total:	17	14

Junior	Credits	
	Fall	Spring
BHSC 2970 Leadership & Mgt in Hlth Care <sup>1</sup>	3	
BIOC 3001 Fundamentals of Biochemistry	3	
PATH 2010 Intro to Human Disease	3	
MLS 3100 Clinical Chemistry I <sup>1</sup>	4	
Elective	2	3
MMG 3220 Adv Medical Microbiology w/lab <sup>1</sup>		4
Choose one of the following courses:		3
BHSC 3420 Immunology <sup>1</sup>		
MMG 3230 Immunology <sup>1</sup>		
BHSC 3440 Immunology Lab <sup>1</sup>		1
MLS 3110 Clinical Chemistry II <sup>1</sup>		3
Year Total:	15	14
<b>Senior</b>		
	<b>Fall</b>	<b>Spring</b>
BHSC 3810 Applied Molecular Biology <sup>1</sup>	3	
BHSC 3820 Applied Molecular Biology Lab <sup>1</sup>	1	
MLS 3200 Hematology <sup>1</sup>	4	
MLS 3300 Clinical Microbiology II <sup>1</sup>	3	
MLS 3400 Immunoematology <sup>1</sup>	4	
MLS 3900 Topics in Medical Lab Science <sup>1</sup>		3
MLS 3192 Clinical Practicum: Chemistry <sup>1</sup>		3
MLS 3292 Clinical Practicum:Hematology <sup>1</sup>		3
MLS 3392 Clin Practicum:Microbiology <sup>1</sup>		3
MLS 3492 Clin Practicum:Immunoematolog <sup>1</sup>		3
Year Total:	15	15
<b>Total Credits in Sequence:</b>		<b>121</b>

<sup>1</sup> Professional course

This plan of study is designed to meet the requirements for the Medical Laboratory Science major's clinical laboratory science concentration. Changes should be reviewed with a student's academic advisor. A minimum of 121 semester credit hours, minimum GPA per

program requirement, and fulfillment of the University Catamount Core are required for graduation.

### PUBLIC HEALTH LABORATORY SCIENCE CONCENTRATION

First Year	Credits	
	Fall	Spring
NH 1500 App to Hlth: From Pers to Syst	1	
HSCI 1100 Introduction to Public Health (S1)	3	
ENGL 1001 Written Expression (WIL2)	3	
CHEM 1400 General Chemistry 1 (N2)	4	
MATH 1212 Fundamentals of Calculus I (MA)	3	
BHSC 1980 Intro to Scientific Writing (WIL2)		3
BHSC 1340 Human Cell Biology (N2)		4
CHEM 1450 General Chemistry 2 (N2)		4
Catamount Core – AH1, AH2 with D1, D2 or SU		6
Year Total:	14	17
<b>Sophomore</b>		
	Fall	Spring
ANPS 1190 Ugr Hum Anatomy & Physiology 1	4	
STAT 1110 Elements of Statistics or STAT 1410 Basic Statistical Methods 1	3	
MMG 2010 Microbiol & Infectious Disease	4	
NH 2200 Health Care Ethics	3	
Catamount Core – D1, D2 or SU	3	3
ANPS 1200 Ugr Hum Anatomy & Physiology 2		4
CHEM 1580 Intro Organic Chemistry w/lab		4
Elective <sup>3</sup>		3
Year Total:	17	14
<b>Junior</b>		
	Fall	Spring
BHSC 2970 Leadership & Mgt in Hlth Care <sup>1</sup>	3	
BIOC 3001 Fundamentals of Biochemistry	3	
PATH 2010 Intro to Human Disease	3	
STAT 3000 Med Biostat&Epidemiology	3	
Elective <sup>3</sup>	3	

MMG 3220 Adv Medical Microbiology w/lab <sup>1,2</sup>		4
Choose one of the following courses:		3
BHSC 3420 Immunology <sup>1</sup>		
MMG 3230 Immunology <sup>1</sup>		
BHSC 3440 Immunology Lab <sup>1</sup>		1
BCOR 2300 Genetics		3
HSCI 2400 Hlthcare & Pub Hlth Syst US or HSCI 3100 Epi, Pub Hlth & Emerg Disease		3
Year Total:	15	14
<b>Senior</b>		
	Fall	Spring
BHSC 3810 Applied Molecular Biology <sup>1</sup>	3	
BHSC 3820 Applied Molecular Biology Lab <sup>1</sup>	1	
NFS 3203 Food Microbiology	3	
NFS 3204 Food Microbiology Lab	1	
MLS 3300 Clinical Microbiology II <sup>1</sup>	3	
Approved Elective <sup>3</sup>	4	
MLS 3892 Public Health Lab Practicum		12
MLS 3392 Clin Practicum:Microbiology (or Approved Elective) <sup>1,2,3</sup>		3
Year Total:	15	15
<b>Total Credits in Sequence:</b>		
		<b>121</b>

- <sup>1</sup> Professional course
- <sup>2</sup> MLS 3392 must be approved by the MLS program director.
- <sup>3</sup> For the public health science concentration, students must take 6 credits of department-approved electives in the area of Public Health. Students must obtain a list of approved elective courses for each respective academic year from their academic advisor.

This plan of study is designed to meet the requirements for the Medical Laboratory Science major’s public health laboratory science concentration. Changes should be reviewed with a student’s academic advisor. A minimum of 121 semester credit hours, minimum GPA per program requirement, and fulfillment of the University Catamount Core are required for graduation.

### MEDICAL RADIATION SCIENCES B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 432)

The B.S. in Medical Radiation Sciences offers a clinical track in Radiation Therapy.

Radiation Therapy students gain skills in radiation safety, patient care and cancer management and treatment using a Virtual Environment Radiotherapy Trainer (VERT) and by working side-by-side with radiation therapists in the UVM Medical Center on campus. A semester-long placement in a hospital setting with one of UVM's clinical affiliates completes the four-year program. Program graduates may acquire certification by sitting for an exam with the American Registry of Radiologic Technologists.

Radiation therapy is the medical specialty that uses high-energy radiation (x-rays, gamma rays, electron beams, etc.) in the treatment of cancer. Radiation therapists are responsible for daily treatments, providing support for patients as they cope with their disease, and contributing as vital members of the medical team responsible for delivering the patient's treatment plan.

Students who already have an Associate in Science degree in Radiation Therapy may apply for transfer into the baccalaureate program on a space-available basis. Requirements for graduation include 121 credits, which may include approved transfer credits from an associate degree. Additional required courses will be based on prior courses completed in an associate degree program.

Students in Biomedical and Health Sciences (BHSC) programs must maintain a cumulative grade point average of 2.3 or higher. Students with a cumulative grade point average below 2.3 will be placed on academic trial. First-year students must achieve a cumulative GPA of 2.3 or higher by the end of two subsequent semesters to be removed from trial. Students who fail to raise their cumulative GPA to 2.3 after the trial semesters may be discontinued from the program. Students beyond the first year must achieve a cumulative GPA of 2.3 or higher by the end of the subsequent semester to be removed from trial. Students who fail to raise their cumulative GPA to 2.3 after the trial semester may be discontinued from the program. Students who earn one grade below a C in any non-practicum, non-internship, professional/core course will be placed on "academic warning" and will receive a letter informing them of such. Professional or core courses are identified on each major curriculum sheet. In order to remain in good standing within the BHSC programs, students must also be consistently progressing in the program curriculum. Failure to follow the required sequence of courses outlined in the BHSC program of study for more than one semester is grounds for discontinuation from the major.

This four-year curriculum leading to the baccalaureate degree is accredited by the Joint Review Committee on Education in Radiologic Technology.

**CLINICAL AFFILIATIONS**

Albany Medical Center, Albany, NY

Central VT Hospital (National Life Cancer Treatment Center), Berlin, VT  
 Dartmouth-Hitchcock Medical Center, Hanover, NH  
 Eastern Maine Medical Center, Brewer, ME  
 Elliot Hospital, Manchester, NH  
 Medical Center at Londonderry, Londonderry, NH  
 University of Vermont Medical Center, Burlington, VT  
 Massachusetts General Hospital, Boston, MA  
 Rutland Regional Medical Center, Rutland, VT  
 Note: Clinical affiliations subject to change.

**PLAN OF STUDY**

**A Model Curriculum in Medical Radiation Sciences/  
 Radiation Therapy Concentration**

First Year	Credits	
	Fall	Spring
Any Psychological Science course	3	
ENGL 1001 Written Expression (WIL1) <sup>2</sup>	3	
CHEM 1100 Outline: General Chem w/lab (N2) <sup>2</sup>	4	
HLTH 1030 Medical Terminology	2	
NH 1500 App to Hlth: From Pers to Syst	1	
Elective with AH1 or AH2 Designation <sup>2</sup>	3	
BHSC 1340 Human Cell Biology (N2) <sup>2</sup>		4
MATH 1212 Fundamentals of Calculus I (or higher; MA) <sup>2</sup>		3
NFS 1043 Fundamentals of Nutrition (N1) <sup>2</sup>		3
BHSC 1980 Intro to Scientific Writing (WIL2) <sup>2</sup>		3
ANTH 1100 Cultural Anthropology (D2:SU OR D2:SU Elective) <sup>2</sup>		3
Year Total:	16	16
<b>Sophomore</b>		
	<b>Fall</b>	<b>Spring</b>
ANPS 1190 Ugr Hum Anatomy & Physiology 1	4	
SOC 1370 Race Relations in the US (D1:S1) <sup>2</sup>	3	
STAT 1110 Elements of Statistics (QD) <sup>2</sup> or STAT 1410 Basic Statistical Methods 1	3	
HSCI 1100 Introduction to Public Health (S1) <sup>2</sup>	3	
Elective with AH1 or AH2 Designation <sup>2</sup>	3	
ANPS 1200 Ugr Hum Anatomy & Physiology 2		4
Radiation Physics		3
BHSC 2400 Radiation Science <sup>1</sup>		4
RADT 2520 Prin of Radiation Therapy <sup>1</sup>		3

HSCI 2100 Fndns of Global Health (GC1; D2) <sup>2</sup>		3
Year Total:	16	17
<b>Junior</b>		
	<b>Fall</b>	<b>Spring</b>
RADT 3700 Dosimetry Concepts <sup>1</sup>	3	
PATH 2010 Intro to Human Disease	3	
BHSC 2750 Cross Sectional Imaging <sup>1</sup>	3	
RADT 2850 Intro to Clinical Practice <sup>1</sup>	3	
NH 2200 Health Care Ethics	3	
RADT 3710 Dosimetry <sup>1</sup>		3
RADT 2760 Clinical Radiation Oncology <sup>1</sup>		3
RADT 3150 CT Procedures <sup>1</sup>		3
RADT 2870 Clinical Practicum II <sup>1</sup>		2
RADT 3440 Essentials of Patient Care <sup>1</sup>		3
Year Total:	15	14
<b>Senior</b>		
	<b>Fall</b>	<b>Spring</b>
BHSC 2970 Leadership & Mgt in Hlth Care <sup>1</sup>	3	
RADT 3770 Techniques Radiation Therapy <sup>1</sup>	4	
RADT 3850 Clinical Practicum III <sup>1</sup>	3	
RADT 3780 Senior Seminar in Rad Therapy <sup>1</sup>	2	
Elective Course <sup>3</sup>	1	
RADT 3880 Final Clinical Pract Overview (taken in winter session) <sup>1</sup>		1
RADT 3870 Clinical Practicum IV <sup>1</sup>		11
RADT 3890 Qual Assurance&Treatment Plan <sup>1</sup>		2
Year Total:	13	14
<b>Total Credits in Sequence: 121</b>		

<sup>1</sup> Professional courses

<sup>2</sup> Courses designated to meet the University's Catamount Core general education requirements

<sup>3</sup> Number of credits each spring semester will be determined by the RADT Program Director. The number of credits is based on the course start date.

This curriculum is designed to meet the University's Catamount Core Curriculum and MRS major, RADT concentration requirements for graduation, which includes a minimum of 121 semester credit hours and meeting the minimum GPA per program requirement.

## PUBLIC HEALTH SCIENCES B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements.

The mission of the UVM Public Health Sciences program is to strive for health equity by preparing the next generation of leaders to improve the health of individuals and communities through basic science and applying the principles of population health. Students in this major learn how to define, assess and address health issues facing individuals and communities. The program is public health focused, and includes: health promotion and education, global health, epidemiology, health communication, and understanding the US health care systems.

Students in Biomedical and Health Sciences (BHSC) programs must maintain a cumulative grade point average of 2.3 or higher. Students with a cumulative grade point average below 2.3 will be placed on academic trial. First-year students must achieve a cumulative GPA of 2.3 or higher by the end of two subsequent semesters to be removed from trial. Students who fail to raise their cumulative GPA to 2.3 after the trial semesters may be discontinued from the program. Students beyond the first year must achieve a cumulative GPA of 2.3 or higher by the end of the subsequent semester to be removed from trial. Students who fail to raise their cumulative GPA to 2.3 after the trial semester may be discontinued from the program. Students who earn one grade below a C in any non-practicum, non-internship, professional / core course will be placed on academic trial. Professional or core courses are identified on each major curriculum sheet. Students should consult with their advisor to ensure that they are consistently progressing in the program curriculum.

The UVM Public Health Sciences program (B.S.) is the only undergraduate program at UVM to be nationally accredited by the Council on Education for Public Health.

## PUBLIC HEALTH SCIENCES CORE COURSES (36 CREDITS)

Must take all courses. HSCI 1100 is a prerequisite for all 1000-level courses. BHSC 1340 is a required course that also counts towards Natural and Applied Science Electives and is recommended in the first year (4 credits). One semester of chemistry (4 credits) is also recommended.

HSCI 1100	Introduction to Public Health (SS) <sup>1</sup>	3
BHSC 1340	Human Cell Biology (NS1) <sup>2</sup>	4

HSCI 2200	Rsrch Methods in Public Health (SU, prereq HSCI 1100)	3
HSCI 2100	Fndns of Global Health (D2, GC)	3
STAT 1110	Elements of Statistics	3
or STAT 1410	Basic Statistical Methods 1	
NH 2200	Health Care Ethics	3
HSCI 2300	Health Promotion (SS, prereq HSCI 1100)	3
HSCI 2400	Hlthcare & Pub Hlth Syst US	3
HSCI 2500	Health Communication (prereq ENGL 1001 or equivalent)	3
HSCI 3100	Epi, Pub Hlth & Emerg Disease (prereq: HSCI 2200)	3
HSCI 3300	Hlth Promotion Prog Plan/Eval (prereq HSCI 2300, senior standing)	3
HSCI 3400	Writing for Health Profess. (prereq HSCI 2500)	3
HSCI 3500	Capstone (coreq HSCI 3400; prereq all HSCI core courses) <sup>3</sup>	3

### ENGLISH (6 CREDITS)

ENGL 1001	Written Expression	3
Choose one of the following:		
BHSC 1980	Intro to Scientific Writing (recommended; WIL2)	
ENGL WIL2 class		

### HUMANITIES (6 CREDITS)

Must complete 6 credits of electives with AH designation.

### MATH OR STATISTICS (6 CREDITS)

Must complete 6 credits in addition to either STAT 1110 or STAT 1410. Students can take both STAT 1110 and STAT 1410 if desired. To fulfill the MATH requirement, courses must be at the level of MATH 1212 or higher.

STAT (any) or MATH (1212 or higher) or PH 6030 (Biostats)	
MATH (1212 or higher, MA designation)	

### SOCIAL AND BEHAVIORAL SCIENCES (12 CREDITS)

Must be from at least 2 different disciplines. PSYS 1400 and SOC 1500 are recommended. Select from the following:

ANTH (any)	
GEOG (any course except: 1200, 2205, 2230, 2250)	
POLS (any course except: 1200 and all courses within the 2330s and 2440s)	

GRS 1500	Intro to Global Studies	3
SOC 1375	Asian-American Experiences	3
PSYS (any course except: 1110, 1150, 2110, 2150, 2160, 2170, 2180, 2190)		
CSD 1940	Dev of Spoken Language	3
GSWS 1500	Gender Sexuality Women's Stdy	3
SOC (any)		
EC (any)		
LING (any)		
VS 1500	Sustainable Vermont	3
PH 6060	Social&Behavioral Public Hlth	3
EDHE 2520	Race, Bullying & Discrim	3

### NATURAL AND APPLIED SCIENCES (18 CREDITS)

One semester of chemistry (4 credits) is recommended. In addition to BHSC 1340, students must choose an additional course with NS designation. Select from the following:

BHSC 1340	Human Cell Biology (required; NS1) <sup>2</sup>	4
ANTH 1400	Biological Anthropology	3
ANPS 1190	Ugr Hum Anatomy & Physiology 1 <sup>*</sup>	4
ANPS 1200	Ugr Hum Anatomy & Physiology 2 <sup>*</sup>	4
BIOL 1400	Principles of Biology 1	4
BIOL 1450	Principles of Biology 2	4
BCOR 1400	Exploring Biology 1	4
BCOR 1450	Exploring Biology 2	4
BCOR 2300	Genetics	3
BCOR 2500	Molecular & Cell Biology w/lab	4
BIOC 3001	Fundamentals of Biochemistry	3
BHSC 3420	Immunology <sup>*</sup>	3
BHSC 3810	Applied Molecular Biology <sup>*</sup>	3
CHEM 1100	Outline: General Chem w/lab	4
CHEM 1102	Outline: General Chem	3
CHEM 1150	Outline: Organic & BIOC w/lab	4
CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 1580	Intro Organic Chemistry w/lab	4
CHEM 2580	Organic Chemistry 1	4

CHEM 2585	Organic Chemistry 2	4
ENSC 1010	Intro Environmental Sci	3
PATH 2010	Intro to Human Disease *	3
PHYS 1400	Elementary Physics I	4
PHYS 1450	Elementary Physics II	4
PHYS 1410	Elem Physics Problem Solving I	1
PHYS 1460	Elem Physic Problem Solving II	1
PBIO 1040	Intro to Botany	4
PSYS 2200	Biopsychology	3
MMG 1650	Microbiology & Pathogenesis *	4
MMG 2010	Microbiol & Infectious Disease *	4
MMG 3220	Adv Medical Microbiology w/lab *	4
MMG 3230	Immunology	3
MLS 3100	Clinical Chemistry I *	3 or 4
MLS 3110	Clinical Chemistry II *	3
MLS 3200	Hematology *	3-4
MLS 3300	Clinical Microbiology II *	3
MLS 3892	Public Health Lab Practicum *	12
PHRM 3010	Pharmacology and Therapeutics *	3
PHRM 5400	Molecules & Medicine *	3
PHRM 3720	Toxicology *	3
PHRM 3993	Independent Study *	1-18
NFS 2143	Nutrition in the Life Cycle *	3
NFS 2153	Principles of Food Technology *	3
NFS 2154	Principles Food Technology Lab *	1
NFS 2183	Introduction to Biochemistry *	3
NFS 3203	Food Microbiology *	3
NFS 3204	Food Microbiology Lab *	1

### HEALTH-RELATED ELECTIVES (18 CREDITS)

Must select at least 6 credits at 2000-level. Select from the following:

ANPS 1190	Ugr Hum Anatomy & Physiology 1	4
ANPS 1200	Ugr Hum Anatomy & Physiology 2	4
ANTH 1190	Global Health Devel & Diversit	3
ANTH 2205	Gender Sex Race & the Body	3
ANTH 2170	Culture, Health and Healing	3
ANTH 3475	Research in Hum Biol Diversity	4

AT 2680	Directed Obsv. in Athl Trng	1
BCOR 2300	Genetics	3
BCOR 2500	Molecular & Cell Biology w/lab	4
BHSC 2970	Leadership & Mgt in Hlth Care	3
CDAE 1020	World Food,Pop & Develop	3
CSD 1200	Intro to Disordered Comm	3
CSD 1940	Dev of Spoken Language	3
CSD 2210	Adv Topics in Clin Aud & SLP	3
CSD 3480	Cognition & Language	3
CSD 5740	Gr Culture of Disability	3
CSD 3810	Intro Cognitive Neuroscience	3
CSD 3899	Autism Spect Dis:Assess&Interv	3
COMU (any)		
ECON 4200	Topics in:Micro&Applctns (W)	3
EDHE 2460	Personal Health	3
EDPE 2660	Kinesiology	3
EDPE 3000	Contemporary Issues	1-6
EDSP 1050	Iss Aff Persons W/Disabil	3
ENVS 4990	Special Topics	1-18
EXSC 2750	Applied Kinesiology	3
EXSC 3130	Biomechanics of Human Movement	3
EXSC 2420	Exercise and Sport Psychology	3
HDF 1050	Human Development	3
HLTH (any)		
HSCI (any non-core)		
MMG 1020	Unseen Wrlds:Microbes & You	3
MMG 1650	Microbiology & Pathogenesis	4
MMG 2010	Microbiol & Infectious Disease	4
NFS (any)		
NURS 3000	Health and Sustainability	3
PEAC 1006	Yoga & Mindfulness	1
PEAC 1100	Yoga & the Chakras	1
PH (any)		
PHRM 3000	Medical Cannabis	3
PHRM 3010	Pharmacology and Therapeutics	3
PHRM 5400	Molecules & Medicine	3

PHRM 3720	Toxicology	3
PHRM 3993	Independent Study	1-18
PSYS 3520	Fit Kids: Special Populations	3
PSYS 3455	Adv Fit Kids: Applied Research	3
PSYS 3990	Special Topics	1-18
PSYS 3510	Intro to Health Psychology (may also count as social and behavioral elective)	3
EXSC 1650	Foundations Ex & Hlth Act Pop	3
SOC 1300	Health Care in America (may also count as social and behavioral elective)	3
SOC 2450	Population, Environment & Soc (may also count as social and behavioral electives)	3
SOC 2300	Population Health Research (may also count as social and behavioral electives)	3
SOC 3335	Sociology of Reproduction (may also count as social and behavioral electives)	3
SOC 4990	Special Topics (may also count as social and behavioral electives)	1-18
EMED 3000	Emergency Medicine Research I	4
or EMED 3010	Emergency Medicine Research II	
Health-related travel courses		
ASCI 2700	Wildlife Hlth & Consvration	3
BCOR 1400	Exploring Biology 1	4
BCOR 1450	Exploring Biology 2	4
BCOR 2505	Molecular & Cell Biology	3
PSYS 2400	Developmental Psych: Childhood	3
PSYS 3525	Adv Fit Kids: Spec Populations	3
PSYS 3450	Fit Kids Applied Research	0 or 3
PSYS 3515	Science of Traumatic Stress	3
SOC 2335	Gender, Sexualities & Medicine	3
SOC 1260	Drugs & Society	3
STAT 3000	Med Biostat&Epidemiology	3

**LEARNING COMMUNITY REQUIREMENTS (1-3 CREDITS)**

Assigned by university.

**UNIVERSITY REQUIREMENTS**

Catamount Core

Students must select a D1 (3 credits) and 6 credits of AH and 3 credits of MA; ENGL 1001 fulfills WIL 1, student must select a WIL 2, but BHSC 1980 is recommended; BHSC 1340 fulfills NS 1,

students must select a NS 2. The following core courses meet the remaining Catamount Core requirements: HSCI 2100 fulfills D2 and GC (3 credits). HSCI 2200 fulfills SU 3 credits. STAT 1110 or STAT 1410 fulfills QD 3 credits. HSCI 1100 and HSCI 2300 fulfill SS 6 credits.

**FREE ELECTIVES (12-14 CREDITS)**

The number of free elective requirements needed may vary by student.

Students must complete a minimum of 120 credits for the B.S. in Health Sciences. Course selection should be reviewed by a student's academic advisor.

\* Courses may also count as health-related electives.

<sup>1</sup> Core course; HSCI 1100 is a prerequisite for all HSCI core courses. Other than HSCI 3400, all core courses must be completed prior to Capstone. Be mindful of prerequisites.

<sup>2</sup> BHSC 1340 is a required course that also counts towards Natural and Applied Science Electives and is recommended in the first year.

<sup>3</sup> HSCI 3500 is a project based, service-learning course with hours at a community partner site completed outside of class time.

**PLAN OF STUDY**

**A Model Four-Year Residential public Health Sciences Curriculum**

First Year	Credits	
	Fall	Spring
NH 1500 App to Hlth: From Pers to Syst	1	
HSCI 1100 Introduction to Public Health (SS) <sup>1</sup>	3	
Social and Behavioral Science Elective <sup>5</sup>	3	3
BHSC 1340 Human Cell Biology (NS1) <sup>4</sup>	4	
ENGL 1001 Written Expression (WIL1)	3	
Learning Community Course <sup>3</sup>	1-3	
Approved Health-Related Elective		3
Math/STAT Elective <sup>6</sup>		3
Natural and Applied Science Elective (N) <sup>4</sup>		
HSCI 2200 Rsrch Methods in Public Health (SU) <sup>1</sup>		3
Year Total:	15-17	12

Sophomore	Credits	
	Fall	Spring
HSCI 2100 Fndns of Global Health (D2, GC1) <sup>1</sup>	3	
STAT 1110 Elements of Statistics (QD) <sup>1</sup> or STAT 1410 Basic Statistical Methods 1	3	
Approved Health-Related Elective	4	3



English Elective (WIL2): BHSC 1980 recommended	3	
Math (MA) <sup>6</sup>	3	
HSCI 2300 Health Promotion (SS) <sup>1</sup>		3
HSCI 2400 Hlthcare & Pub Hlth Syst US <sup>1</sup>		3
Natural and Applied Science Elective <sup>4</sup>		3
Social and Behavioral Science Elective <sup>5</sup>		3
Year Total:	16	15
<b>Junior</b>		
	<b>Credits</b>	
	<b>Fall</b>	<b>Spring</b>
HSCI 3100 Epi, Pub Hlth & Emerg Disease <sup>1</sup>	3	
NH 2200 Health Care Ethics <sup>1</sup>	3	
Natural and Applied Science Elective <sup>4</sup>	3	3
Humanities Elective (AH)	3	3
Diversity (D1) Course	3	
HSCI 2500 Health Communication <sup>1</sup>		3
Free Elective		3
Approved Health-Related Elective		3
Year Total:	15	15
<b>Senior</b>		
	<b>Credits</b>	
	<b>Fall</b>	<b>Spring</b>
HSCI 3300 Hlth Promotion Prog Plan/Eval <sup>1</sup>	3	
Social and Behavioral Science Elective <sup>5</sup>	3	
Approved Health-Related Elective	3	6
Free Elective	3-6	3-6
HSCI 3500 Capstone <sup>1,2</sup>		3
HSCI 3400 Writing for Health Profess. <sup>1</sup>		3
Year Total:	12-15	15-18
<b>Total Credits in Sequence: 115-123</b>		

<sup>1</sup> Core course; HSCI 1100 is a pre-requisite for all HSCI core courses. Other than HSCI 3400, all core courses must be completed prior to Capstone. Be mindful of pre-requisites.

<sup>2</sup> HSCI 3500 is a project based, service-learning course with hours at a community partner site completed outside of class time.

<sup>3</sup> Course is assigned based on campus learning community.

<sup>4</sup> BHSC 1340 is a required course that also counts towards Natural and Applied Science Electives and is recommended in the first

year (4 credits); one semester of chemistry (4 credits) is also recommended

<sup>5</sup> PSYS 1400 and SOC 1500 are recommended.

<sup>6</sup> To fulfill the MATH requirement, courses must be at the level of MATH 1212 or higher.

Total Requirements: Minimum of 120 semester credit hours: 40 credits in core courses in the major, 18 credits in approved health-related courses, 18 credits in natural and applied sciences, 12 credits in social and behavioral sciences, 6 credits in math/statistics (excluding STAT 1110 STAT 1110or STAT 1410), 6 credits in English (including ENGL 1001), 6 credits in humanities, and 12 credits in free electives. Course selection should be reviewed by a student's academic advisor.

**Transfer student 2-year curriculum (fall start)**

First Year	Credits	
	Fall	Spring
NH 2200 Health Care Ethics	3	
HSCI 1100 Introduction to Public Health	3	
STAT 1110 Elements of Statistics or STAT 1410 Basic Statistical Methods 1	3	
Life and Physical Science Elective (BHSC 1340)	4	
Elective	3	
HSCI 2200 Rsrch Methods in Public Health		3
HSCI 2300 Health Promotion		3
HSCI 2400 Hlthcare & Pub Hlth Syst US		3
HSCI 2500 Health Communication		3
Electives (D1)		3-6
Year Total:	16	15-18
<b>Second Year</b>		
	<b>Credits</b>	
	<b>Fall</b>	<b>Spring</b>
HSCI 2100 Fndns of Global Health	3	
HSCI 3100 Epi, Pub Hlth & Emerg Disease	3	
HSCI 3300 Hlth Promotion Prog Plan/Eval	3	
Electives	3-6	9-12
HSCI 3400 Writing for Health Profess.		3
HSCI 3500 Capstone		3
Year Total:	12-15	15-18
<b>Total Credits in Sequence: 58-67</b>		

**TRANSFER student 2-year curriculum (summer start)****SUMMER**

HSCI 1100 (online)

First Year	Credits	
	Fall	Spring
NH 2200 Health Care Ethics	3	
HSCI 2100 Fndns of Global Health	3	
STAT 1110 Elements of Statistics or STAT 1410 Basic Statistical Methods 1	3	
HSCI 2200 Rsrch Methods in Public Health	3	
Electives (D1)	3-6	
HSCI 2300 Health Promotion		3
HSCI 2400 Hlthcare & Pub Hlth Syst US		3
HSCI 2500 Health Communication		3
Life and Physical Science Elective (BHSC 1340)		4
Electives		3-6
Year Total:	15-18	16-19
<b>Second Year</b>		
	<b>Fall</b>	<b>Spring</b>
HSCI 3100 Epi, Pub Hlth & Emerg Disease	3	
HSCI 3300 Hlth Promotion Prog Plan/Eval	3	
Electives	6-9	9-12
HSCI 3400 Writing for Health Profess.		3
HSCI 3500 Capstone		3
Year Total:	12-15	15-18
<b>Total Credits in Sequence:</b>	<b>58-70</b>	

Minimum of 120 semester credit hours and final GPA of 2.3 or higher required for the major. Elective credits required will depend on student transcript and transfer credits. Coursework consists of: 36 credits in core courses; 18 credits in approved health-related courses; 18 credits in life and physical sciences (including BHSC 1340 BHSC 1340, which is required); 12 credits in social and behavioral sciences (in two or more disciplines); 6 credits in math/statistics (excluding STAT 1110 and STAT 1410); 6 credits in English (including ENGL 1001); 6 credits in humanities; and 12 credits in free electives. Course selection should be reviewed with a student's academic advisor.

**MEDICAL DIAGNOSTICS MINOR**

The minor consists of 18 credit hours including the following:

**MINOR REQUIREMENTS**

Core Requirements		
MLS 2010	Medical Diagnostic Techniques (spring)	3
MLS 3000	Applied Medical Diagnostics	3
BHSC 3810	Applied Molecular Biology (fall)	3
<b>9 credits of electives selected from the following:</b>		
HLTH 2350	Adv Medical Equipment Systems	
MLS 3100	Clinical Chemistry I (fall)	
MLS 3110	Clinical Chemistry II (spring)	
BHSC 3420	Immunology (spring)	
MLS 3300	Clinical Microbiology II (fall)	
MLS 3200	Hematology (fall)	
Other Approved Electives		

**PREREQUISITE REQUIREMENTS**

BHSC 1340	Human Cell Biology (or one semester of Biology with lab)	4
<b>Electives in the minor may require additional prerequisites such as:</b>		
CHEM 1580	Intro Organic Chemistry w/lab	
or CHEM 1150 Outline: Organic & BIOC w/lab		
BIOC 3001	Fundamentals of Biochemistry	
MMG 2010	Microbiol & Infectious Disease	

**RESTRICTIONS**

The minor is not available to Medical Laboratory Science majors.

**DEPARTMENT OF COMMUNICATION SCIENCES AND DISORDERS**<http://www.uvm.edu/cnhs/csd/>

The undergraduate program in Communication Sciences and Disorders aims to achieve two primary goals:

1. to provide students with basic knowledge about the development and structure of typical and disordered human communication across the lifespan, and
2. to give students the opportunity to enhance their own abilities to learn and communicate effectively.

Through course work and research opportunities as well as observation of therapy, students gain expertise in the uniquely human endeavor we call "communication". The primary topics presented at

the undergraduate level focus on the form and structure of speech and language, and how these skills are learned, produced, perceived, and understood. In recent years, exciting research from such sources as brain imaging and computer technology has enhanced our understanding of speech, language, and communication and our ability to remediate disorders in these areas. Students learn about current developments and how they impact the field of communication sciences and disorders.

As they begin to study communication sciences and disorders, students start with an introduction to the types of communication disorders that occur and how they impact people's lives. A series of courses present core concepts from linguistics, cognitive science and the typical processes of speech, language, and hearing. These courses deal with the physical, neurophysiological, cognitive, and linguistic bases of normal speaking, hearing, and language use; the acoustics of sound and speech; and how communication develops from infancy to adulthood. Students also learn about the professions of speech-language pathology and audiology, especially professional ethical issues, cultural competence, person/family centered care, and collaborating with other professionals.

Courses in the junior and senior year focus on the principles of assessment as they apply to the study of human communication and its disorders. Students participate in directed measurement projects as they learn to critically evaluate communication and the assessment tools used by practitioners in the field.

Outside of the classroom, those students who show interest are encouraged to pursue research through collaboration in ongoing faculty research. Ongoing areas of faculty research encompass normal and disordered communication throughout the lifespan and include the following topics:

- The nature and treatment of autism
- The use of eye-tracking technology to examine the visual attention allocation strategies of individuals with autism spectrum disorders
- Autobiographical memory and narrative discourse development in autism
- The use of neuroimaging techniques (EEG and MRI) to examine cognitive processing in individuals with autism, particularly in language and narrative comprehension domains
- The development of psychometrically sound measures of social cognition and speech production skill
- Articulatory movement patterns using electromagnetic articulography equipment in healthy and disordered populations
- The emotional reactivity and regulatory abilities of people who stutter
- The use of Virtual Reality environments to create social situations in a controlled setting for the study of social anxiety in stuttering
- Typical and atypical changes in communication and cognition associated with aging and central nervous system disorders
- Functional Near Infrared Spectroscopy (fNIRS) and Cognitive-Motor Interference for tracking cortical and cognitive function in Multiple Sclerosis

- The assessment and treatment of communication challenges following traumatic brain injury
- Speech development and disorders in children with neurodevelopmental syndromes
- Early indicators of suspected Childhood Apraxia of Speech

Students are exposed to clinical resources in the professions of speech-language pathology and audiology - two closely related areas - through guided observations in the Eleanor M. Luse Center for Communication. Special opportunities include clinical internships in either area. High-performing CSD juniors may be invited to apply for early acceptance into the UVM graduate program in speech-language pathology. There are a number of factors that are considered for qualification each year (e.g., GPA, expected space in the graduate class, etc.), but this process potentially accelerates and simplifies the UVM graduate admissions process.

## ARTICULATION AGREEMENTS

UVM's Department of Communication Sciences and Disorders has an articulation agreement with the Community College of Vermont (CCV). The agreement provides pathways for students in certain two-year degree programs (A.A. Early Childhood Education, A.S. Behavioral Science, or A.S. Health Science) to transfer to UVM's Communication Sciences and Disorders program if capacity allows. See the Admissions section of this catalogue for further information.

## MAJORS

### COMMUNICATION SCIENCES AND DISORDERS MAJOR

Communication Sciences and Disorders B.S. (p. 443)

## MINORS

### COMMUNICATION SCIENCES AND DISORDERS MINOR

Communication Sciences and Disorders (p. 445)

## GRADUATE

Communication Sciences and Disorders M.S.

Interprofessional Health Sciences Ph.D.

See the online Graduate Catalogue for more information.

### COMMUNICATION SCIENCES AND DISORDERS B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 432)

This major leads to a Bachelor of Science. The major provides the breadth of a liberal arts education plus an introduction to the

health sciences, as well as in-depth information about human communication, including opportunities to explore the fields of speech-language pathology and audiology. Students are introduced to a variety of communication disorders through classes, observations, and clinical activities. A minimum of 120 credits, a minor, and a GPA of 2.5 are required for the Communication Sciences and Disorders major.

Students with a semester and/or cumulative grade point average below 2.5 will be placed on trial for one semester. Students are allowed one trial period while in the Communication Sciences and Disorders program and must maintain semester and cumulative grade point averages of 2.5 or higher for the duration of the program following a semester on trial. Failure to do so will result in discontinuation from the program.

Working as a speech-language pathologist (SLP) requires a master’s degree, clinical certification from the American Speech-Language-Hearing Association, and state licensure. Positions in audiology require a professional doctorate, the Au.D., or a scholarly Ph.D. Employment opportunities for fully qualified speech-language pathologists and audiologists exist in birth-to-three programs, public schools, medical centers, nursing homes, and private practices. The profession is a growing one with excellent opportunities for future employment.

A bachelor’s degree in Communication Sciences and Disorders prepares students for a wide variety of careers, some of which require a graduate degree and some of which do not. Students can prepare to work as speech-language pathology assistants (SLPAs), audiology assistants, or in many other fields such as education, psychology, linguistics, cognitive science, or medicine.

## PLAN OF STUDY A MODEL CURRICULUM IN COMMUNICATION SCIENCES AND DISORDERS

First Year	Credits	
	Fall	Spring
CSD 1200 Intro to Disordered Comm	3	
CSD 1210 Intro Topics in Clin Aud & SLP	3	
PSYS 1400 Intro to Psychological Science (S1)	3	
NH 1500 App to Hlth: From Pers to Syst	1	
LING 1500 Introduction to Linguistics (OR CSD 1230 OR Elective/Distribution/Minor/Diversity - CSD 1250:D2 recommended)	3	3
CSD 1940 Dev of Spoken Language		3
ENGL 1001 Written Expression (WIL1)		3
Physical Science Course (lab not required); N1, N2 if lab <sup>1</sup>		3-4
Elective/Distribution/Minor/Diversity/Physical Science Course <sup>2</sup>		3
Year Total:	13	15-16

Sophomore	Credits	
	Fall	Spring
CSD 2010 Speech & Hearing Science (N2)	4	
ANPS 1190 Ugr Hum Anatomy & Physiology 1 or BIOL 1155 (offered in spring)	4	
NH 2200 Health Care Ethics	3	
PSYS 2400 Developmental Psych: Childhood (S1; S2)	3	
Elective/Distribution/Minor/Diversity (Recommended: CSD 1250: D2) <sup>2</sup>	3	
CSD 2220 Clinical Phonetics		4
CSD 2210 Adv Topics in Clin Aud & SLP		3
BIOL 1155 The Human Body (N1) or ANPS 1190 (offered in fall)		3
BIOL 1150 The Human Body w/lab (recommended, N2)		1
STAT 1110 Elements of Statistics or STAT 1410 Basic Statistical Methods 1		3
Elective/Distribution/Minor/Diversity <sup>2</sup>		3
Year Total:	17	17

Junior	Credits	
	Fall	Spring
CSD 3710 Introduction to Audiology	3	
LING 1400 Structure of English Language or LING 2560 Syntax	3	
Elective/Distribution/Minor/Diversity (Recommended: CSD 1250: D2) <sup>2</sup>	6	
CSD 3480 Cognition & Language (S1)		3
CSD 3620 Measurement of Comm Processes (WIL2)		4
CSD 3720 Hearing Rehabilitation		3
Elective/Distribution/Minor/Diversity <sup>2</sup>		6
Year Total:	12	16

Senior	Credits	
	Fall	Spring
CSD 3810 Intro Cognitive Neuroscience	3	
Recommended for Fall:		
CSD 3990 Special Topics	3	

Elective/Distribution/Minor/Diversity (Recommended: CSD 1250: D2) <sup>2</sup>	9	9
Recommended for Spring:		3
CSD 3200 Culture of Disability (D2) or CSD 3899 Autism Spect Dis:Assess&Interv or CSD 3990 Special Topics		3
Year Total:	15	15
<b>Total Credits in Sequence:</b>		<b>120-121</b>

- <sup>1</sup> Physical Science course: any course with CHEM or PHYS prefix.  
<sup>2</sup> Distribution courses include the following: Foreign Language (6-8 credits)\*.  
<sup>3</sup> CSD 1230 offered in fall; LING 1500 offered in fall and spring  
\* Appropriate level is determined by the offering department.  
At least 6 credits in the same foreign language. The following courses are not approved for this category: ASL 2300, ASL 2990; CHIN 1120, CHIN 1990; FREN 1990 ITAL 1990; SPAN 1210, SPAN 1990.

Minimum of 120 semester credit hours including the University's general education requirements and a GPA of 2.5 required for graduation. This model curriculum is designed to meet all course requirements. Changes should be reviewed with an academic advisor. Minor required. Majors must take CSD 2220 and may not take CSD 1220 or LING 2510. Majors, minors, and concentrations cannot take both CSD 1230 and LING 1500. CSD minors or concentrations may only count one of CSD 1220, CSD 2220, LING 2510.

## COMMUNICATION SCIENCES AND DISORDERS MINOR

### REQUIREMENTS

CSD 1230	Linguistics for Clinicians	3
or LING 1500	Introduction to Linguistics	
CSD 1940	Dev of Spoken Language	3
CSD 1200	Intro to Disordered Comm	3
or CSD 1250	Comm Diff & Dis in Media	
3 CSD courses at the 2000-level or above (excluding CSD 2210 and CSD 3620)		9

### RESTRICTIONS

Ineligible Major: Communication Sciences and Disorders

The following courses do not count toward the minor requirements:		
CSD 3620	Measurement of Comm Processes	4
CSD 2210	Adv Topics in Clin Aud & SLP	3

Students cannot receive credit for both CSD 1230 and LING 1500	
Students can only receive credit for one of: CSD 1220, CSD 2220, LING 2510	

## DEPARTMENT OF NURSING

<http://www.uvm.edu/cnhs/nursing/>

The Department of Nursing offers an undergraduate educational program to prepare qualified individuals for the practice of professional nursing and a graduate program for advanced nursing practice. The undergraduate program leads to the Bachelor of Science degree. The baccalaureate degree program in nursing, master's degree program in nursing, Doctor of Nursing Practice program and post-graduate APRN certificate program at the University of Vermont are accredited by the Commission on Collegiate Nursing Education (<http://www.ccnaccreditation.org>). The Office of Professional Regulation in the Vermont Secretary of State's office governs Vermont licensure requirements.

## MAJORS NURSING MAJORS

Nursing B.S. (p. 445)

## GRADUATE

- Master of Science (Clinical Nurse Leader)
- Accelerated Master of Science (Clinical Nurse Leader)
- Direct Entry Program in Nursing (Pre-Licensure)
- Doctor of Nursing Practice (Primary Care: AGNP/FNP, Executive Nurse Leader)
- Post-Master's Doctor of Nursing Practice
- Interprofessional Health Sciences Ph.D.

See the online Graduate Catalogue for more information

## NURSING B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 432)

This major leads to a Bachelor of Science. Applicants must meet the general admission requirements for the university. Financial aid is available in the form of scholarships, loans, awards, and employment (see the section on Financial Aid in this catalogue). A minimum of 123 approved credits is required for the Bachelor of Science degree. Students are required to purchase a personal computer. Specifications for hardware and software requirements may be found at UVM's Enterprise Technology Services's website.

The curriculum, conducted in four academic years, provides balance between general and professional education. Courses in the sciences

(biological, physical, social) and humanities serve as a foundation for the nursing courses.

The Bachelor of Science degree with a major in nursing is awarded upon completion of a minimum of 123 credits in full or part-time study. The major components of the curriculum are: required non-nursing courses, elective courses, and major nursing courses. Students must successfully achieve:

Nursing major courses	66
Required non-nursing courses	45
Elective courses	12

#### Progression Policy

- Cumulative GPA of 2.80 or better is required to remain in the nursing major. Students who do not meet the requirement are placed on academic trial for one semester. Failure to raise the cumulative GPA to 2.80 upon completion of the “on trial” semester is grounds for discontinuation from the major.
- A grade of C or better is required in all nursing prerequisite courses, all PRNU nursing courses and NURS courses. If this standard is not met, the course must be repeated. Academic progression to the next semester may be affected. A student who receives their first grade of C- (70-72%) or below in any nursing prerequisite course, PRNU or NURS course is required to develop an Academic Success Plan, initiated with their academic advisor.
- The following is grounds for discontinuation from the nursing major:
  - Receiving a grade of C- or below in two or more nursing prerequisite courses and/or PRNU/NURS courses;
  - and/or Receiving a W twice in the same nursing prerequisite course and/or PRNU/NURS course.
- For all PRNU courses with a clinical component, the student must achieve a passing grade AND satisfactory final evaluation in the clinical setting in order to pass the course. Students who do not achieve a passing grade or satisfactory evaluation in the clinical portion of the course will receive a final course grade of F, even if the student achieved a passing grade in the theory portion
  - If a student does not pass a clinical rotation, they cannot progress in any concurrent or subsequent PRNU courses with a clinical component until they repeat the failed clinical rotation.
  - If a student is enrolled in a concurrent PRNU course with a clinical rotation scheduled to occur in the second half of the semester, the student will need to withdraw or will receive an overall course grade of F for the second PRNU clinical course, as they cannot proceed until the preceding clinical course failure is repeated.

The baccalaureate degree program in nursing, master's degree program in nursing, Doctor of Nursing Practice program and post-graduate APRN certificate program at the University of Vermont are accredited by the Commission on Collegiate Nursing Education.

## PLAN OF STUDY A MODEL CURRICULUM IN NURSING (123 CREDITS)

First Year	Credits	
	Fall	Spring
CHEM 1100 Outline: General Chem w/lab (QD/N2)	4	
ENGL 1001 Written Expression (WIL1)	3	
PSYS 1400 Intro to Psychological Science (S1)	3	
HDF 1050 Human Development	3	
PRNU 1990 Special Topics (Introduction to Professional Nursing)	1	
CHEM 1150 Outline: Organic & BIOC w/lab (QD/N2)		4
SOC 1500 Introduction to Sociology		3
PSYS 2500 Psychopathology (S1)		3
NFS 1043 Fundamentals of Nutrition (N1)		3
Philosophy or Religion or Ethics Elective		3
Year Total:	14	16
<b>Sophomore</b>		
	<b>Fall</b>	<b>Spring</b>
ANPS 1190 Ugr Hum Anatomy & Physiology 1	4	
MMG 1650 Microbiology & Pathogenesis	4	
STAT 1110 Elements of Statistics (OC)	3	
PRNU 2110 Art & Science of Nursing (WIL2)	3	
ANPS 1200 Ugr Hum Anatomy & Physiology 2		4
PRNU 2111 Research in Nursing (QD)		3
PRNU 2113 Health Assessment		3
PRNU 2114 Intro to Clinical Practice (MA)		3
Elective		3
Year Total:	14	16
<b>Junior</b>		
	<b>Fall</b>	<b>Spring</b>
NURS 3220 Pathophysiology	3	
PRNU 2121 Gerontology (GC)	3	
PRNU 3228 Pharmacology	3	
PRNU 3129 Fmly Ctrd Care Women/Newborn	0-4	

Elective	3	3
PRNU 3131 Health Alterations (D2)		3
PRNU 3134 Adult Health Nursing 1		6
PRNU 3232 Child & Adolescent Nursing or PRNU 3235 Psych/MH Nurs: Thy & Ptm		5
Year Total:	12-16	17
<b>Senior</b>		
	<b>Credits</b>	
	<b>Fall</b>	<b>Spring</b>
PRNU 3245 Public Health Nursing	3	
PRNU 3234 Adlt Hlth Nurs II: Thy & Ptm	6	
PRNU 3232 Child & Adolescent Nursing or PRNU 3235 Psych/MH Nurs: Thy & Ptm	5	
PRNU 3231 Chronic & Palliative Care Nurs		3
PRNU 3240 Iss & Ldrs Prf Nurs Thr & Ptm (D1)		6
PRNU 3246 Practicum Pub Health Nursing		3
PRNU 3243 Transition to Prof Practice		1
Elective		3
Year Total:	14	16
<b>Total Credits in Sequence:</b>		
	<b>119-123</b>	

## NURSING (FOR REGISTERED NURSES) B.S.

**This program is not currently accepting students.**

## DEPARTMENT OF REHABILITATION AND MOVEMENT SCIENCE

<http://www.uvm.edu/cnhs/rms/>

Exercise is a key to the maintenance of health and the prevention of heart disease, osteoporosis, diabetes, obesity and associated degenerative diseases and chronic conditions.

The Department of Rehabilitation and Movement Science offers an undergraduate major in Exercise Science, a Master of Science in Physical Activity and Wellness Science, an entry-level doctorate in Occupational Therapy, and a doctoral degree in Physical Therapy. A minor in Emergency Medical Services is also available. Graduates of these programs influence individuals across the life span by fostering wellness, preventing injuries and disease, facilitating high levels of skill, maintaining or restoring fitness, and rehabilitating individuals with injuries, diseases, chronic conditions and disabilities.

Requirements for admission are the same as the general university requirements, with the addition that applicants must have taken high

school biology, mathematics through trigonometry or precalculus, and chemistry; physics is highly recommended.

## MAJORS REHABILITATION AND MOVEMENT SCIENCE MAJORS

Exercise Science B.S. (p. 447)

## MINORS AND CERTIFICATES REHABILITATION AND MOVEMENT SCIENCE MINORS

Emergency Medical Services (p. 449)

Integrative Health (p. 449)

Integrative Health and Wellness Coaching (p. 450)

## GRADUATE

Entry-Level Occupational Therapy O.T.D.

Interprofessional Health Sciences Ph.D.

Physical Activity and Wellness Science M.S.

Physical Therapy D.P.T.

See the online Graduate Catalogue for more information

## EXERCISE SCIENCE B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the College Requirements. (p. 432)

The Exercise Science (EXSC) major comprises in-depth study of the theory and applications of exercise and movement science in health, fitness and disease prevention in diverse populations. Students can tailor their educational experience to individual goals, including mentored internship and research experiences. Graduates of the EXSC major may pursue careers in related areas of fitness and health, such as health promotion, adapted physical activity, and corporate wellness. They may also pursue one of several professional certifications, such as American College of Sports Medicine (ACSM) certified exercise physiologist, or National Strength and Conditioning Association (NSCA) certified strength and conditioning specialist. Finally, students graduating from this program may be qualified for graduate work in exercise and movement science, physical therapy or other health care programs.

Requirements for admission are the same as the general university requirements, with the addition that applicants must have taken high school biology, mathematics through trigonometry or precalculus, and chemistry.

Exercise Science students must maintain a cumulative 2.5 grade point average. First-year students who do not meet the GPA requirements will be placed on academic trial. Failure to raise the semester GPA

to 2.5 the subsequent semester, and the cumulative GPA to 2.5 upon completion of two subsequent semesters, is grounds for discontinuation from the major.

Any student beyond the first year whose semester and cumulative GPA is below 2.5 will be placed on academic trial for one semester. To be removed from trial, students must achieve a cumulative GPA of 2.5 by the end of the trial period. An inability to raise the required cumulative GPA to 2.5 during this trial period is grounds for discontinuation from the major.

In order to remain in good standing within the Exercise Science program, students must also be consistently progressing in required coursework. Failure to follow the required sequence of courses outlined in the Exercise Science program of study for more than one semester is grounds for discontinuation from the major.

### PLAN OF STUDY A MODEL CURRICULUM IN EXERCISE SCIENCE

First Year	Credits	
	Fall	Spring
NH 1500 App to Hlth: From Pers to Syst	1	
HSCI 1100 Introduction to Public Health	3	
EXSC 1650 Foundations Ex & Hlth Act Pop	3	
NFS 1043 Fundamentals of Nutrition	3	
BIOL 1400 Principles of Biology 1	4	
Catamount Core Curriculum	3	3
PSYS 1400 Intro to Psychological Science		3
EXSC 2200 EBP in Exercise Science		3
ENGL 1001 Written Expression		3
CHEM 1400 General Chemistry 1		4
Year Total:	17	16
Sophomore	Credits	
	Fall	Spring
ANPS 1190 Ugr Hum Anatomy & Physiology 1	4	
NFS 2163 Sports Nutrition	3	
EXSC 2420 Exercise and Sport Psychology	3	
Catamount Core Curriculum (or CHEM 1450)	3-4	
Catamount Core Curriculum	3	3
ANPS 1200 Ugr Hum Anatomy & Physiology 2		4
EXSC 2750 Applied Kinesiology		3

STAT 1110 Elements of Statistics or STAT 1410 Basic Statistical Methods 1		3
Catamount Core Curriculum (or BIOL 1450)		3-4
Year Total:	16-17	16-17
Junior	Credits	
	Fall	Spring
EXSC 3600 Adapted Physical Activity (D2)	3	
EXSC 3130 Biomechanics of Human Movement	3	
EXSC 3500 Exercise Physiology	3	
EXSC 3501 Exercise Physiology Lab	1	
Catamount Core Curriculum	3	3
Catamount Core Curriculum or Elective	3	3
EXSC 3450 Evaluation & Prescription		3
EXSC 3400 Motor Skill Learning & Control		3
EXSC 3700 Exer Sci Professional Seminar		1
EXSC 3620 Human Perf & Ergogenic Aids		3
Year Total:	16	16
Senior	Credits	
	Fall	Spring
EXSC 3960 Human Perform and Conditioning or EXSC 3990 Special Topics	3	3
EXSC 3630 Exercise in Chronic Conditions	3	
Prof. Responsibility in Exercise Science	1	
Advanced Exercise Prescription	3	
EXSC 4720 Senior Capstone Experience (taken in either semester)	1-3	1-3
Elective	3	
EXSC 3640 Certified Exerc Physiologist		3
Communicating Exercise Information		3
Physical Activity Across the Lifespan		3
Year Total:	14-16	13-15
<b>Total Credits in Sequence:</b>	<b>124-130</b>	

Minimum of 124 credits required for degree completion.



## EMERGENCY MEDICAL SERVICES MINOR

### REQUIREMENTS

The minor consists of 18 credit hours including the following:

HLTH 1030	Medical Terminology	2
HLTH 2530	Emergency Medical Technician <sup>1</sup>	7
<b>9 credits from the following are required:</b>		
HLTH 2994	Teaching Assistantship (EMS Teaching Assistant)	3
HLTH 1510	Wilderness First Responder	3
HLTH 2510	Wilderness EMT	3
HLTH 2993	Independent Study (with instructor permission)	3
HLTH 3000	Emergency Service Leadership	3
HLTH 3570	Advanced EMT	6
EMED 3000	Emergency Medicine Research I	4
HLTH 2990	Special Topics (Pediatric Emergencies, Mental Health Emergencies, or other topics)	3
HLTH 3940	Trauma & Trauma Systems	3
EMED 3010	Emergency Medicine Research II	4
EMED 3200	Emerg. Medicine Research III	3

<sup>1</sup> Students certified as Emergency Medical Technicians without taking the course in an academic setting may earn the necessary credit by exam.

The minor is available to all UVM degree students. For more information regarding the minor in Emergency Medical Services, please contact the College of Nursing and Health Sciences Office of Student Services.

### RESTRICTIONS

At any given time, due to fluctuations in demand for the minor in Emergency Medical Services, the program reserves the right to cap enrollment in the minor. Courses may not be taken pass/fail.

### OTHER INFORMATION

Students must maintain a 2.0 or greater GPA in all coursework for the minor in order to be awarded the minor degree on the academic transcript.

## INTEGRATIVE HEALTH MINOR

The minor consists of 15 credit hours including the following:

### REQUIREMENTS

HLTH 2010	Intro to Integrative Health <sup>1</sup>	3
HLTH 3010	Sci & Evidence Integrativ HLTH	3
HLTH 2070	Human Health & the Envirnmnt (SU; offered in spring OR Planetary Human Health offered in fall in even years OR Climate & Human Health offered in fall in odd years)	3
Six credits from at least two areas in the following list (with a maximum of 3 one-credit courses in a single area):		
<b>Mindfulness / Mind &amp; Body</b>		
HLTH 2370	Mindful Eating	3
HLTH 1990	Special Topics (Mindfulness: Practice and Neuroplasticity)	3
<b>Behavior Change</b>		
HLTH 1980	Restore, Rejuvenate&Energize	1
COMU 1010	Healthy Brains, Healthy Bodies	3
COMU 2250	The Science of Happiness	3
COMU 2220	Family Wellness Coaching	3
HSCI 2300	Health Promotion	3
<b>Travel/ Global Health</b>		
HLTH 2770	Iceland Ther Thermal Springs	3
HLTH 3100	Health and Culture: Oaxaca	3
HLTH 1990	Special Topics (Norway: Wintertime Mindset)	3
ANTH 2170	Culture, Health and Healing	3
HLTH 2760	Hlth in Mediterranean	3
<b>Inclusion/Diversity</b>		
HSCI 1200	Antiracism and Health	3
HSCI 2600	Racism and Health Disparities	3
<b>Health / Environment</b>		
NURS 3000	Health and Sustainability	3
<b>Yoga / Movement</b>		
PEAC 1006	Yoga & Mindfulness	1
PEAC 1100	Yoga & the Chakras	1
PEAC 1008	Flow and Restore Yoga	1
PEAC 1009	Restorative Yoga	1
<b>Integrative Nutrition and Herbalism</b>		
PSS 2990	Special Topics (Plant-Based Healing Medicine)	3
NFS 1990	Special Topics (Cooking for Health)	1
FS 2030	Human Health in the Food Syst	3

Independent Study Options		
HLTH 3993	Independent Study (Integrative Health Independent Study)	1-3
HLTH 3994	Teaching Assistantship (Integrative Health Teaching Assistantship)	1-3

<sup>1</sup> HLTH 2010 has a recommended interactive lab.

## OTHER INFORMATION

This minor is available to students in all majors.

## INTEGRATIVE HEALTH AND WELLNESS COACHING MINOR

The minor consists of 15 credit hours including the following:

### REQUIREMENTS

HLTH 3840	Health & Well Coach Immersion	1
HLTH 3850	Health & Well Coaching Intro	3
HLTH 3860	Health & Well Coaching Advance	4
HLTH 3920	Hlth Wellness Coach Practicum	3
HLTH 3910	Building your Coaching Career	1
3 CREDITS FROM THE FOLLOWING:		3
CSD 3899	Autism Spect Dis:Assess&Interv	
COMU 2220	Family Wellness Coaching	
HLTH 2010	Intro to Integrative Health	
HLTH 1980	Restore, Rejuvenate&Energize	
HLTH 1990	Special Topics (Introduction to Workplace Wellness)	
HLTH 3994	Teaching Assistantship	
HLTH 3993	Independent Study	
HLTH 3995	Undergraduate Research	

### RESTRICTIONS

Capacity is limited. Students must apply to this minor. The minor is open to students in all majors. This is a cohort based curriculum. Students are expected to stay with their cohort for the first 2 semesters unless extenuating circumstances arise. Electives can be taken at anytime.

### OTHER INFORMATION

UVM is a NBHWC Approved Education Provider. Every student who successfully completes the UVM minor will be eligible to sit the NBHWC National Certification Exam upon completion of 50 practice session. Students taking the HLTH 3920 Practicum will collect some of the required practice sessions with faculty supervision. Students not taking this course will need to collect these hours on

their own. The NBHWC requires students have a bachelor's degree or have completed at least 60 academic credits when applying for the exam. Please see <https://nbhwc.org/> for details about applying for the national certification exam.

## THE RUBENSTEIN SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

<http://www.uvm.edu/rsenr>

In the Rubenstein School of Environment and Natural Resources (RSENR), excitement for discovery and a commitment to life-long learning are central. The Rubenstein School's emphasis on the integration of natural science, social science, and cultural and political perspectives reflects the interdisciplinary context in which ecosystem management, resource planning, and environmental concerns must be addressed. The School believes there is a strong interplay between teaching and scholarship and each is vital to the other.

The Rubenstein School seeks to cultivate an appreciation and enhanced understanding of ecological and social processes. The School aims to generate and disseminate knowledge and to foster learning and skill building that allows students, colleagues, and citizens to become innovative, environmentally responsible, and accountable leaders.

The Rubenstein School is committed to advancing equity and justice and to creating a community that is diverse and inclusive. Individual and professional responsibility, as well as scholastic excellence, are emphasized within the school's supportive atmosphere. The School has a team of Professional Advisors and Faculty that work directly with students, providing guidance and helping them to clarify and achieve their goals. The School's academic and extracurricular programs prepare students for a range of career opportunities in the environmental field as well as pathways to pursue advanced study.

The Office of the Dean of the School is located in the George D. Aiken Center for Natural Resources.

### EXPERIENTIAL LEARNING

The Rubenstein Student Services Office operates a robust Experiential Learning Program for students that helps them to build skills and provide a diversity of learning opportunities. Reflective career development, course work, and co-curricular activities are integrated to foster competencies that will make RSENR graduates highly competitive professionals and engaged, effective citizens. We take a holistic approach to career preparation by encouraging and supporting participation in community-based projects, internships, applied research, and off-campus study. Student development is facilitated through support of faculty and community partners as they create and implement community-based courses and research projects. At the heart of our work is a demonstrated commitment to student and faculty development and collaborative problem-solving between school, the university, and the local, national, and international communities. The RSENR Student Services team works directly with the Office of Community-Engaged Learning

(CELO), UVM Office of Engagement, and the UVM Career Center, and collaborates regularly with other academic units at UVM.

The field-based curriculum in RSENR is centered on Vermont's natural landscapes – its mountains, lakes, fields, and forests - to provide students hands-on experience studying ecology and ecosystem processes. In addition, RSENR offers a variety of intensive field courses during vacation breaks and summer session that provide students special opportunities to study outside of Vermont. Past field explorations have included: introduction to ecotourism and environmental interpretation in Costa Rica, experience with regional examples of sustainable forest management and practices, and the study of aquatic ecology in Lake Champlain from the deck of UVM's new research vessel.

## COMPUTING RESOURCES

The Aiken Computer Teaching Lab (Aiken 101) provides students with access to key software and technologies utilized in environmental disciplines. In addition, all undergraduate students are required to have a laptop computer that meets the minimum specifications (<https://www.uvm.edu/it/students>). Students are not required to purchase a new laptop if they have an existing laptop that meets the established specifications. If students need to purchase a laptop, they are not required to purchase it through UVM.

## MAJORS

Environmental Sciences B.S. (p. 452)

Forestry B.S. (p. 457)

Parks, Recreation and Tourism B.S. (p. 463)

Sustainability, Ecology and Policy B.S. (p. 459)

Wildlife and Fisheries Biology B.S. (p. 465)

## MINORS

Forestry (p. 458)

Geospatial Technologies (p. 458)

Parks, Recreation, and Tourism (p. 464)

Sports Management (p. 464)

Wildlife Biology (p. 465)

## GRADUATE

Ecological Economics CGS

Leadership for Sustainability M.P.S.

Natural Resources M.S.

Natural Resources Ph.D.

Natural Resources: Master of Environmental Law and Policy/Master of Science in Natural Resources (MELP/MSNR)

Transdisciplinary Leadership & Creativity for Sustainability Ph.D

See the online Graduate Catalogue for more information

## REQUIREMENTS

### DEGREE REQUIREMENTS

Students must be matriculated in the Rubenstein School of Environment and Natural Resources and in residence at the University of Vermont during the period in which they earn 30 of the last 45 credits applied toward the degree. Students must earn a cumulative grade-point average of 2.00 or above. Students must complete a program of study which includes:

1. University Degree Requirements for Undergraduates (p. 473)
2. Catamount Core Curriculum (p. 473) requirements (p. 201)
3. Rubenstein Core Curriculum Requirements
4. Major Requirements

### CORE CURRICULUM

The school's core curriculum provides a common experience for all students. The innovative eight-course sequence creates an integrated foundation upon which the individual majors in the school are constructed. Core courses focus on the underlying fundamentals from which natural resources disciplines have evolved and the application of these fundamentals to problems or issues in the natural world and society. The core courses also promote development of critical thinking, communication, problem solving, and analytical skills. Faculty from all undergraduate programs teach in the core. The RSENR core curriculum represents knowledge, skills, and values that are central to the study of natural resources and the environment.

Eight courses are required (25 credits):

NR 1010	Natural Hist & Human Ecology 1 <sup>1,3</sup>	4
NR 1020	Natural Hist & Human Ecology 2 <sup>1,3</sup>	4
NR 1050	Critical Reflection & Dialogue	1
NR 1060	Race & Culture in NR <sup>2,3</sup>	3
NR 2030	Ecology, Ecosystems & Environ <sup>3</sup>	3
NR 2040	Social Proc & the Environment <sup>3</sup>	3
NR 3050	Ecosys Mgt: Intg Sci, Soc & Pol <sup>3</sup>	3
NR 4060	Env Prob Sol & Impact Assessmt <sup>3</sup>	4

<sup>1</sup> Internal and external transfer students to RSENR substitute NR 1090, Social-ecological Systems for NR 1010 and NR 1020.

<sup>2</sup> Internal and external transfer students to RSENR may take any 3-credit Category D1 course from the University Approved Diversity courses to substitute for NR 1060, and any 3-credit Category D1 or D2 course to complete the Catamount Core requirement.

<sup>3</sup> RSENR Core Curriculum requirements also fulfill Catamount Core Requirements.

NR 1010 and NR 1020 provide an introduction to the study of natural resources and the environment from both natural and social science standpoints. The intermediate courses in the sequence, NR 2030 and NR 2040, emphasize ecosystems and social systems,

respectively. NR 3050 and NR 4060 focus directly on integrated and holistic management. In NR 3050, students integrate natural and social science to understand environmental management principles and policies. In NR 4060, the capstone course taken during their senior year, students are challenged to synthesize and apply the interdisciplinary knowledge, skills, and values they have learned to contemporary natural resources and environmental issues. NR 1050 and NR 1060 explore how social justice and environmental issues are intertwined, and help students become culturally competent in an increasingly diverse world.

## UNDECIDED MAJORS

Students interested in studying the environment and natural resources, but who wish to postpone their decision on a specific major, enroll in Undecided-Environment and Natural Resources.

## DEPARTMENTS AND PROGRAMS

Environmental Sciences (p. 452)

Forestry (p. 457)

Parks, Recreation and Tourism (p. 463)

Sustainability, Ecology and Policy (p. 459)

Wildlife and Fisheries Biology (p. 464)

## ENVIRONMENTAL SCIENCES IN THE RUBENSTEIN SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

<http://www.uvm.edu/~ensc/>

The interdisciplinary Environmental Sciences major combines a natural science-based curriculum with hands-on experience needed to identify, analyze, and solve environmental problems arising from human activity. Blending hands-on field and laboratory instruction with real-world environmental internship, research, and study abroad opportunities, students acquire the skill set needed to tackle complex environmental problems. With the School's emphasis on such cutting-edge areas as ecological design, restoration of damaged ecosystems, geospatial technologies and environmental assessment, Environmental Sciences graduates are equipped with the knowledge to protect the health and integrity of our terrestrial, aquatic, and urban ecosystems.

All environmental science majors take a common set of courses in biology, chemistry, mathematics, and geology or plant and soil science. A common set of environmental science core courses is followed by specialization in one of nine concentrations:

- Agriculture and the Environment
- Conservation Biology and Biodiversity
- Ecological Design
- Environmental Analysis and Assessment
- Environmental Biology

- Environmental Geology
- Global Environmental and Climate Change
- Water Resources
- Self-Designed Concentration

Goals of the major include providing students with a strong foundation in basic sciences as well as advanced knowledge in environmental sciences; emphasizing scientific analysis aimed at assessment and remediation of environmental problems; familiarizing students with sources and measurements of pollutants and movement through ecosystems; and providing practical experience in environmental sciences through internships/service learning and research.

## MAJORS

### ENVIRONMENTAL SCIENCES MAJOR

Environmental Sciences B.S. (p. 452)

### ENVIRONMENTAL SCIENCES B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the Rubenstein Core Curriculum Requirements

Students in the ENSC major must choose one of the following concentrations or an advisor approved self-design concentration (14-17 credits):

- Agriculture and the Environment (p. 453)
- Conservation Biology and Biodiversity (p. 453)
- Ecological Design (p. 454)
- Environmental Analysis and Assessment (p. 454)
- Environmental Biology (p. 455)
- Environmental Geology (p. 455)
- Environmental Health (p. 455)
- Global Environment and Climate Change (p. 456)
- Water Resources (p. 456)
- Self Designed Concentration (p. 457)

## MAJOR REQUIREMENTS

A total of 120 credits is required for the degree.

BCOR 1400	Exploring Biology 1	4
or BIOL 1400	Principles of Biology 1	
or BIOL 1000	AP Biology 1	

BCOR 1450	Exploring Biology 2	4
or BIOL 1450	Principles of Biology 2	
or BIOL 1005	AP Biology 2	
CHEM 1400	General Chemistry 1	4
CHEM 1450	General Chemistry 2	4
CHEM 1580	Intro Organic Chemistry w/lab <sup>1</sup>	4
or CHEM 2580	Organic Chemistry 1	
GEOL 1400	Environmental Geology	4
or PSS 2610	Fundmntls of Soil Science	
MATH 1212	Fundamentals of Calculus I	3
or MATH 1234	Calculus I	
MATH 1224	Fundamentals of Calculus II	3
or MATH 1248	Calculus II	
NR 2400	Applied Environ Statistics <sup>2</sup>	3-4
or STAT 1410	Basic Statistical Methods 1	
ENSC 1010	Intro Environmental Sci	3
ENSC 1090	Orientation to Env Sciences <sup>2</sup>	1
ENSC 2300	Global Environmental Assessmnt	3
ENSC 3600	Pollutant Mvmt/Air, Land&Water	4
ENSC 4010	Recovery&Restor Altered Ecosys	4
ENSC 4020	Applied Envir Assess Analysis	4

<sup>1</sup> Students interested in concentrations such as environmental analysis and assessment should consider taking more advanced courses, such as CHEM 2580/CHEM 2585.

<sup>2</sup> Internal and external transfer students to ENSC are exempt from ENSC 1090. (\*Note: RSENR & CALS students only)

## CONCENTRATION REQUIREMENTS

### Agriculture and the Environment Concentration

Choose a minimum of 15 credits from the following courses:		15
CDAE 2050	Food Waste to Value	
CDAE 2080	Comparative Food Systems	
CDAE 3070	The Real Cost of Food	
NFS 1073	Farm to Table: Food Sys	
PBIO 2090	Plant Systematics	
PSS 1210	Intro to Agroecology	
PSS 2060	Entomology & Pest Mgmt	
PSS 2120	Weed Ecology & Management	

PSS 2170	Plant Pathology	
PSS 2560	Permaculture	
PSS 2430	Forage and Pasture Mgmt	
PSS 2620	Soil Fertility & Conservation	
PSS 3120	Advanced Agroecology	
ENSC 2991	Internship <sup>1</sup>	
ENSC 2995	Undergraduate Research <sup>1</sup>	
MMG 3200	Environmental Microbiology	
PSS 3250	Eco Frontiers in Agroecology	
PSS 3320	Biological Control	
PSS 3610	Soil Morph Class & Land Use	
PSS 3640	Chemistry of Soil & Water	
PSS 3680	Soil Ecology	
PSS 3690	Soil/Water Pollution/Bioremed	

<sup>1</sup> A maximum of 3 credits of ENSC 2991 or ENSC 2995 may apply towards the concentration credits with advisor approval.

### Conservation Biology and Biodiversity Concentration

WFB 3240	Conservation Biology	4
Choose ONLY one of the following :		4
PBIO 2090	Plant Systematics	
or BIOL 4245	Mammalogy	
or FOR 1210	Dendrology	
or WFB 1740	Wildlife Conservation	
or WFB 2300	Ornithology	
or WFB 4320	Ichthyology	
Choose a minimum of 7 additional credits from the following courses:		7
ASCI 2600	Zoos, Exotics & Endang Species	
ASCI 2700	Wildlife Hlth & Consvration	
BCOR 2100	Ecology and Evolution	
BCOR 2300	Genetics	
BIOL 1205	Climate Change Genetics	
BIOL 3100	Plant-Animal Interactions	
BIOL 3105	Community Ecology	
BIOL 3130	Behavioral Ecology	
BIOL 3140	Physiological Ecology	
BIOL 4230	Marine Mammal Biology	

BIOL 4260	Population Genetics	
ENSC 2991	Internship <sup>1</sup>	
ENSC 2995	Undergraduate Research <sup>1</sup>	
FOR 2220	Forest Ecosystem Analysis	
FOR 4720	Sustain Mgmt Forest Ecosys	
FOR 4280/ NR 3280	Ecosystems Ecology	
NR 3200	Landscape Ecology	
NR 4800	Stream Ecology	
PBIO 2080	Morph & Evo of Vascular Plants	
PBIO 3220	Ecological Invasions	
PBIO 3750	Global Change Ecology	
PSS 3680	Soil Ecology	
WFB 2740	Prin of Wildlife Management	
WFB 3610	Fisheries Biology & Techniques	
WFB 3710	Wetlands Wildlife Ecology	
WFB 4610	Fisheries Management	
WFB 4750	Wildlife Behavior	
WFB 4830	Terrestrial Wildlife Ecology	

<sup>1</sup> A maximum of 3 credits of ENSC 2991 or ENSC 2995 may apply towards the concentration credits with advisor approval.

**Ecological Design Concentration**

NR 3880	Ecol Design & Living Technol	3
Choose a minimum of 12 additional credits from the following courses:		12
CDAE 2020	Sustainable Community Dev	
CDAE 2370	Landscape Design Fundamentals	
CDAE 2700	Green Building Energy Systems	
CDAE 2720	Sust. Development Travel Study	
CDAE 2993	Independent Study	
CDAE 3180	Community Org & Development	
CDAE 3370	Economics of Sustainability	
CDAE 3760	Community Design Studio	
CDAE 3780	Applied Community Planning	
CEE 2120	Environmental Systems	
CEE 3510	Water Quality Engineering	
ENSC 2991	Internship <sup>1</sup>	

ENSC 2995	Undergraduate Research <sup>1</sup>	
GEOG 2770	Geography of Development	
MMG 3200	Environmental Microbiology	
NR 2880	Sustainability Science	
NR 4350	Legal Aspects Envir Planning	
NR 4880	Advanced Ecological Design	
PSS 2270	Greenhouse Operations & Mgmt	
PSS 2370	Landscape Design Fundamentals	
PSS 2620	Soil Fertility & Conservation	
PSS 2540	Composting Ecology & Mgmt	
PSS 2560	Permaculture	
PSS 3120	Advanced Agroecology	
PSS 3380	Ecological Landscape Design	
PSS 3680	Soil Ecology	
PSS 3690	Soil/Water Pollution/Bioremed	
PRT 1500	Tourism Planning	
PRT 3300	Ecotourism	
PRT 4350	Outdoor Recreation Planning	
VS 1500	Sustainable Vermont	

<sup>1</sup> A maximum of 3 credits of ENSC 2991 or ENSC 2995 may apply towards the concentration credits with advisor approval.

**Environmental Analysis and Assessment Concentration**

Choose a minimum of 15 credits from the following courses:		15
BIOC 3001	Fundamentals of Biochemistry	
CEE 2120	Environmental Systems	
CEE 3510	Water Quality Engineering	
CEE 3530	Environmental Quanti. Analysis	
CHEM 2310	Quantitative Analysis	
CHEM 2400	Inorganic Chemistry	
CHEM 2600	Intro Physical Chemistry	
CHEM 3320	Instrumental Analysis	
ENSC 2991	Internship <sup>1</sup>	
ENSC 2995	Undergraduate Research <sup>1</sup>	
ENVS 2980	Environmental Field Studies	
FOR 2110	Nat Res Ecol and Assessment 1	
FOR 2120	Nat Res Ecol and Assessment 2	

GEOG 2250	Global Environmental Change	
GEOG 2764	Vermont Field Studies	
GEOL 2105	Earth Materials	
GEOL 2405	Environmental Geochemistry	
GEOL 4405	Geochemistry of Natural Waters	
MMG 3050	Biochemistry I	
MMG 3200	Environmental Microbiology	
NR 2430	Intro to Geog Info Systems	
NR 2460	Remote Sensing	
PSS 3610	Soil Morph Class & Land Use	
PSS 3640	Chemistry of Soil & Water	

<sup>1</sup> A maximum of 3 credits of ENSC 2991 or ENSC 2995 may apply towards the concentration credits with advisor approval.

**Environmental Biology Concentration**

BCOR 2100	Ecology and Evolution	4
Choose a minimum of 12 additional credits from the following courses:		12
BIOL 1205	Climate Change Genetics	
BIOL 3100	Plant-Animal Interactions	
BIOL 3105	Community Ecology	
BIOL 3130	Behavioral Ecology	
BIOL 3140	Physiological Ecology	
BIOL 3165	Evolution	
BIOL 4240	Field Zoology of Arthropods	
BIOL 4245	Mammalogy	
BIOL 4260	Population Genetics	
ENSC 2991	Internship <sup>1</sup>	
ENSC 2995	Undergraduate Research <sup>1</sup>	
NR 3200	Landscape Ecology	
NR 3280	Ecosystems Ecology	
NR 4500	Limnology	
or NR 4800	Stream Ecology	
PBIO 3220	Ecological Invasions	
PBIO 3750	Global Change Ecology	
PSS 3680	Soil Ecology	
WFB 2300	Ornithology	
WFB 2310	Field Ornithology	

WFB 3240	Conservation Biology	
WFB 3710	Wetlands Wildlife Ecology	
WFB 4320	Ichthyology	

<sup>1</sup> A maximum of 3 credits of ENSC 2991 or ENSC 2995 may apply towards the concentration credits with advisor approval.

**Environmental Geology Concentration**

Choose a minimum of 15 credits from the following courses:		15
GEOL 2105	Earth Materials	
or GEOL 3105 Earth Materials w/lab		
GEOL 2405	Environmental Geochemistry	
or GEOL 3405 Environmental Geochem w/lab		
GEOL 2525	Geocomputing	
GEOL 3410	Geomorphology	
GEOL 3515	Field Geology	
GEOL 4105	Structural Geology	
GEOL 4405	Geochemistry of Natural Waters	
NR 2430	Intro to Geog Info Systems	
ENSC 2991	Internship <sup>1</sup>	
ENSC 2995	Undergraduate Research <sup>1</sup>	

<sup>1</sup> A maximum of 3 credits of ENSC 2991 or ENSC 2995 may apply towards the concentration credits with advisor approval.

**Environmental Health Concentration**

NR 2070	Human Health & the Envirnmnt	3
Choose a minimum of 12 additional credits from the following courses:		12
ANTH 2191	Foundations of Global Health	
ANTH 3192	Anthro Research Global Health	
BCOR 2300	Genetics	
BIOC 3001	Fundamentals of Biochemistry	
BIOC 3075	Adv Biochem of Human Disease	
BIOL 3505	Neurobiology	
CHEM 2585	Organic Chemistry 2	
ENSC 2991	Internship <sup>1</sup>	
ENSC 2995	Undergraduate Research <sup>1</sup>	
FS 2030	Human Health in the Food Syst	
HLTH 2400	Issues in Women's Health	
HSCI 1100	Introduction to Public Health	

HSCI 2100	Fndns of Global Health	
HSCI 2200	Rsrch Methods in Public Health	
MMG 2010	Microbiol & Infectious Disease	
NFS 2114	Human Health in the Food Syst	
NR 2430	Intro to Geog Info Systems	
NR 3360	Women, Health and Environment	
NR 3370	Human Ecology & Health-Arctic	
NURS 3000	Health and Sustainability	
PHRM 3010	Pharmacology and Therapeutics	
PHRM 5400	Molecules & Medicine	
PHRM 3720	Toxicology	
SOC 2300	Population Health Research	
STAT 3000	Med Biostat&Epidemiology	

<sup>1</sup> A maximum of 3 credits of ENSC 2991 or ENSC 2995 may apply towards concentration credits with advisor approval.

**Global Environment and Climate Change Concentration**

Choose a minimum of 15 credits from the following courses:		15
BIOL 1205	Climate Change Genetics	
CEE 2120	Environmental Systems	
ECON 1280	Economics of Climate Change	
ENSC 1490	Climate Change I	
or ENSC 2490 Climate Change II		
ENSC 2991	Internship <sup>1</sup>	
ENSC 2480	Global Environmental Change	
ENSC 2995	Undergraduate Research <sup>1</sup>	
ENSC 4740	Climate Chg: Sci & Percept	
GEOG 1200	Weather, Climate & Landscapes	
GEOG 2205	Biogeography	
GEOG 2230	Climatology: Concepts & Tools	
GEOG 2715	The Circumpolar Arctic	
GEOG 3230	Topics in Climate & Water (Climatology and Natural Hazards)	
GEOG 3230	Topics in Climate & Water (Paleoclimatology)	
GEOG 3250	Topics In Global Change	
GEOG 3760	Topics in Human Env Interact (The Anthropocene)	
GEOL 3410	Geomorphology	

NR 2020	Water as a Natural Resource	
or GEOG 2235Geography of Water		
NR 3200	Landscape Ecology	
NR 3940	Energy and Climate Law	
PBIO 3750	Global Change Ecology	
PSS 3610	Soil Morph Class & Land Use	

<sup>1</sup> A maximum of 3 credits of ENSC 2991 or ENSC 2995 may apply towards the concentration credits with advisor approval.

**Water Resources Concentration**

Choose a minimum of 15 credits from the following courses:		15
CEE 2120	Environmental Systems	
BIOL 2105	Introduction to Marine Science	
BIOL 4230	Marine Mammal Biology	
ENSC 2991	Internship <sup>1</sup>	
ENSC 2995	Undergraduate Research <sup>1</sup>	
GEOG 3230	Topics in Climate & Water (Snow Hydrology)	
GEOL 2405	Environmental Geochemistry	
GEOL 4405	Geochemistry of Natural Waters	
NR 2020	Water as a Natural Resource	
or GEOG 2235Geography of Water		
NR 2430	Intro to Geog Info Systems	
NR 3880	Ecol Design & Living Technol	
NR 4500	Limnology	
NR 4800	Stream Ecology	
PBIO 3750	Global Change Ecology	
PSS 3640	Chemistry of Soil & Water	
PSS 3690	Soil/Water Pollution/Bioremed	
WFB 2410	Field Herpetology	
WFB 3610	Fisheries Biology & Techniques	
WFB 3710	Wetlands Wildlife Ecology	
WFB 4320	Ichthyology	
WFB 4610	Fisheries Management	

<sup>1</sup> A maximum of 3 credits of ENSC 2991 or ENSC 2995 may apply towards the concentration credits with advisor approval.



**Self-Designed concentration**

Students may develop learning objectives and a concentration curriculum in consultation with the ENSC Program Director to focus on their specific area of interest. Students must complete a minimum of 15 credits of pre-approved coursework.

## ENVIRONMENTAL STUDIES IN THE RUBENSTEIN SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

This program is not currently accepting students via the Rubenstein School of Environment and Natural Resources. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

**MAJORS****ENVIRONMENTAL STUDIES MAJOR**

This program is not currently accepting students via the Rubenstein School of Environment and Natural Resources. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

**MINORS****ENVIRONMENTAL STUDIES MINOR**

This program is not currently accepting students via the Rubenstein School of Environment and Natural Resources. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

**ENVIRONMENTAL STUDIES B.S.**

This program is not currently accepting students via the Rubenstein School of Environment and Natural Resources. Please see the Rubenstein School of Environment and Natural Resources for Environmental Sciences and the College of Arts and Sciences for Environmental Studies.

**FORESTRY PROGRAM**

<https://www.uvm.edu/rsenr/forestry>

The Forestry Major trains students to meet the needs of the 21st century, which include managing forests for resilience, adaptation, and climate mitigation. The program attracts students who want a career working outdoors, excel at math and science, learn by doing, and can embrace both the fundamentals of traditional forestry and emerging perspectives in the field. The Forestry major provides students with an education in ecologically responsible forestry, emphasizing the complex landscapes of the northeastern United States, while also stressing global context and change. Students develop the ability to coordinate and manage all aspects of sustainable forestry through an education that combines a strong foundation in

natural and social sciences with hands-on field classes, internships, research experience, and forest management projects.

**MAJORS****FORESTRY MAJOR**

Forestry B.S. (p. 457)

**MINORS****FORESTRY MINOR**

Forestry (p. 458)

**FORESTRY B.S.**

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the Rubenstein Core Curriculum Requirements. (p. 451)

**MAJOR REQUIREMENTS**

The Forestry major provides students with an education in ecologically responsible forestry, emphasizing the complex landscapes of the northeastern United States. Students develop their abilities to coordinate and manage all aspects of sustainable forestry through an education that combines a strong foundation in natural and social sciences with hands-on field-based classes, internships, research experiences, and forest management projects. This Society of American Foresters accredited curriculum is integrative, technologically current, and science-based.

Students supplement a core of required forestry and related courses with a student-proposed, faculty-approved area of concentration<sup>1</sup> such as forest ecosystem health, forest ecology, consulting forestry, public forest administration, or international development.

The concentration represents at least nine credits and can be fulfilled by a self-designed sequence of course work<sup>2</sup>, an appropriate university minor, or a natural resource oriented study abroad experience.

A total of 120 credits is required for the degree.

CHEM 1100	Outline: General Chem w/lab	4
FOR 1090	Introduction to Forestry	1
FOR 1210	Dendrology	4
FOR 2110	Nat Res Ecol and Assessment 1	4
FOR 2120	Nat Res Ecol and Assessment 2	4
FOR 2220	Forest Ecosystem Analysis <sup>3</sup>	4
FOR 2991	Internship	3
FOR 3230	Multi-Resource Silviculture	4

FOR 3330	Management of Forest Woodlots1	3
FOR 3990	Special Topics (Wildland Fire)	3
FOR 4720	Sustain Mgmt Forest Ecosys	4
MATH 1088	Numbers for Naturalists	3
NR 2400	Applied Environ Statistics	4
NR 2430	Intro to Geog Info Systems	3
PBIO 1040	Intro to Botany	4-8
or BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2	
PSS 2610	Fundmntls of Soil Science	4
A course in economics or ecological economics <sup>4</sup>		3
ECON 1450	Principles of Microeconomics	3
or NR 2410	Intro to Ecological Economics	
At least 9 additional credits in the area of concentration <sup>1,2</sup>		9-12

<sup>1</sup> The student-proposed concentration must be endorsed by the student’s advisor and approved by the Forestry faculty prior to the last three semesters of study.

<sup>2</sup> The self-designed sequence of course work for the student's concentration should be at least six credits at the 2000-level or higher.

<sup>3</sup> The field intensive course, FOR 2220, is offered only during the summer session.

<sup>4</sup> Or an advisor approved economics course.

## FORESTRY MINOR REQUIREMENTS

A minimum of sixteen credit hours is required, with at least nine at the 1000-level or higher. Applications for a minor must be filed no later than June 1 of the year preceding graduation. Students must earn at least a 2.00 cumulative GPA in their Forestry minor courses to earn a minor in Forestry. Required courses:

FOR 1210	Dendrology	4
FOR 2110	Nat Res Ecol and Assessment 1	4
FOR 3230	Multi-Resource Silviculture	4
4 additional credits in Forestry <sup>1</sup>		4

<sup>1</sup> At least 1 of these 4-credits must be at the 2000-level or above.

## PRE/CO-REQUISITES

Variable, depending on upper level courses chosen. Typically, these might include:

NR 2030	Ecology, Ecosystems & Environ	3
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## OTHER INFORMATION

Note: Rubenstein School students may not count FOR 1010 towards completion of minor.

## GEOSPATIAL TECHNOLOGIES MINOR REQUIREMENTS

15 credits in minor courses.

COURSE REQUIREMENTS		
GEOSPATIAL TECHNOLOGIES IN THE DISCIPLINES. Choose one of the following:		3-4
ENGR 1020	Graphical Communication	
CDAE 2010	Drafting & Design: SketchUp II	
ENSC 2300	Global Environmental Assessmnt	
GEOL 2525	Geocomputing	
GEOL 3410	Geomorphology	
FOR 2110	Nat Res Ecol and Assessment 1	
CEE 2000	Geomatics	
BREADTH REQUIREMENTS: Choose 2 courses/6 credits from at least 2 of the following categories:		6
GEOGRAPHIC INFORMATION SYSTEMS:		
NR 2430	Intro to Geog Info Systems	
GEOG 2510	Geog Info:Cncpts & Applic	
REMOTE SENSING		
NR 2460	Remote Sensing	
GEOG 2520	Remote Sensing	
DATA SCIENCE:		
CS 1080	Intro to Web Site Dev	
CS 1210	Computer Programming I	
CS 1870	Intro to Data Science	
or STAT 1870	Intro to Data Science	
CS 2100	Intermediate Programming	
CS 2480	Database Design for Web	
CS 2870	Basics of Data Science	
CAPSTONE/ADVANCED EXPERIENCE. Choose 1 or more of the following:		3
NR 3430	Adv Geospatial Techniques	
NR 4430	GIS Practicum	
NR 5450	Data Vis & Communication	
NR 5460	Geospatial Computation	

GEOG 3505	Spatial Analysis	
GEOG 3520	Topics in Remote Sensing	
CS 3040	Database Systems	
MATH 3766	Chaos,Fractals&Dynamcal Syst	
STAT 3010	Stat Computing&Data Anlysis	
With the approval of a minor advisor, a maxium of 3 credits of relevant applied research or internship credit may be applied to the capstone requirement.		
ELECTIVES: 3 additional credits from any of the categories listed in the minor.		3
<b>LEVEL REQUIREMENT</b>		
At least 9 credits must be at the 2000-level or above.		

## PRE/CO-REQUISITIES

Introductory and intermediate courses for various subjects may be necessary to reach the courses at the 2000-level or above applicable to the minor.

## REMINDERS

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two minors.

## SUSTAINABILITY, ECOLOGY AND POLICY PROGRAM

<https://www.uvm.edu/rsenr/sustainability-ecology-policy>

The Sustainability, Ecology and Policy Curriculum combines course work from disciplines inside and outside The Rubenstein School to produce an individualized major focused on an ecological theme or the human-environment relationship. Students concentrate in Applied Ecology, Environmental Policy, Planning and Law, or Integrated Natural Resources. They take foundational courses in natural or social sciences and then tap into upper-level and field-based courses to focus in areas such as aquatic ecology; terrestrial ecology; environmental policy, economics and law; community-based resource planning; environmental education; sustainability and resource management; and energy and environmental systems. Most students incorporate internship, research, and/or study abroad experiences into their academic program. Graduates are competitive for positions in the environmental field in a range of settings. They also are prepared to pursue graduate studies in environment and natural resources including advanced study in the natural sciences, in law, urban, regional and community planning, public administration, and sustainability sciences.

## MAJORS

### SUSTAINABILITY, ECOLOGY AND POLICY MAJOR

Sustainability, Ecology and Policy B.S. (p. 459)

## GRADUATE

Natural Resources M.S.

Natural Resources Ph.D.

See the online Graduate Catalogue for more information.

## SUSTAINABILITY, ECOLOGY AND POLICY B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the Rubenstein Core Curriculum Requirements. (p. 451)

Three concentrations are available under the Sustainability, Ecology and Policy major:

Applied Ecology Concentration (p. 459)

Environmental Planning, Policy and Law Concentration (p. 461)

Integrated Natural Resources Concentration (p. 462)

Dual-Degree Programs: The University of Vermont (UVM) and Vermont Law and Graduate School (VLGS) also offer unique 3+2 and 3+3 dual-degree programs. The dual-degree programs enable highly-focused students to earn both degrees in less time and at less cost from two distinguished institutions. In addition to the dual-degree programs, VLGS offers a guaranteed admission program for UVM graduates. Students who select the concentration in Environmental Planning, Policy and Law are well-positioned to complete the UVM/VLGS 3+2 and 3+3 programs, and earn a BS in Sustainability, Ecology and Policy and a Juris Doctor (JD) in five or six years. Students who wish to pursue this opportunity should consult with the Director of the Sustainability, Ecology and Policy Program about their academic plans.

## APPLIED ECOLOGY CONCENTRATION

The Applied Ecology curriculum explores the biology and ecology of plants and animals in both aquatic and terrestrial systems and allows students to select courses around specific individual interests. Please note that courses taken for concentrations may NOT be double-counted for distribution requirements.

A total of 120 credits is required for the degree.

### Required Courses

BIOL 1400	Principles of Biology 1	4
BIOL 1450	Principles of Biology 2	4
CHEM 1100	Outline: General Chem w/lab	4-8
or CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	

CHEM 1150	Outline: Organic & BIOC w/lab	4-8
or CHEM 1580	Intro Organic Chemistry w/lab	
or CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2	
ENSC 2490	Climate Change II <sup>4</sup>	1 or 3
or NR 2880	Sustainability Science	
FOR 2110	Nat Res Ecol and Assessment 1	4
MATH 1212	Fundamentals of Calculus I <sup>1</sup>	3
NR 2400	Applied Environ Statistics <sup>1</sup>	4
NR 2430	Intro to Geog Info Systems	3
or NR 2460	Remote Sensing	
Students chose at least 9 credits in strong ecological content courses from the following list, in consultation with their advisor.		9
BCOR 2100	Ecology and Evolution	
BIOL 2105	Introduction to Marine Science	
BIOL 3100	Plant-Animal Interactions	
BIOL 3105	Community Ecology	
BIOL 3130	Behavioral Ecology	
BIOL 3165	Evolution	
ENSC 2480	Global Environmental Change	
or GEOG 2250	Global Environmental Change	
ENSC 4010	Recovery&Restor Altered Ecosys	
FOR 2220	Forest Ecosystem Analysis	
FOR 3350	Forest Ecosystem Health	
GEOG 2205	Biogeography	
NR 3200	Landscape Ecology	
NR 4500	Limnology	
NR 3280/ FOR 4280	Ecosystems Ecology	
NR 4800	Stream Ecology	
PBIO 3750	Global Change Ecology	
PSS 3120	Advanced Agroecology	
PSS 3680/ NR 4680	Soil Ecology	
WFB 3240	Conservation Biology	
WFB 4830	Terrestrial Wildlife Ecology	
MMG 3200	Environmental Microbiology	

Students choose up to 18 credits (to total 27) in courses to contribute to, or expand ecological understanding, or strong ecological content, in consultation with their advisor.		18
FOR 1210	Dendrology	
FOR 3230	Multi-Resource Silviculture	
GEOG 1200	Weather, Climate & Landscapes	
GEOG 2230	Climatology: Concepts & Tools	
GEOG 2715	The Circumpolar Arctic	
GEOG 1400	Environmental Geology	
GEOG 2405	Environmental Geochemistry	
GEOG 3410	Geomorphology	
GEOG 3515	Field Geology	
NR 2020	Water as a Natural Resource	
NR 2430	Intro to Geog Info Systems <sup>4</sup>	
NR 2460	Remote Sensing <sup>4</sup>	
NR 2730	Landscape Natural History	
NR 2880	Sustainability Science	
NR 3880	Ecol Design & Living Technol	
WFB 2300	Ornithology	
WFB 2310	Field Ornithology	
WFB 2410	Field Herpetology	
PBIO 2040	Plant Physiology	
PBIO 2080	Morph & Evo of Vascular Plants	
PBIO 2090	Plant Systematics	
PBIO 2330	How Plants Can Save World	
PBIO 2510	Plant Anatomy	
PBIO 2770	Biology of Fungi	
PBIO 3090	Biology of Ferns	
PBIO 3410	Tropical Plant Systematics	
PSS 2120	Weed Ecology & Management	
PSS 2610	Fundmntls of Soil Science	
PSS 3380	Ecological Landscape Design	
PSS 3640	Chemistry of Soil & Water	
BIOL 3160	Sociobiology	
BIOL 4240	Field Zoology of Arthropods	
BIOL 4245	Mammalogy	
BIOL 4260	Population Genetics	

BIOL 4265	Speciation and Phylogeny	
WFB 4320	Ichthyology	
WFB 4750	Wildlife Behavior	
ENSC 4740	Climate Chg: Sci & Percept	
GEOL 4405	Geochemistry of Natural Waters	
Additional Options:		
NR 2991	Internship <sup>2</sup>	
NR 2993	Independent Study <sup>2</sup>	
NR 2995	Undergraduate Research <sup>2</sup>	
NR 3991	Internship <sup>2</sup>	
NR 3993	Independent Study <sup>2</sup>	
NR 3996	Honors <sup>3</sup>	

<sup>1</sup> MATH 1212 and NR 2400 also fulfill Catamount core general education requirements.

<sup>2</sup> A maximum of 6 credits may count toward either strong ecological content OR expands ecological understanding with the Program Chair's approval.

<sup>3</sup> A maximum of 3 credits may count toward either strong ecological content OR expands ecological understanding with the Program Chair's approval.

<sup>4</sup> May not double count for required courses.

Any course substitution request should be approved prior to the end of the add/drop period for the semester in which the student plans to enroll in the substitute course.

## ENVIRONMENTAL PLANNING, POLICY AND LAW CONCENTRATION

The Environmental Planning, Policy and Law curriculum explores interactions among individuals, communities, and society with nature, resources, and the environment. It allows students to select courses around specific individual interests such as natural resource planning and community, policy and economic dimensions of resource planning, and international dimensions of resource planning. Please note that courses taken for concentrations may NOT be double-counted for distribution requirements.

A total of 120 credits is required for the degree.

### Required Courses

ANTH 1100	Cultural Anthropology	3
or GEOG 1760	Global Environments & Cultures	
ENSC 2490	Climate Change II	1 or 3
or NR 2880	Sustainability Science	
CDAE 1020	World Food,Pop & Develop	3-4
or ENV5 1510	Solutions in Enviro Studies	

ECON 1400	Principles of Macroeconomics	3
or ECON 1450	Principles of Microeconomics	
or CDAE 1610	Principles of Comm Dev Econ	
POLS 1300	US Political System	3
or POLS 1700	Comparative World Politics	
or POLS 1500	Intro International Relations	
PHIL 1600	Ethics	3
or PHIL 1635	Ethics of Eating	
or PHIL 1630	Environmental Ethics	
or CDAE 3080	Agricultural Policy and Ethics	
SOC 1500	Introduction to Sociology	3
or SOC 1100	Social Problems	
Students choose 21 credits in Content Courses from the following list in consultation with their advisor.		21
ANTH 2152	Environmental Anthropology	
ASCI 2600	Zoos, Exotics & Endang Species	
ASCI 3600	Adv Top:Zoo,Exotic,Endang Spec	
CDAE 2020	Sustainable Community Dev	
CDAE 2710	Community&Int'l Econ Transform	
CDAE 2860	Community Developmt:St Lucia I	
CDAE 3080	Agricultural Policy and Ethics <sup>3</sup>	
CDAE 3180	Community Org & Development	
CDAE 3370	Economics of Sustainability	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3600	Smart Resilient Communities	
ECON 2800	Econ of Environmental Policy	
GEOG 2760	Rural Geography	
GEOG 2770	Geography of Development	
GEOG 2774	Gender, Space & Environment	
GEOG 2780	Political Ecology	
GEOG 2790	Urban Geography	
NR 2020	Water as a Natural Resource	
NR 2810	Environmental Justice	
NR 2410	Intro to Ecological Economics	
NR 2530	Intro to Environmental Policy	
NR 3930	Environmental Law	
NR 3950	Environmental Education <sup>4</sup>	

NR 4350	Legal Aspects Envir Planning	
POLS 2460	US Environmental Politics	
POLS 2560	Int'l Environmental Governance	
PRT 1500	Tourism Planning	
PRT 2490	Wilderness Educ & Leadership <sup>4</sup>	
PRT 3300	Ecotourism	
PRT 4350	Outdoor Recreation Planning	
PRT 4550	Environmental Interpretation <sup>4</sup>	
SOC 2405	Our Consuming Society	
SOC 2450	Population, Environment & Soc	
SOC 2460	Sociology of Disaster	
NR 4640	C Ross Env Pb Srv Practicum <sup>4</sup>	
Students choose 6 credits in Tools Courses from the following list, in consultation with their advisor.		6
SPCH 1410	Argument & Advocacy	
SPCH 1615	Debating Global Issues	
GEOG 1500	Geospatial Cncpt&Visualization	
GEOG 2510	Geog Info:Cncpts & Applic	
ANTH 3130	Ethnographic Field Methods	
CDAE 3730	Project Development & Planning	
NR 2430	Intro to Geog Info Systems	
NR 2460	Remote Sensing	
NR 3430	Adv Geospatial Techniques	
NR 3880	Ecol Design & Living Technol	
NR 3950	Environmental Education <sup>4</sup>	
NR 4430	GIS Practicum	
NR 4640	C Ross Env Pb Srv Practicum <sup>4</sup>	
POLS 2800	Social Research Methods	
or SOC 2500	Social Research Methods	
PSS/CDAE 2370	Landscape Design Fundamentals	
PSS 3380	Ecological Landscape Design	
PRT 2490	Wilderness Educ & Leadership <sup>4</sup>	
PRT 4550	Environmental Interpretation <sup>4</sup>	
6 credits of a modern foreign language		
Additional Options:		
NR 2991	Internship <sup>1</sup>	

NR 2993	Independent Study <sup>1</sup>	
NR 2995	Undergraduate Research <sup>1</sup>	
NR 3991	Internship <sup>1</sup>	
NR 3993	Independent Study <sup>1</sup>	
NR 3996	Honors <sup>2</sup>	

- <sup>1</sup> A maximum of 6 credits may count toward either content courses OR tools courses with the Program Chair's approval.
- <sup>2</sup> A maximum of 3 credits may count toward either content courses OR tools courses with the Program Chair's approval.
- <sup>3</sup> May not double count for both required courses and option electives.
- <sup>4</sup> May be counted as either content or tools but may NOT be double counted.

Any course substitution request should be approved prior to the end of the add/drop period for the semester in which the student plans to enroll in the substitute course.

### INTEGRATED NATURAL RESOURCES CONCENTRATION

Integrated Natural Resources (INR) is a self-designed major. INR is the right choice for students who have strong interests in natural resources and the environment, clear academic direction, and the motivation to develop a well-focused, personally meaningful course of study. Working closely with a faculty advisor, the student builds on a solid foundation of natural resources courses to create an individualized program that combines course work from disciplines within and outside the school.

A total of 120 credits is required for the degree.

#### Required courses (minimum nine credits)

Students select from a list of approved courses, at least one course in each of three areas:	
Biology/ecology	
NR courses in social sciences and communications	
Quantitative and analytical methods	
These courses are in addition to those taken to fulfill RSENR's general education requirements. The list of approved courses is available on the RSENR website.	

#### Individualized Program of Study (minimum thirty-nine credits)

The student develops an Individualized Program of Study composed primarily of intermediate level RSENR courses (ENVS, ENSC, FOR, NR, PRT or WFB prefix). This must include at least twenty-four credits inside the school and no more than six credits below the 100-level. With careful selection of courses, students develop

concentrations such as Environmental Education, Sustainable Resource Management, Environmental Health, and Spatial Analysis of Natural Resources. All programs of study must be endorsed by the advisor, then approved by the faculty. If not approved, the student may not continue in the INR concentration and must seek another major. The program of study is to be approved by the end of the sophomore year (sixty credits). Transfer students with more than sixty credits must have a program of study approved as part of the transfer application. It is expected that transfer students will be active in the program for at least two years (four semesters) after transferring into the INR concentration. Any course substitution request should be approved prior to the end of the add/drop period for the semester in which the student plans to enroll in the substitute course.

## PARKS, RECREATION AND TOURISM PROGRAM

<https://www.uvm.edu/rsenr/undergraduate-programs>

The Parks, Recreation and Tourism Program provides outstanding learning opportunities for students interested in the world of outdoor recreation and tourism. Students will learn how to design and deliver high-quality recreation and tourism programs and services that enrich peoples’ lives, create livable communities, and preserve the natural environment. Specifically, the program prepares students to become leaders in innovative sustainable practices in the recreation and tourism fields. Students also learn about experience-based program design and management including resort management, ecotourism, entrepreneurial business management, leisure behavior, environmental interpretation, leisure programming, green design, marketing, leadership, visitor-centered service, and more. Vermont’s natural environment provides an ideal laboratory to learn first-hand about recreation and tourism practices that are environmentally sustainable, socially inclusive, and economically responsible.

### MAJORS

#### PARKS, RECREATION AND TOURISM MAJOR

Parks, Recreation and Tourism B.S. (p. 463)

### MINORS

#### PARKS, RECREATION AND TOURISM MINORS

Parks, Recreation and Tourism (p. 464)

Sports Management (p. 464)

#### PARKS, RECREATION AND TOURISM B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the Rubenstein Core Curriculum Requirements.

## MAJOR REQUIREMENTS

A total of 120 credits is required for the degree. All PRT students must complete the PRT foundation courses (4 courses), PRT Program requirements (8 courses) and courses from a chosen thematic concentration (either Tourism Planning and Management or Recreation Leadership and Environmental Education).

### PRT FOUNDATION COURSES

1 three-credit course in humanities (classics, history, philosophy, religion)	3
1 three-credit course in communications (art, art history, English literature, foreign language, music, theatre, world literature)	3
1 three-credit course in social sciences (anthropology, economics, geography, political science, psychology, sociology)	3
1 four-credit laboratory course in natural sciences (biology, chemistry, geology, physics, plant biology, plant and soil science, zoology)	4

### OTHER REQUIREMENTS

REQUIREMENTS:		
PRT 1100	Int Sustainable Rec&Tourism	3
PRT 1500	Tourism Planning	3
PRT 1990	Special Topics (when the topic is Parks and Protected Areas)	3
PRT 2580	Resort Mgmt & Marketing	3
PRT 3300	Ecotourism	3
PRT 3991	Internship (PRT Practicum) <sup>1</sup>	3
PRT 4350	Outdoor Recreation Planning	3
PRT 4550	Environmental Interpretation	3
CONCENTRATION REQUIREMENTS:		
CONCENTRATION 1: TOURISM PLANNING AND MANAGEMENT		6-8
Take 2 of the following:		
PRT 2380	Landsc. Arch for Parks & Rec	
PRT 2560	Ski Area Management Immersion	
PRT 2570	Ski Area Management	
PRT 3580	Entrepreneurship Rec&Tourism	
NR 2410	Intro to Ecological Economics	
CONCENTRATION 2: RECREATION LEADERSHIP AND ENVIRONMENTAL EDUCATION		6
Take 2 of the following:		
PRT 2490	Wilderness Educ & Leadership	
NR 3950	Environmental Education	

NR 4080	Birding to Change the World	
HLTH 1510	Wilderness First Responder	

<sup>1</sup> PRT 3991 Internship: PRT Practicum must be approved by an advisor in advance with required documentation complete. Three credit course only.

## PARKS, RECREATION, AND TOURISM MINOR REQUIREMENTS

A minimum of 15 credits are required, including:

At least 9 credits to be selected from the following:		9
PRT 1100	Int Sustainable Rec&Tourism	
PRT 1500	Tourism Planning	
PRT 1990	Special Topics (Parks and Protected Areas)	
PRT 2380	Landsc. Arch for Parks & Rec	
PRT 2490	Wilderness Educ & Leadership	
PRT 2570	Ski Area Management	
PRT 2580	Resort Mgmt & Marketing	
At least 6 credits to be selected from the following:		6
PRT 3300	Ecotourism	
PRT 4350	Outdoor Recreation Planning	
PRT 4550	Environmental Interpretation	
PRT 3580	Entrepreneurship Rec&Tourism	
<b>Total Credits</b>		<b>15</b>

### PRE/CO-REQUISITES

Some courses may have additional prerequisites. Please check individual course information.

## SPORTS MANAGEMENT MINOR REQUIREMENTS

A total of 18 credits is required for the minor.

EDPE 2010	Intro to Sports Management	3
EDPE 3200	Sport in Society	3
PRT 4350	Outdoor Recreation Planning	3
Choose 1 of the following Management courses:		3
BUS 2300	Leadership & Org Behavior	
EDPE 2190	Careers in College Athletics	
EDPE 3300	Philosophy of Coaching	

PRT 2570	Ski Area Management	
Choose 1 of the following Marketing/Communications courses:		3
BUS 2500	Marketing Management	
CDAE 1240	Fund of Public Communication	
CDAE 2190	Event Planning for Athletics	
CDAE 2430	Sports Media	
CDAE 2680	Marketing:Com Entrepreneurs	
PRT 2580	Resort Mgmt & Marketing	
Choose 1 of the following Entrepreneurship courses:		3
CDAE 2660	Intro to Comm Entrepreneurship	
CDAE 3670	Strat Plan:Comm Entrepreneurs	
PRT 3580	Entrepreneurship Rec&Tourism	
<b>Total Credits</b>		<b>18</b>

### OTHER INFORMATION

Consult your major advisor for any applicable course/major restrictions and information regarding the use of one course to meet multiple degree requirements. Majors in Parks, Recreation and Tourism, or Business Administration may double count at most two courses from the Sports Management minor towards the major.

At least half the courses must be taken at UVM. Students must earn at least a 2.0 cumulative GPA in their Sports Management minor courses to earn a minor in Sports Management.

## WILDLIFE AND FISHERIES BIOLOGY PROGRAM

<https://www.uvm.edu/rsenr/wildlife-fisheries-biology>

The Wildlife and Fisheries Biology curriculum focuses on the biology, ecology, management, and conservation of animal populations that range from species common enough to be hunted/fished to species that are endangered. Management strategies include direct manipulation of populations or indirect manipulation through alteration of habitat. Courses emphasize applied ecology and techniques for bringing populations into balance, and provide hands-on experience in labs and field trips. As sophomores, students elect either the Wildlife Biology or the Fisheries Biology concentration.

### MAJORS

#### WILDLIFE AND FISHERIES BIOLOGY MAJOR

Wildlife and Fisheries Biology B.S. (p. 465)

### MINORS

#### WILDLIFE AND FISHERIES BIOLOGY MINOR

Wildlife Biology (p. 465)



## WILDLIFE AND FISHERIES BIOLOGY B.S.

All students must meet the Degree and University Requirements. (p. 473)

All students must meet the Catamount Core Curriculum Requirements (p. 201).

All students must meet the Rubenstein Core Curriculum Requirements. (p. 451)

There are two concentrations available under the Wildlife and Fisheries Major:

Fisheries Biology Concentration (p. 465)

Wildlife Biology Concentration (p. 465)

### MAJOR REQUIREMENTS

A total of 120 credits is required for the degree.

Course required for both concentrations:

MATH 1212	Fundamentals of Calculus I <sup>1</sup>	3
or MATH 1234	Calculus I	
NR 2400	Applied Environ Statistics <sup>1</sup>	4
BIOL 1400	Principles of Biology 1	4
or BCOR 1400	Exploring Biology 1	
BIOL 1450	Principles of Biology 2	4
or BCOR 1450	Exploring Biology 2	
CHEM 1100	Outline: General Chem w/lab	4
or CHEM 1400	General Chemistry 1	
CHEM 1150	Outline: Organic & BIOC w/lab	4
or CHEM 1580	Intro Organic Chemistry w/lab	
NR 2430	Intro to Geog Info Systems	3
WFB 2010	Methods Fisheries and Wildlife	4
WFB 2170	Scientific Writing and Interpr	4
WFB 2740	Prin of Wildlife Management	3
WFB 3240	Conservation Biology	4
WFB 3610	Fisheries Biology & Techniques	4

### Fisheries Biology Concentration

WFB 4320	Ichthyology	3
WFB 4610	Fisheries Management	3
NR 4500	Limnology	4
NR 4800	Stream Ecology	4
Choose 2 of the following:		6-8

BIOL 2105	Introduction to Marine Science	
BIOL 3105	Community Ecology	
BIOL 3130	Behavioral Ecology	
GEOL 4405	Geochemistry of Natural Waters	
WFB 2410	Field Herpetology	
WFB 3710	Wetlands Wildlife Ecology	
WFB 3990	Special Topics (Wildlife Disease Ecology)	
NR 3990	Special Topics (Phycology)	
A relevant study abroad, internship, or research experience may potentially count towards this requirement with approval of the Program Chair.		

### Wildlife Biology Concentration

FOR 1210	Dendrology	4
WFB 2300	Ornithology	3
WFB 2310	Field Ornithology <sup>1</sup>	2
BIOL 4245	Mammalogy	4
Choose 2 of the following (1 must have a lab):		7-8
PBIO 2090	Plant Systematics <sup>2</sup>	
WFB 2410	Field Herpetology <sup>2</sup>	
WFB 3710	Wetlands Wildlife Ecology <sup>2</sup>	
WFB 3990	Special Topics (Wildlife Disease Ecology)	
WFB 4750	Wildlife Behavior	
WFB 4830	Terrestrial Wildlife Ecology <sup>2</sup>	
A relevant study aboard, internship, or research experience may potentially count towards this requirement with approval of the Program Chair.		
<b>Total Credits</b>		<b>20-21</b>

<sup>1</sup> WFB 2310 is offered only during the summer session.

<sup>2</sup> PBIO 2090, WFB 2410, WFB 3710 and WFB 4830 are laboratory courses.

### WILDLIFE BIOLOGY MINOR REQUIREMENTS

15 credits including:

Required Courses:		
WFB 1740	Wildlife Conservation	3
WFB 2300	Ornithology	3
or WFB 4320	Ichthyology	
or WFB 2990	Special Topics	

WFB 2740	Prin of Wildlife Management	3
Elective Courses (6 credits):		6
WFB 2310	Field Ornithology <sup>1</sup>	
WFB 2990	Special Topics (Wildlife Disease Ecology)	
WFB 2991	Internship	
WFB 2993	Independent Study	
WFB 2995	Undergraduate Research	
WFB 3240	Conservation Biology	
WFB 3710	Wetlands Wildlife Ecology	
WFB 3995	Undergraduate Research	
WFB 4750	Wildlife Behavior	
WFB 4830	Terrestrial Wildlife Ecology	

<sup>1</sup> WFB 2310 is offered only during the summer season.

## PRE/CO-REQUISITES

BIOL 1400	Principles of Biology 1	4
or BCOR 1400	Exploring Biology 1	
BIOL 1450	Principles of Biology 2	4
or BCOR 1450	Exploring Biology 2	
NR 2030	Ecology, Ecosystems & Environ	3-4
or BCOR 2100	Ecology and Evolution	

## THE HONORS COLLEGE

<http://www.uvm.edu/honorscollege>

The Honors College (HCOL) offers an intensely focused, academically challenging environment for some of the university's most outstanding undergraduate students. It involves a broad cross section of the university, representing every undergraduate college and a wide range of academic disciplines through robust coursework, research, and scholarly & societal engagement. The Honors College is above all a community of students, faculty, and staff committed to the ideals of excellence in scholarship, academic rigor, and intellectual inquiry & engagement.

## ADMISSION TO THE HONORS COLLEGE

Admission to the Honors College is based on prior academic performance and is gained through one of two avenues. First-year students may be invited to the HCOL based on the strength of their application to the university; no additional application is required. Approximately 260 first-year students comprise each year's class. Because the college exists to recognize and encourage academic excellence, it also welcomes applications for admission from sophomores who were not in the HCOL in their first year but were among the top performers as first-year students at UVM.

Sophomore admission requires an application form, a 3.40 grade-point average at the end of two semesters, and responses to a set of essay questions. Students are admitted on a space-available basis. Students transferring into UVM should contact the Honors College office to express their interest.

## CURRICULUM

Honors College students have "dual citizenship" at the University: students are members of both the Honors College and one of the seven undergraduate degree-granting schools and colleges. The Honors College curriculum supplements and enriches the University's degree offerings with seminars that broaden intellectual horizons, stimulate reflection & discussion, and inspire scholarly inquiry. Honors College courses are taught by distinguished members of the UVM faculty with expertise in a wide range of academic disciplines. Honors College courses frequently fulfill degree and Catamount Core Curriculum requirements; course enrollment is limited to Honors College students. Students that complete all Honors College academic requirements, in addition to the degree requirements of the home school/college, graduate as Honors College Scholars.

### First-Year Seminars

First-year Honors College students take a series of two-courses, one in the fall (HCOL 1000) and one in the spring (HCOL 1500). Seminars during the fall semester engage with a wide variety of contemporary social and ecological challenges; all seminars share a focus on writing and information literacy. The spring semester seminars build on skills and knowledge formed in the fall and introduce students to collaborative group work and public speaking. Many of the spring semester courses address themes of diversity and sustainability.

### Sophomore Seminars

Students take one three-credit seminar (HCOL 2000) during each semester of sophomore year, totaling six credits. While ranging from topics in the humanities to the STEM disciplines, courses are primarily focused on providing students experience with research. Course themes vary from year to year.

### Junior and Senior Year

In the junior year, students enroll in thesis preparatory coursework through their home school/college or through the Honors College. During the senior year, students complete a six-credit research thesis or senior project approved by the home school/college. The senior-year requirements vary across the schools and colleges.

## ACADEMIC STANDARDS

A cumulative grade-point average (GPA) of 3.40 (or higher) is required to remain in good academic standing in the Honors College. A student must maintain a cumulative GPA of 3.40 (or higher) to graduate as an Honors College Scholar.

### Academic Standing Review

At the end of each semester the Honors College Dean's Office reviews academic records of Honors College students to identify

those eligible for enhanced advising or dismissal. Students under consideration receive notification of their academic standing in the Honors College after the close of each fall and spring semester. Students who are notified of dismissal have the opportunity to appeal the decision.

### Criteria for Enhanced Advising

Honors College students with a cumulative GPA below 3.40 will be given one semester of enhanced advising to raise their GPA to a 3.40 (or higher). Students granted a grade of Incomplete will be placed on enhanced advising for the following semester. Enhanced advising in the Honors College consists of regular meetings with Honors College academic advising staff, as well as work with other academic support programs determined to be an important part of student success. After one semester of enhanced advising, student academic records will be re-reviewed. Students who raise the cumulative GPA to a 3.40 (or higher) will be removed from enhanced advising. Students who do not earn a GPA of 3.40 (or higher) may be subject to dismissal from the Honors College.

### Criteria for Honors College Dismissal

Students who do not earn a cumulative GPA of 3.40 (or higher) after a semester of enhanced advising are eligible for dismissal. In addition, the following situations may warrant dismissal from the Honors College:

- Receipt of grades of C- (or below) in nine credits (or more) of coursework
- Offenses committed against the academic integrity code, as determined by standard university procedures
- Lack of satisfactory progress toward the completion of Honors College requirements

The Dean may take personal or academic considerations into account prior to dismissal for any of the situations listed above. Such considerations are on a case-by-case basis.

Students eligible for dismissal have the opportunity to appeal the decision in writing (unless otherwise stated), and will receive information on the appeal process in the dismissal notification. After the review of an appeal, the student will receive notification of the decision via UVM email.

Once dismissed from the Honors College, students will be disenrolled from any Honors College courses. There is no possible re-entry for students who are dismissed from the Honors College.

## RESIDENTIAL COMPONENT

Honors College students, in the first two years, live together in the residential complex, University Heights. In the Honors College community, students learn together in their Honors College courses, grow together through advising & peer mentoring, and participate in programming that encourages an academic work-life balance in college. All Honors College students have access to the University Heights Complex, which includes classroom space, study & lounge areas, administrative staff, advising resources, and the Fellowships, Opportunities and Undergraduate Research (FOUR) Office.

## CO-CURRICULAR ACTIVITIES

All UVM faculty and students and the general public are invited to participate in Honors College events such as lectures and symposia presented by faculty, students, and distinguished visiting scholars and artists.

## FELLOWSHIP AND UNDERGRADUATE RESEARCH SUPPORT

The Honors College provides special advising for all undergraduates at UVM, not just those in the college. The Fellowships, Opportunities, and Undergraduate Research (FOUR) Office connects with students interested in working with faculty outside the classroom by providing advising and financial support to pursue and present research. As a student's interest grows, FOUR helps develop the next steps - this can include specialized internships, research or teaching abroad, or preparing for and funding a graduate education. FOUR provides mentoring for students applying for nationally competitive fellowships and scholarships (e.g., Fulbright, Truman, Udall, Goldwater, and Rhodes).

## PLAN OF STUDY

First Year	Credits	
	Fall	Spring
HCOL 1000 FY Writing Seminar (Fulfills Catamount Core WIL1 and may count toward specific degree requirement in home college/school.)	3	
HCOL 1500 FY Research Presentation Sem (May count toward specific degree requirement in home college/school.)		3
Year Total:	3	3
<b>Sophomore</b>		
	<b>Fall</b>	<b>Spring</b>
HCOL 2000 Sophomore Seminar (May count toward specific degree requirements in home college/school.)	3	3
Year Total:	3	3
<b>Junior</b>		
	<b>Fall</b>	<b>Spring</b>
1-3 credits related to research and thesis preparation, offered in the home college/school (may be completed either fall or spring).	1-3	1-3
Year Total:	1-3	1-3

Senior	Credits	
	Fall	Spring
A total of six credits of honors thesis to be taken over two semesters. May count toward specific degree requirements.	3	3
Year Total:	3	3
<b>Total Credits in Sequence:</b>	<b>20-24</b>	

## LARNER COLLEGE OF MEDICINE

The mission of the UVM Larner College of Medicine at The University of Vermont is to educate a diverse group of dedicated physicians and biomedical scientists to serve across all the disciplines of medicine; to bring hope to patients by advancing medical knowledge through research; to integrate education and research to advance the quality and accessibility of patient care; and to engage with our communities to benefit Vermont and the world.

To this mission, Larner is affiliated with the cross-college minor and major in Biochemistry and offers undergraduate minors in Pharmacology and Behavioral Change Health Studies (offered by the Department of Medicine). Additionally, our world-renowned faculty teach undergraduate students in a variety of courses to compliment student interest and advance biomedical research. Larner courses are offered by faculty in the departments of Biochemistry, Medicine, Microbiology and Molecular Genetics, Molecular Physiology and Biophysics, Neurological Sciences, Obstetrics and Gynecology, Orthopedic Surgery, Pathology, Public Health, Pharmacology, Radiology, and Surgery.

For students interested in practical hands-on experience in the biomedical sciences, numerous research opportunities are available in the Larner College of Medicine laboratories for credit, including options for honors theses.

### MINORS

- Behavioral Change Health Studies (p. 468)
- Affiliated with the cross-college minor and major in Biochemistry
- Pharmacology (p. 468)

## BEHAVIORAL CHANGE HEALTH STUDIES MINOR

### OVERVIEW

The College of Medicine offers a 15 credit minor designed to expose students to cutting edge research with a focus on behavioral change science embedded in the programmatic research and clinical programs at the Vermont Center for Children, Youth, and Families.

This minor program is appropriate for students with interests in law, social work, medicine, education, social sciences, and business because of its emphasis on healthy lifestyles and healthy decision-making.

## REQUIREMENTS

15 credits are required for the minor, including:

COMU 1010	Healthy Brains, Healthy Bodies	3
Additional courses (must include at least 3 at the 2000-level) may be selected from:		12
COMU 1210	Your Brain on Drugs	
COMU 1990	Special Topics	
COMU 2182	Mental Health in Pop Culture	
COMU 2220	Family Wellness Coaching	
COMU 2230	The Effects of Adversity	
COMU 2250	The Science of Happiness	
COMU 2310	Sex, Love, Neurosci of Relationships	
COMU 2500	Sleep and the Brain	
COMU 2990	Special Topics	
COMU 2994	Teaching Assistantship	
COMU 2995	Undergraduate Research	
PSYS 1400	Intro to Psychological Science	
PSYS 2400	Developmental Psych: Childhood	
PSYS 2500	Psychopathology	
PSYS 3100	Learning	
PSYS 3410	Emotional Devlmt & Temperament	
PHIL 2990	Special Topics	

## PHARMACOLOGY MINOR

### OVERVIEW

The Department of Pharmacology offers a 15 credit minor designed to provide students with both a theoretical and practical understanding of a wide array of pharmacological principles, applications and experimental techniques.

### REQUIREMENTS

15 credits are required for the minor, including:

PHRM 3010	Pharmacology and Therapeutics	3
PHRM 3720	Toxicology	3
PHRM 3900	Topics Molecular&Cell Pharm	3
Additional courses may be selected from:		6
PHRM 3000	Medical Cannabis	
PHRM 5400	Molecules & Medicine	
PHRM 3990	Special Topics	

PHRM 3995	Undergraduate Research	
PHRM 6050	Milestones in Pharmacology	
PHRM 6080	Integrative Physiol. & Pharm.	
PHRM 6730	Readings in Pharmacology	
PHRM 6810	Seminar	
1 extra-departmental course, approved by the designated minor advisor, can be used for credit towards the minor. Potential choices for the one allowed extra-departmental course include:		
NSCI 5230	Neurochemistry	
MPBP 6010	Human Physiology & Pharm I	
BIOC 3075	Adv Biochem of Human Disease	
PSYS 3250	Psychopharmacology	

### PRE/CO-REQUISITES

BIOL 1400 & BIOL 1450	Principles of Biology 1 and Principles of Biology 2 (or equivalent)	8
CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	8
CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2 (or equivalent)	8

## GENERAL INFORMATION

### ACADEMIC INFORMATION

This section of the undergraduate catalogue includes academic policies, procedures and related information.

Academic Honors (p. 470)

Academic Internships (p. 470)

Academic Minors (p. 472)

Academic Standing (p. 472)

Alternative Methods for Earning Academic Credit (p. 473)

Degree and University Requirements (p. 473)

Directory Information Exclusion (p. 474)

Exams and Grading (p. 474)

FERPA Rights Disclosure (p. 477)

Graduate Course Enrollment for Undergraduate Students (p. 477)

Independent Study Courses (p. 478)

Repeated Courses (p. 478)

Student Rights and Responsibilities (p. 478)

Transcripts (p. 479)

Undergraduate Certificates (p. 480)

University Policies and Responsibility (p. 481)

## ACADEMIC HONORS

### DEAN'S LIST

Dean's list status is awarded to full-time undergraduate students with a cumulative grade-point average of not less than 3.00 who stood in the top 20 percent of each class of their college/school during the preceding semester. The dean's lists are published at the beginning of each semester. Full-time enrollment in this case shall be a minimum of twelve credits in courses in which grades of A, B, C, D, or F can be given.

### GRADUATING WITH HONORS

The bachelor's degree may be conferred with honors, by vote of the Faculty Senate, in recognition of general high standing in scholarship. Three grades are distinguished and indicated by inscribing on the diploma the words "cum laude", "magna cum laude", or "summa cum laude".

Honors are determined in the following manner: within the graduating class of each college/school, students in the top one percent will receive summa cum laude; the following three percent will receive magna cum laude; the next six percent will receive cum

laude. The total number of honors awarded will not exceed ten percent of the graduating class of each college/school.

Honors will be calculated on all grades received at UVM. To be considered, a student must have taken at least sixty credits at UVM in which a letter grade of A, B, C, D, or F has been awarded.

### HONORS COLLEGE SCHOLARS

Honors College students who complete all curricular requirements of the Honors College as well as a degree in one of the seven undergraduate colleges and schools at UVM will graduate as Honors College Scholars.

### ACADEMIC INTERNSHIPS

An academic internship is an on-site supervised work experience combined with a structured academic learning plan directed by a University of Vermont faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Academic credit may be awarded if the learning that takes place in the internship experience satisfies the criteria listed in this policy.

The focus of this policy is on academic internships. Academic internships may be distinguished from other forms of experiential learning. The following are not explicitly addressed in this policy, either because they are handled according to existing protocols or because they are not currently offered at the University: cooperative education (co-op); student teaching, practicums, and clinical training experiences in professional programs; service learning experiences, and student research. Where one of these experiences is gained through an academic internship, this policy applies to it. For example, if a service learning experience may be gained through an academic internship, the experience is considered service learning and internship simultaneously, and this policy applies to it.

#### Need for a Policy

There are two reasons to have such a policy. First, internships address important learning outcomes. College graduates today must combine content knowledge with the ability to apply, extend and test that knowledge in order to understand complex issues and address real-world challenges. The ability to integrate and apply knowledge can be developed by encouraging students to take part in internships (and other forms of experiential education), and by offering effective guidance, support, and feedback during the process. Second, a university-wide policy for awarding academic credit for internships at the undergraduate level is necessary in order to set forth the minimum requirements that ensure learning and academic rigor as well as equitable treatment of students across academic units. Such a policy also provides clarity for students, faculty members, advisors, and employers.

#### Flexibility for Academic Units

Academic units have the freedom to design specific curricula and guidelines for such credit-bearing experiences, but those guidelines should conform to the minimum requirements set forth

in this policy. For example, academic units may choose to limit the number of internship credits allowed or specify a number of credits, particular coursework or a minimum GPA before a student is eligible for internships. Moreover, as stated earlier, other forms of experiential learning are not affected by this policy.

#### Procedural and Legal Matters

The Career Center keeps updated forms and procedures online, and faculty members, staff, student, and employers are strongly encouraged to review these legal guidelines and make use of these tools and procedures in considering an internship. The University's Internship Coordinator, housed in the Career Center, is available for consultation on these procedures.

### CRITERIA FOR AWARDING CREDIT

Any internship experience for which a student receives academic credit must include the following components:

1. **Appropriate student preparation.** The student should have the academic preparation that allows the student to apply, extend and test knowledge in order to understand complex issues and address real-world challenges in the proposed internship experience. In addition, the student's academic supervisor may require the student to engage in a program of readings or other work prior to or concurrently with the internship in order to ensure the learning to be gained from it.

2. **Support and supervision from a faculty member, advisor or mentor.** The student's internship experience must be guided and evaluated by a UVM faculty member or staff member working in concert with a faculty instructor of record ("academic supervisor") to ensure an appropriate balance of challenge and support during the process. The academic supervisor should provide the student regular feedback on progress in the internship and on the demonstration of learning and is solely responsible for issuing a grade upon completion.

3. **Work experience capable of advancing learning.** Work that is only routine, does not engage the student's academic preparation or advance the student's learning goals is not appropriate for an academic internship. The internship itself must engage the student in an on-site work experience of sufficient depth, complexity and engagement that the student's learning goals (discussed below) may be achieved. A memorandum of understanding agreed to by the student, the University, and the internship site should reflect this understanding.

4. **Sufficient length.** Credit is not granted for completion of a certain number of hours of work. Demonstration of learning must also take place. Nonetheless, an internship must be long enough to allow for this learning: a minimum number of work and study hours per credit earned is required. In addition, these hours should be spread over several weeks so that there is sufficient time for students to reflect on and absorb what they are learning. Note that the following indicates a minimum number of hours; the requirement may be higher in particular departments.

- Each credit requires a minimum of 40 hours. For example, 3 credits require a minimum of 120 hours, or at least 8 hours per week during a 15-week semester or 10 hours per week during 12 weeks in the summer.
- Ordinarily, no more than six credits of internship credit may be granted for work with a single employer during the semester or summer.
- Typically, a student taking a credit-bearing academic internship will also take other courses during the internship semester. The time devoted to the internship should not be so much that it interferes with the student carrying a full-time course of study. Ordinarily, an internship assignment should not exceed 20 hours per week unless the student is not taking classes full time, as during the summer. Usually, unpaid interns work 8 to 10 hours per week.

5. **Articulation of learning goals.** The student, in consultation with the academic supervisor must identify a set of intended learning goals to be achieved through the internship process. These must be captured in a document, such as a learning contract, syllabus, or project design, that expresses the connection between the work experience, the desired learning to be achieved, and an identified product(s) that will demonstrate that the learning has occurred (see below), and indicates the means of assessment. This document should be specific enough to prepare and guide the student for effective learning, but also be flexible enough to allow for the unplanned opportunities that may arise in a workplace.

6. **Demonstration of learning.** Academic credit is not granted for the work experience itself. It is granted for academic learning of sufficient academic rigor and elaboration that takes place in connection with the internship. Learning is demonstrated in two ways. (a) By means of work products that show the application, deepening or extension of academic concepts (such as laboratory tests, handbooks, posters, forecasts, software, hardware, designs, studies, surveys, presentations, reports, plans, budgets, films, websites and so on) and in writing describing these. (b) By means of reflection on the internship experience showing what was learned and how this knowledge relates to prior and future academic learning. This reflection and synthesis may be shown in writing or other ways (in an essay, report, presentation or talk, for example). Students may demonstrate learning and reflection on their experience in a variety of ways, but the details of this requirement should be agreed upon in advance with the academic supervisor and included in the learning goals document, with mutually agreed revisions being possible.

7. **Prior approval.** Academic credit is granted when learning goals, the means for their demonstration, and appropriate supervision are settled prior to the initiation of the internship work experience. However, it may be appropriate to add detail to learning goals and make them final after the internship begins in order to permit consultation with those at the internship site. In any case, credit is not granted retroactively.

## GRADING

A student taking internships may receive a letter grade or be given a Satisfactory/Unsatisfactory grade, as the offering department determines is appropriate.

## PAYMENT

Payment for an internship does not affect the granting of academic credit unless there are well-known professional standards mandating otherwise.

## ACADEMIC MINORS

An undergraduate student may choose to pursue an academic minor. An academic minor at UVM shall be composed of a set of courses that reflect a coherent body of knowledge in one or more disciplines. A minor shall require between fifteen and twenty hours of course work, of which at least nine hours must be at the 1000-level or above. A minor shall require no more than the credit equivalent of three standard classroom courses (nine to twelve credits) of prerequisites that are not part of the minor, although exceptions to this rule may be allowed with just cause. At least half of the courses used to satisfy the minor must be taken at UVM.

Students may choose any set of applicable courses from his/her transcript to satisfy the minor requirements. The grade-point average of these chosen courses must be at least 2.00. Courses used to satisfy a minor may not be taken pass/no pass.

## ACADEMIC STANDING

### LOW SCHOLARSHIP

Following are the general university regulations relating to low scholarship. The Studies committee of each college/school may determine more stringent requirements. Students with questions regarding their academic standing should consult their college/school student services office.

#### “On Trial”

This is an intermediate status between good standing and dismissal in which students remain enrolled according to stated academic conditions of their college/school.

Students are placed “on trial” by their dean or designated committee of their college/school. Special academic conditions may be set in each case. Normally the period of “trial” status is one semester.

This policy applies in the following instances:

1. Students, having been dismissed for low scholarship, are placed “on trial” upon readmission.
2. Students may be placed “on trial” if in any semester they have failed one-half or more of their semester credits, but have been permitted to continue in college/school.
3. Students whose records have been consistently below the graduating average or generally unsatisfactory in any semester may be placed “on trial” or continued “on trial” even though they do not come within the provisions that apply to “separation”.

## Separation

Students are dismissed from UVM if they receive grades below passing in one-half or more of their semester credits in any semester, unless they are allowed to continue by action of the designated committee.

Students who fail to meet the condition of their trial or whose record has been unsatisfactory and consistently below the graduation average may be dismissed for low scholarship even though they do not come within the “on trial” provisions.

Students dismissed for low scholarship must address their application for readmission to their college/school and receive written approval from their dean before enrolling in any university course.

Students dismissed for disciplinary reasons must receive written approval from the Division of Student Affairs before enrolling in any university course.

## ACADEMIC REPRIEVE

The Academic Reprieve Policy is designed to make it possible for former UVM students, whose academic performance when first enrolled was below standard, to resume their studies without the encumbrance of the grades previously earned.

The Academic Reprieve Policy is available to returning students who have not been enrolled at UVM or any other accredited institution of higher education for a period of at least three calendar years.

Former students returning to the university may request the application of the Academic Reprieve Policy only once in their career at UVM. The established procedures and criteria for admission or readmission apply to students applying for an Academic Reprieve.

The dean of the college/school in which the student is enrolled at the time of initial eligibility for the application of the Academic Reprieve shall determine eligibility for, and application of, the reprieve. Eligible former students must file a petition with the appropriate dean requesting reprieve of all prior course work at the university, either at time of admission or readmission or before the close of the first semester of re-enrollment. The Academic Reprieve Policy includes all previous UVM work and does not allow the students to pick and choose individual courses for reprieve. All courses with grades below passing are ignored, credits for courses passed are carried forward, but the grades are not figured in the new grade-point average, which begins again at zero.

Any person electing the reprieve option is required to complete a minimum of thirty additional regularly graded credits at UVM before a degree may be awarded; these credits are not open to the pass/no pass option. Those electing the reprieve option may qualify for honors at graduation only on the same basis as any transfer student, i.e., completion of sixty or more regularly graded credits at UVM.

Persons electing the reprieve option will be required to meet degree requirements of the catalogue in effect on the date of the student’s application for readmission.



The Academic Reprieve Policy applies solely to regular undergraduate degree programs. Graduate programs are specifically excluded.

Please note: the University of Vermont is required to include all courses, whenever taken, in evaluating a student's satisfactory academic progress as it relates to a student's financial aid eligibility. There is no provision made for courses that have been granted academic reprieve. Please contact Student Financial Services at (802) 656-5700 if you have questions concerning your financial aid eligibility.

## ALTERNATIVE METHODS FOR EARNING ACADEMIC CREDIT

- Advanced Placement Exams of the College Board
- International Baccalaureate
- College-level courses taken through high school cooperatives, such as Syracuse University Project Advance (SUPA)

## COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

The university considers credit for most of the thirty-four specific subject CLEP exams providing the student has not previously attempted a similar course of study at a college-level. Scores acceptable for credit are comparable to attaining a level of accomplishment equal to a C in a graded course situation with exception for language exams. Individual exams may earn a student three to twelve credits depending on the nature and scope of the material covered.

Credit granted for CLEP exams may be applied toward degree requirements and to the total credits specified for a particular degree program when approved by the dean of the college/school in which the student is subsequently a candidate for a degree. Information about CLEP is available at the Office of Transfer Affairs, 360 Waterman, (802) 656-0867 or email: [transfer@uvm.edu](mailto:transfer@uvm.edu).

## CREDIT BY EXAM

A degree student may, under the following conditions, receive credit for a course by taking a special exam and paying the special exam fee charge of \$50 per credit. The exam fee must be paid prior to taking the exam.

A request for such an exam must be made in writing at least one month before the date of the exam, and it must be approved by the student's advisor, the chair of the department in which the course is given, and the dean, in that order. The student must not have audited, previously received a grade or mark, or have attempted a prior special exam in this course at UVM or at any other institution of higher education. Only specific university courses may be challenged using a special exam. Readings and Research, Honors Research, etc., are specifically excluded. Special Topics may be challenged only if that course is offered during the semester in which the special exam is being requested. The student may not take a special exam in a course whose content is presupposed by courses already taken; or in a course

for which transfer credit has been received; or in a currently enrolled or previously taken course. In cases of uncertainty, the department chair shall decide whether it is appropriate for the student to take a special exam for credit in a particular course. Upon passing the special exam, as determined by the examiner and the chair of the department in which the course is given, the student receives credit, but not a grade, for the course. Credit by Exam forms are available on the Office of the Registrar website.

## CREDIT FOR MILITARY SERVICE

University of Vermont degree students may have their military service record reviewed for possible transfer credit. Official documents should be sent to the Office of Transfer Affairs, 360 Waterman Building, Burlington, VT 05405. Veterans should present form DD 214; active duty personnel should present form DD 295 directly from the educational officer on the base, and Army personnel should have an AARTS transcript sent directly from:

AARTS Transcript Manager  
AARTS Operations Center  
298 Grant Ave.  
Ft. Leavenworth, KS 66027-1254

Transcripts of exams sponsored by the Defense Activity for Non-Traditional Educational Support (DANTES) are available at a nominal charge from:

DANTES Contractor Representative  
Educational Testing Service  
P.O. Box 6605  
Princeton, NJ 08541-6605

Students should contact the Office of Transfer Affairs, (802) 656-0867, or email: [transfer@uvm.edu](mailto:transfer@uvm.edu) for more information.

## DEGREE AND UNIVERSITY REQUIREMENTS

### DEGREE REQUIREMENTS FOR UNDERGRADUATES

Undergraduate degrees are conferred on the recommendation of the colleges/schools. Specific degree requirements may be found in the catalogue sections devoted to the respective colleges/schools.

#### Catalogue Edition Requirement

Students must comply with the degree requirements as stated in a single catalogue edition in place during the time they are enrolled. The catalogue edition to be followed is the one in effect at the time the student matriculates at UVM, except for students who enroll at UVM via an established Pathways program. Pathways program students should follow the catalogue edition in effect at the time they are admitted into the Pathways program. Students who would like to follow an edition that is published subsequently during their enrollment at UVM must submit a request in writing. Students may not mix requirements from different catalogues.

### Minimum Grade-Point Average Requirement

To be eligible for graduation, a student must have attained a cumulative grade-point average sufficient to meet the minimum requirements for the college/school in which the student is officially enrolled. The minimum grade-point average for graduation is 2.00. Grades in courses accepted for transfer credit are excluded in computing this average.

### Minimum Credit Requirement

To be eligible for graduation, a student must have successfully completed a minimum of 120 credits. Some undergraduate degrees and majors require the completion of credits in excess of 120.

### Thirty of the Last Forty-Five Credits in Residence Requirement

Every degree candidate must have taken thirty of the last forty-five credits in residence (enrolled in coursework at UVM) at the university before being awarded their degree. An exception to this rule exists for those students who have completed three years of pre-medical study in the university and are awarded their degrees after successful completion of one year of study in any approved college of medicine. Other exceptions to this rule may be made only upon decision of the dean or the appropriate faculty committee of the student's college/school. To earn another bachelor's degree, the student must fulfill the requirements of that degree. Please note: pursuing multiple majors within the same degree does not result in earning multiple degrees. Multiple bachelor's degrees are only conferred when the degrees are different: Bachelor of Arts, Bachelor of Science, Bachelor of Music, etc.

### Catamount Core Curriculum Requirement

All undergraduate degree students matriculating in Fall 2023 or later must successfully complete the requirements of the Catamount Core Curriculum (p. 201). Students who matriculated before Fall 2023 should consult the catalogue edition in place during their year of enrollment for applicable general education requirements.

## UNIVERSITY REQUIREMENTS FOR UNDERGRADUATES

### Laptop Computer Requirement

Beginning with the Fall 2020 semester, all undergraduate students are required to have a laptop computer that meets the minimum specifications determined annually by their college or school (see college/school sections of the Catalogue for more detailed information). Students are not required to purchase a new laptop if they have an existing laptop that meets the established specifications. If students need to purchase a laptop, they are not required to purchase it through UVM.

## DIRECTORY INFORMATION EXCLUSION

Some information about students is considered "directory information". The university may publicly share "directory information" unless the student has taken formal action to restrict its release.

A student must formally request the university registrar to prevent disclosure of directory information, except to school officials with legitimate educational interests and certain others as specified in the regulations. Once filed, this request becomes a permanent part of the student's record until the student instructs the university to have the request removed.

Directory information includes the following student information:

Name  
Address  
Telephone number  
University-issued email address  
Dates of attendance  
Class (grade level)  
Most recent educational agency or institution(s) attended  
Major field of study  
Enrollment status  
Awards  
Honors (including Dean's list)  
Degree(s) conferred (including dates)  
Past and present participation in officially recognized sports and activities  
Physical factors: height, weight (applies to Varsity student-athletes only)  
Photograph  
Residency or other post-completion placements (applies to Larner College of Medicine students only)

Students who do not wish to have the above information released should request a directory exclusion via myUVM.

For more information, refer to the FERPA Rights Disclosure policy webpage.

## EXAMS AND GRADING

### Hour Tests

One or more hour tests are usually given during a semester in each course. These are scheduled by the faculty member within the assigned class periods.

In a course which has several sections meeting at different hours, a common test for all sections may be given only by arrangement with University Event Services.

Attendance at hour tests scheduled outside the normal meeting time of the class shall not have precedence over attendance at other scheduled activities or other important commitments of the students concerned. Faculty members must be prepared to give a make-up test for those unable to be present at the time set.

University academic responsibilities have priority over other campus events. Attendance at

1. regularly scheduled classes have priority over specially scheduled common hour exams,
2. common hour exams have priority over attendance at other activities.

## Final Exams

- Final in-class exams for all courses, including Graduate and Professional and Continuing Education (PACE) courses, will be held during the exam period established by the university calendar. Classes in the Larner College of Medicine and in the summer session are not affected by these regulations.
- No course may conduct more than one in class exam or test during the last two weeks of the semester (week prior to finals week and the week of finals) except lab exams with specific lab sections and practical exams associated with non-lab courses.
- For courses scheduled in the evening, every effort will be made to schedule the exam on the evening of the regular meeting, even if that day is a designated reading day.
- In-class final exams will be no more than three hours in length. However, lab exams in courses with specific lab components may be longer than three hours.
- The time and place of each final exam are determined by the Registrar under the direction of the Faculty Senate and a schedule is circulated and posted. Any change in the scheduled time or place may be requested by the chair of the department concerned when conditions seem to warrant such special arrangement. Decision on such requests rests with the Registrar.
- In every course in which a final exam is given, every student shall take the exam unless excused in writing by the Instructor.
- Students having a conflict in their final exam schedule must notify the faculty concerned of such a conflict not later than the close of business one week prior to the last day of classes for the semester in which the conflict arises.
- Students who are absent from a final exam for any reason must report that fact and the reason, in writing, to their Instructor within 24 hours. If the absence is due to any situation beyond the reasonable control of the student (e.g., illness or family tragedy), the Instructor must provide the student with the opportunity to complete the course requirements. At the Instructor's discretion, this may be an exam or some other suitable project. The Instructor may require evidence in support of the student's reason for absence.
- If the absence is not reported as provided above, or is not excused by the Instructor, the exam is regarded as failed.
- No student shall be required to take four or more final exams in one 36-hour period.
- If a student has four or more proctored in class final assessments in a 36-hour period then, unless a mutually agreeable alternative time can be reached by the student and one Instructor, the make-up will be scheduled for the next day after the regularly-scheduled exam. These considerations are subject to the constraints that all exams will be given in the final exam period and all conflicts must be resolved before the start of the final exam period. Students will select which of the four exams they wish to take at an alternative time. In cases where the Instructors in all four sections feel it is impossible to give the exam at an alternative time, and all conflicts are in the same academic unit, the appropriate Dean's Office, in consultation with the faculty involved, will establish which of the four exams will be taken as a make-up. If the

unresolved conflict involves more than one college, the deans of the units in question will resolve the matter. If the deans involved cannot reach agreement, then a person from the provost's office will establish which of the four exams will be taken as a make-up.

- All final exam materials should be retained for at least one month after the commencement of the following semester in case any questions arise concerning grades and to afford students the opportunity to review their graded final exam papers if they wish to do so.

## GRADING

Grades are reported and recorded as letter grades. Student grade-point averages (GPA) are calculated from quality point equivalents noted here:

		Points/Credit
A+	Excellent	4.00
A	Excellent	4.00
A-	Excellent	3.67
B+	Good	3.33
B	Good	3.00
B-	Good	2.67
C+	Fair	2.33
C	Fair	2.00
C-	Fair	1.67
D+	Poor	1.33
D	Poor	1.00
D-	Poor	0.67
F	Failure	0.00
AF	Administrative Failure due to a missing grade. <sup>1</sup>	
XF	Failure resulting from academic dishonesty. <sup>2</sup>	

<sup>1</sup> The AF grade is equivalent to the grade of F in the determination of grade-point averages and academic standing (effective spring, 2017).

<sup>2</sup> The XF grade is equivalent to the grade of F in the determination of grade-point averages and academic standing (effective fall, 2005).

In certain instances, grades are assigned that will appear on the transcript, but will not be used in grade-point calculation. These grades are:

AU	Audit (see below)
INC	Incomplete (see below)
P/NP	Pass/No Pass (see below)
S/U	Satisfactory/Unsatisfactory (see below)
SP/UP	Satisfactory Progress/Unsatisfactory Progress (see below)

W	Withdrawn
ANP	Administrative No Pass due to a missing grade
AUP	Administrative Unsatisfactory Progress
R	Repeated course

AU: Students wishing to regularly attend a course, but not receive credit, may register as an auditor, with the approval of the dean and the instructor. Auditors have no claim on the time or service of the instructor. Students must meet minimum levels of performance set by the instructor at the time of registration in order to receive an audit grade. Tuition is charged at the applicable rate. Under no circumstances will changes be made after the add/drop period to allow credit for courses audited.

INC: This grade may be assigned when course work is not completed for reasons beyond the student's control. Incompletes require the approval of the student's college/school dean. The incomplete course requirement will be satisfied at the earliest possible date, but not longer than the beginning of the corresponding semester of the next academic year. In cases of laboratory assignments, the student must complete all work the first time that the laboratory experience is offered again.

Incompletes may be approved due to extenuating medical, academic, or personal circumstances beyond the student's control. An incomplete can only be issued with the agreement of the Dean's Office, the faculty member, and the student. The student's Dean's Office is responsible for deciding whether a student's circumstances meet the criteria for an incomplete, after which the faculty member determines whether to offer the incomplete based on established guidelines listed on the Office of the Registrar grading policies page. The faculty member will also establish the timeline for completion.

P/NP: Undergraduate degree program students, not on academic trial, are permitted to take up to six courses (or as many courses as they have semesters remaining for transfer students) on a pass/no pass basis, beginning in their sophomore year. Courses in the student's major department, either for the major or for the degree, and electives within the distribution requirements of a department may not be taken on a pass/no pass basis. This option may be used without condition for free electives. It also may be used for physical education (activity) courses, and shall not be counted as a part of the six standard courses described above.

Students must complete all work normally required in these courses to receive full credit toward graduation for passing them. The instructor will not be informed of the student's status and the registrar will record grades of D or higher as Pass and grades of F as No Pass. The grade submitted by the instructor will not become available to the student nor to any third party. There are no quality points associated with pass/no pass grades.

To apply, a Pass/No Pass Request form, obtained from the Registrar's Office, must be approved by the student's academic advisor and submitted to the registrar's office during the first ten instruction days of the semester. Requests to be removed from that status must be

filed during the same period. Any question about a course or courses being appropriately elected as pass/no pass for a student will be resolved by the student's college/school dean.

Note: Non-degree, graduate and certificate students may not take courses on a pass/no pass basis.

S/U: These grades are used in courses where the A-F grade is inappropriate, such as in seminars, internships, practica, etc. For graduate students, S and U are used to indicate levels of performance for credits received in Thesis or Dissertation Research and may be used to indicate levels of performance in a Seminar. There are no quality points associated with the letter grades of S and U. For undergraduates, the S/U is available only on a whole course basis and is available for courses that count toward degree requirements.

SP/UP: These grades are used in courses with a linkage in credits to multiple semesters. Neither SP nor UP will be included in the student's GPA. The grade of SP will be assigned when a student has made satisfactory progress during a semester prior to the final semester of the linked courses; credit will be awarded with the grade of SP. The grade of UP will be assigned when the student's progress has been unsatisfactory and no credit will be awarded. Both SP and UP are final grades and can remain on the transcript. If desired, they may be changed according to the following: SP may be changed to a letter grade once the final grade for the multiple semester work is completed; a grade of SP cannot be changed to a UP or F based on a student not completing the final semester's work satisfactorily. UP may be changed to an F.

## GRADE REPORTING

Grades must be reported to the Registrar's Office as soon as possible after the course is completed but not later than 72 hours after the final examination for that course. If the final exam is on the Friday of exam week, grades are due by noon on the following Tuesday.

## Grade Appeals

A student who believes that s/he has received an unfair course grade should first contact the registrar's office to verify that the grade submitted by the instructor is the same grade the registrar has recorded. If the grade has been recorded correctly, the student should next contact the instructor, department chair (or the chair designate in academic units that do not have chairs), and dean of the college/school in which the course is offered (in that order) to discuss the matter.

The following deadlines must be observed by the student who wishes to appeal a grade (though extensions may be granted by the dean of the college or school offering the course). The student should contact the instructor as soon as possible, and no later than the tenth day of instruction of the fall or spring semester following the assignment of the grade in question.

More detailed information is available on the Grade Appeals Policy webpage.

## FERPA RIGHTS DISCLOSURE

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights include:

1. The right to inspect and review one's own student education record within 45 days of the day the university receives a request for access. Written requests for access should be submitted by the student to the university registrar, or, if appropriate, the dean of students, the dean of the student's college or school, or other school official with control over the student education record they would like to inspect and review. The written request must contain sufficient detail to identify the record(s), as well as the identity of the person(s) who may be provided access, other than the student, if any. If the records are not maintained by the school official to whom the request is submitted, that official shall advise the student of the correct school official to whom the request should be addressed. The school official with control over the requested records will make arrangements for access and notify the student of the time and place where the records may be inspected.
2. The right to request amendment to one's own student education record if the student believes such record to be inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA. To seek amendment of a student education record, the student must write to the school official responsible for the record at issue. The written request must clearly identify the part of the student education record they want changed, specifying why it is inaccurate, misleading, or otherwise in violation of their privacy rights under FERPA. Following review of the request, if the university decides not to amend the student education record, the university will notify the student in writing of the decision and advise them of their right to a formal hearing regarding the request. Information about the hearing procedures for such an appeal will be provided to the student as part of the written decision letter. After the hearing, if the university decides not to amend the student education record, the student has the right to place a statement with the applicable portion of their student education record setting forth their view about the contested information.
3. The right to provide written consent prior to disclosures of personally identifiable information contained in one's own student education record, except to the extent that FERPA authorizes disclosure without consent. Common exceptions to written consent include, but are not limited to:
  - The disclosure of a student education record to a school official, within or otherwise acting on behalf of UVM, with a legitimate educational interest.
  - The disclosure of a student education record to officials of another institution of post secondary education where the student seeks or intends to enroll, or where the student is already enrolled, so long as the disclosure is for purposes related to the student's enrollment or transfer.
  - The disclosure of a student education record to outside law enforcement officials, mental health officials, and other experts in the community in the event of a health or safety emergency, or to assess a potential threat. Student education records may also be disclosed to a parent or legal guardian when their student is experiencing a health or safety emergency.
  - The disclosure of student disciplinary records to a parent or legal guardian when a student under the age of 21 has violated the law or university policy concerning the use or possession of alcohol or a controlled substance.
  - The disclosure of the final results of a disciplinary proceeding conducted by the institution, regardless of whether the institution concluded a violation was committed, to an alleged victim of any crime of violence or non-forcible sex offense.
  - The disclosure is to comply with a judicial order or lawfully issued subpoena.
  - The information is considered "directory information" and the student has not taken formal action to restrict its release.
4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University of Vermont to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:
 

Family Policy Compliance Office  
U.S. Department of Education  
400 Maryland Avenue, SW  
Washington, DC 20202-5920

More detailed information is available on the FERPA Policy webpage.

## GRADUATE COURSE ENROLLMENT FOR UNDERGRADUATE STUDENTS

UVM Senior undergraduates may enroll for up to 6 graduate credits (5000- or 6000-level) at UVM that can transfer into a UVM graduate program after completion of the Bachelor's under the following circumstances: the student must be enrolled in 12 credits (per semester) that are required for their undergraduate degree; courses must be graded and cannot be independent study, practicum, internship, or research credit courses. This graduate level credit can be used as transfer credit into a UVM graduate program if the course is deemed appropriate by the student's advisor for the particular graduate program and the student earned a grade of B or better. The transfer is credit only (not grade) and does not count towards the minimum graded credit required after matriculation into the graduate program. Other institutions may not accept such credit, earned before award of the bachelor's degree, in transfer to their graduate programs.

## INDEPENDENT STUDY COURSES

Independent study is a course taken for credit, which is tailored to fit the interests of a specific student, and which occurs outside the traditional “classroom/laboratory setting”.

Independent study is carried out under the direct supervision of a faculty member having expertise in a particular area of investigation. Consequently the project will be done in the department primarily responsible for the field of study. Prior to enrollment in independent study, students must obtain the approval of their advisor, faculty sponsor, and the faculty sponsor’s department chair.

Independent study may be taken for variable credit. The amount of credit to be granted should be mutually agreed upon by the student and the faculty sponsor prior to registration.

Academic units offering independent study will be responsible for administering such work. Specific guidelines, which define the responsibilities of both faculty and student for administering the independent study, are noted below. Alternative guidelines that incorporate these basic points are acceptable.

### GUIDELINES FOR INDEPENDENT STUDIES

1. The success of an independent study project is often related to the amount of advance planning expended on the project. Consequently, planning for the project should, whenever possible, be initiated in the semester before the course is taken.
2. By the end of the add/drop period, students will be required to submit to their faculty sponsor a specific plan which must include, but not be limited to, the following:
  - a. The project title.
  - b. A statement of justification, indicating why independent study is being selected and the reason for undertaking the project, its importance, and how it relates to other work done by the student.
  - c. A clear and complete statement of project objectives.
  - d. A concise statement of the plans and methods to be used in order to accomplish each objective.
3. During the first full week of classes the student and the faculty sponsor will meet and prepare a document which includes the following:
  - a. A schedule of dates when the student and faculty member will meet and discuss progress, including a time plan indicating when various parts of the work are projected for completion.
  - b. A list of those ways in which documentation of work can be shown.
  - c. A plan for evaluation, which will include the specific work to be submitted for evaluation on the project, and a statement of criteria to be used for evaluation.
4. It is the responsibility of the faculty supervisor to ensure that all the provisions outlined above have been satisfactorily accomplished. Copies of all documents and schedules mentioned must be filed with the department chair by the end of the add/drop period. Faculty sponsors should retain the completed

projects, along with faculty evaluations, for review, if necessary, by appropriate college/school committees.

## REPEATED COURSES

Only courses repeated after August 30, 2020 are subject to this policy.

A student may repeat a course at the University of Vermont, but will only receive credit once for that course (unless the course catalogue specifies that a course may be repeated for credit). After a course is repeated, the student’s transcript will be revised to replace the previous grade for that course with an “R.” The GPA calculation will only include the grade for the repeated course, regardless of whether the repeated course grade is higher or lower than the initial course grade. A course may be repeated more than one time only at the discretion of the dean of the student’s college/school, after consideration of any impact on the student’s financial aid and/or progress to graduation.

Only course(s) completed at UVM will be considered in the calculation of GPA. Any credit for previously transferred course work that is repeated at UVM will be removed from the transfer credit record.

## STUDENT RIGHTS AND RESPONSIBILITIES

### ACADEMIC INTEGRITY

The principal objective of the Code of Academic Integrity is to promote an intellectual climate and support the academic integrity of the University of Vermont. Academic dishonesty is in direct contrast to ethical expectations of students and the educational mission of the University, and serves to devalue students’ education. As a result, the University takes all violations of academic dishonesty seriously. Sanctions are significant and can include an XF in a course, suspension, or dismissal.

Each student is responsible for knowing and adhering to the Code of Academic Integrity. Please refer to the Code of Academic Integrity policy webpage for more detailed information.

### ATTENDANCE POLICY

Students are expected to attend all regularly scheduled classes. With the exceptions outlined below, the instructor has the final authority to excuse absences. It is the responsibility of the instructor to inform students of their policy for handling absences and tardiness, and the consequences that may be imposed. Notification should be done both verbally and in writing at the beginning of each semester.

It is the responsibility of the student to inform the instructor regarding the reason for absence or tardiness from class, and to discuss this with the instructor in advance whenever possible. The instructor has the right to require documentation in support of the student’s request for an absence from class and to determine the appropriate response (e.g., excused absence, deadline extension, substituted work). If an out-of-class exam or other activity (e.g., field trip, campus speaker or event, workshop) conflicts with a regularly scheduled class, the regularly scheduled class has priority. Any

conflicts between student and instructor regarding this policy may be presented for resolution to the course department chair or college dean's office.

When a student is unable to attend classes for reasons of health, bereavement, or required legal appearances (e.g., jury duty, citizenship hearing), the student should contact their academic dean's office regarding support. An instructor may request through the appropriate dean's office documentation to support a student's request for an excused absence.

### Intercollegiate and Academic Competitions

Students who represent the University of Vermont in official intercollegiate varsity athletic or academic program-sponsored competitions should plan their schedules with special care, recognizing the primary importance of their academic responsibilities. It is the responsibility of the student to avoid signing up for a course or section whose scheduled meetings consistently conflict with the intercollegiate competition and travel schedule. If travel for such intercollegiate competition requires absences from a class, it is also the student's responsibility to provide the instructor with documentation of anticipated absences and to meet with the instructor regarding the missed course work and instruction. Provided a student has submitted documentation for absences due to participation in official intercollegiate competitions, an instructor must excuse the absences and should provide reasonable assistance to the student concerning missed instruction, assignments, and exams, including final exams. Any conflicts between student and instructor may be presented for resolution to the course department chair or college dean's office.

### Religious Holidays

Students have the right to practice the religion of their choice. Each semester students should submit in writing to their instructors by the end of the second full week of classes their documented religious holiday schedule for the semester. Faculty will treat these absences as excused and will provide reasonable accommodation to the student concerning missed instruction, assignments, and exams, including final exams. Any conflicts between student and instructor may be presented for resolution to the course department chair or college dean's office.

### Disenrollment

The instructor has the right to disenroll any student from a course if that student

1. does not meet the prerequisites of the course, or
2. fails to attend a scheduled course, or log into their course via at least one online platform used for the course, by the third instructional day of a semester or the second scheduled class session of a course, whichever comes later, unless the student has notified the instructor and has been excused.

To disenroll a student, the instructor must notify the registrar by the add/drop deadline. Upon such notification, the registrar shall remove the student's name from the class list and the course from the student's schedule. The student is responsible for determining whether they are enrolled in a class. Any conflicts between student

and instructor may be presented for resolution to the course department chair or college dean's office.

## CLASSROOM CODE OF CONDUCT

Faculty and students will at all times conduct themselves in a manner that serves to maintain, promote, and enhance the high quality academic environment of the University of Vermont. To this end, it is expected that all members of the learning community will adhere to the following guidelines:

1. Faculty and students will attend all regularly scheduled classes, except for those occasions warranting an excused absence under the University Attendance Policy (e.g., religious, athletic, and medical).
2. Students and faculty will arrive prepared for class and on time, and they will remain in class until the class is dismissed.
3. Students and faculty will not come to class under the influence of alcohol or other drugs, and students will abide by the behavioral standards listed in the Code of Student Conduct in the classroom.
4. Faculty and students will treat all members of the learning community with respect. Toward this end, they will promote academic discourse and the free exchange of ideas by listening with civil attention to comments made by all individuals and appropriately challenge one another through civil expression of disagreement, or otherwise respectful and constructive dialogue and the offering of original thoughts and responses pertinent to the subject matter or discussion.
5. Students and faculty will maintain an appropriate academic climate by refraining from all actions that substantially or repeatedly disrupt the learning environment, including the ability of the instructor to teach and the ability of other students to engage. Classroom disruption is further defined in the Code of Student Conduct.
6. Faculty and staff may ask a student to leave the classroom or other academic site on a temporary basis if classroom disruption occurs, and report the same to the Center for Student Conduct. More permanent removal requires consultation with their academic dean's office and the Dean of Students, and compliance with applicable University policies and procedures.

## TRANSCRIPTS

An official transcript is the reproduction of a complete, unabridged permanent academic record validated with the university seal, facsimile signature of the registrar, and date of issue. A rank-in-class entry is made upon completion of undergraduate degree requirements.

Students and alums may request an official transcript of their permanent academic record online or by contacting the Office of the Registrar, 360 Waterman Building. Transcripts are not released when there is indebtedness to the university.

## UNDERGRADUATE CERTIFICATES

### DESCRIPTION

Undergraduate Certificate Programs are a credentialed course of study (approved by the Faculty Senate on April 7, 2014) focused on a particular topic germane to the mission and vision of the University of Vermont. These programs are for matriculated undergraduate students only, and constitute a category of certificate programs distinct from Post-Baccalaureate Certificates, Continuing Education Academic Certificates, Continuing Education Professional Certificates, and Graduate College Certificates of Graduate Study.

A distinguishing feature of Undergraduate Certificate programs is a capstone or other mentored learning experience that integrates knowledge and skills from prior coursework and in which students learn through innovation, creativity and reflection. Academic units have the freedom to design specific curricula for Undergraduate Certificates, but those curricula must conform to the minimum requirements set forth in this document.

### PURPOSES

The purposes of undergraduate certificates are:

1. To broaden and enrich learning and life skills opportunities for undergraduate students without impeding the students' ability to complete their degree requirements in a timely manner.
2. To engage students in substantive learning experiences to which they would otherwise not be exposed.
3. To expand experiential and interdisciplinary learning options at the University of Vermont.
4. To promote integrative learning and offer students the opportunity to gain additional exposure to areas of particular interest.

### GENERAL GUIDELINES

1. Undergraduate certificate programs should offer a unique learning experience that does not largely replicate or compete with existing academic minors
2. Each undergraduate certificate program is established and administered by one or more sponsoring academic units which will be responsible for maintaining program quality.
3. Undergraduate certificate programs must have a clearly stated mission, program goals, learning objectives and desired student outcomes. The curriculum is scaffolded in such a way as to foster developmental growth of the student over the course of the certificate program.
4. Undergraduate certificates are comprised of a minimum of 12 credits of academic core courses, at least 6 of which must be at the 100-level or higher, plus a significant credit-bearing integrative learning component.
5. The vehicles for integrative learning may include, but are not limited to, credited academic internships, service-learning courses, teaching, research, reflective essays, case studies or creative projects.

6. Prerequisite coursework may be required for enrollment in an undergraduate certificate program.
7. Special topics courses may be included in undergraduate certificate programs, although they must be reviewed for permanent status after three offerings in separate semesters, consistent with academic policies.
8. Undergraduate certificates are not to be required for any degree program.
9. No more than 50% of the total credits in the certificate program may be transfer credits.
10. Students enrolled in an undergraduate certificate program must maintain a minimum grade point average (GPA) and other performance standards as specified by the sponsoring academic unit(s).
11. Successful completion of an undergraduate certificate will be recorded in the student's official transcript. Unsuccessful completion of an undergraduate certificate will not prevent a student from graduating and will not be recorded in the transcript.
12. Each undergraduate certificate program will be included in the appropriate cluster of programs in the APR schedule.
13. The Curricular Affairs Committee of the Faculty Senate shall review proposed undergraduate certificate programs with respect to these standards and criteria.

### OPERATIONAL PRINCIPLES

1. Proposal Development and Approval: The sponsoring unit (Department, School or College) will prepare a proposal following the format described below. As with any new or substantially modified academic program, Undergraduate Certificate programs must undergo the established review and approval processes at the department, college, Faculty Senate and University levels, including the Board of Trustees.
2. Application and Admission to Undergraduate Certificate Programs: Admissions will be handled by the sponsoring unit(s). Students must apply to the sponsoring unit(s) by the date specified using a standard application form endorsed by the Curricular Affairs Committee. The sponsoring unit(s) will notify the student and the home unit (the college or school of the student's major) of acceptance or rejection.
3. Catalog Description: Undergraduate certificate programs will be described in detail in the UVM Catalog.
4. Enrollment Limitations: Because of enrollment limitations, some undergraduate certificate programs may not be accessible to all students.
5. Commitment: Sponsoring units will make a good faith effort to make curricular components available on a regular basis so that students can complete their undergraduate certificate programs in a timely manner.
6. Advising: The sponsoring unit(s) will develop and maintain an effective system of advising for all students enrolled in its undergraduate certificate programs.
7. Certification and Student Records: The student's home unit shall certify completion of the undergraduate certificate. The sponsoring unit is the only body authorized to make course



substitutions for satisfying the certificate requirements and shall notify the student's home unit in writing regarding any substitutions. The student's major advisor is not authorized to make course substitutions in certificate requirements. As with all credentialed academic programs, undergraduate certificates will be indicated as such in students' transcripts.

8. Alteration of Undergraduate Certificate Programs: Alterations to undergraduate certificate programs made by its sponsor and which meet or exceed the noted criteria must be submitted for review by the Curricular Affairs Committee as described in Format for Proposals to Substantially Revise a Curriculum, Academic Program, Research or Service Endeavor (Appendix B) located on the Faculty Senate Website.

## UNIVERSITY POLICIES AND RESPONSIBILITY

### UNIVERSITY POLICIES

Please refer to UVM's Institutional Policies website.

### UNIVERSITY RESPONSIBILITY

Many courses involve instruction in and the use of various types of power equipment, laboratory apparatus, and specialized facilities. The university takes every precaution to provide competent instruction and supervision of such courses. It is expected that students will cooperate by following instructions and exercising precaution. In case an accident resulting in personal injury does occur, the university can assume no responsibility.

## ENROLLMENT AND REGISTRATION

Important information for students after the payment of the acceptance fee.

### ORIENTATION

All entering new students for fall semester are required to participate in virtual orientation events, including course registration, from June through August. A required on-campus orientation program is held prior to the start of the fall semester. New students entering in the spring semester are required to attend an on-campus orientation program, held prior to the start of the semester. For more information, visit the UVM Orientation website.

### HOUSING

All students entering as first-time, first-year students are required to live on campus for their first four semesters. New transfer students who are under the age of 20 the first day of classes are required to live on campus for their first two semesters. New transfer students 20 years old and older the first day of classes may request on-campus housing, but it is not guaranteed. For more information, visit the Residential Life website.

### CLASS REGISTRATION

An academic advisor helps prepare the first semester class schedule. New students entering in the fall semester register for classes in June and July working with the advisor virtually. New students entering

in the spring semester will meet virtually with an advisor prior to the start of classes in January.

## IMMUNIZATION AND HEALTH HISTORY FORMS

Pre-matriculation health requirements must be completed and submitted to the UVM Center for Health and Wellbeing Student Health Services before a student's first term at UVM. The deadline for students entering in the fall semester is June 15th; the deadline for students entering in the spring semesters is December 1st. These requirements are presented in both paper and online forms. New students will receive detailed instructions regarding the immunizations required by Vermont state law. Further details about health requirements can be found on the Center for Health & Wellbeing website.

## ENROLLMENT

### DEGREE STUDENT STATUS

Definition: Undergraduate degree students who have presented appropriate credentials for admission and have been accepted as students in a degree program. The following actions apply only to degree students.

#### Intercollege Transfers

Degree students may transfer to another college/school within the University. To do so, students must complete the online Change of Major/College form and obtain the approval of the college/school to which they are seeking a transfer. Some programs require the completion of additional application materials. Students seeking a transfer must have a cumulative GPA of 2.00 with the following exceptions.

- College of Arts and Sciences (CAS): Students must have a cumulative GPA of 2.0 or higher (in at least 12 credits completed at UVM and within their most recently completed semester) and cannot have any incompletes (INC's) or missing grades. If the student's cumulative GPA is above 2.0 but the most recent semester GPA is below 2.0, the student will be placed on academic probation. If a student has junior or senior standing, the student will be required to meet with a CAS Student Services Advisor prior to the transfer.
- Grossman School of Business (GSB): Students must complete one semester of Economics (ECON 1400 or ECON 1450) and one semester of Calculus (MATH 1212 or MATH 1234), each with a grade of C- or higher and an overall Business Core GPA of a 2.25 or higher. All completed Business Core classes will be assessed during the application review process. All Business Core classes must meet the C- or higher grade requirement and overall 2.25 GPA or higher. In addition, a cumulative GPA of 2.75 or higher is required for transfer admission into the Grossman School of Business and students must be in good academic standing (not on trial/academic probation), and may not have any Incomplete, XC, or M grades pending.
- College of Engineering & Mathematical Sciences (CEMS): A semester and cumulative GPA of at least 2.00 is required for

transfer admission into all programs. Prerequisite courses and minimum grade requirements vary by program. Additional information can be found on the CEMS Internal Transfer Guidelines website.

- College of Education and Social Services (CESS): A cumulative GPA of at least a 2.50 is required for transfer admission into teacher licensure programs in the College of Education and Social Services. A cumulative GPA of 2.30 is required for transfer admission into the Social Work program. A cumulative GPA of 2.0 is required for admission into the Human Development and Family Science, and the Individually Designed majors.
- College of Nursing and Health Sciences (CNHS): The minimum GPA and prerequisite requirements for transfer vary by program. Transfers will be approved only if space is available and may be conditional upon students satisfactorily completing requirements set out by the new college/program.

### Re-entry to the University

Previously enrolled undergraduate students who were working toward a degree and who wish to return to the University following a voluntary leave (including an approved medical withdrawal) should complete the online Re-entry Application. Please review additional information including college-specific requirements. The Admissions Office does not readmit former degree-seeking students. Re-entry applications are reviewed by the Re-entry team upon submission. Email [reentry@uvm.edu](mailto:reentry@uvm.edu) with any questions.

Students wishing to apply for re-entry following an academic dismissal or forced leave should contact the Student Services team for their major college/school (i.e. College of Arts and Sciences, Grossman School of Business, etc.).

Students wishing to return to the University after an approved medical withdrawal must complete the medical withdrawal re-entry process. Applications following a medical withdrawal must be submitted no later than 45 days before the start of the semester. Please contact the Assistant Dean of Students at (802) 656-3380 for additional information.

Students wishing to return to the University after a conduct suspension should contact the Dean of Students' office at (802) 656-3380 to schedule a meeting with the Assistant Dean of Students.

Students wishing to enroll as an undergraduate who have never been admitted as a degree-seeking student should visit the Admissions website for more information.

### Withdrawal from the University

Degree students who wish to withdraw from the University must first notify (in person or in writing) Student Services in the Dean's Office of their college/school.

### Medical Withdrawal

Degree students who wish to withdraw from all current courses at the University for medical reasons must contact Student Services in the Dean's Office of their college/school to discuss their intention

to medically withdraw. For more information, please refer to the complete policy.

### Leave of Absence

A leave of absence means that a student who is eligible for continued enrollment ceases to be enrolled and is guaranteed readmission.

1. Students must submit a request for a leave of absence to their college/school prior to the beginning of the semester that the leave will take effect. Leave requests must be approved by the student's college/school.
2. Leaves are granted for a finite period of time, and normally may not exceed 4 semesters.
3. While on leave, the student's status is temporarily inactivated. A leave of absence guarantees an individual's readmission only if the student submits a re-entry application by the specified date before the corresponding semester.
4. Upon readmission, students should contact Residential Life to review their on-campus housing options/requirements.
5. Unused financial aid will not be carried over. Upon readmission, students must reapply for financial aid according to the Office of Student Financial Services policies and procedures in effect at that time.

### DISTANCE EDUCATION STUDENT STATUS

A distance education student is a student whose primary affiliation with UVM is as a student matriculated in a distance education degree or academic certificate program where the majority of content is delivered at a distance. There may be a minimal residency component of the program that is exclusively available to the matriculated distance education students. A distance student may not register for an on-campus course; however a residential student may register for courses offered through a distance program on a space availability basis.

Student tuition is billed according to their primary affiliation with UVM. These categories are residential or distance. When tuition differs between these categories, tuition is billed according to the primary affiliation of the student for any courses taken.

### NON-DEGREE STUDENT STATUS

This category applies to non-degree students who have presented minimum credentials, meet the course level prerequisites, and have completed a Professional and Continuing Education (PACE) application form. Non-degree students may enroll in up to 19 credit hours per semester while completing a PACE academic certificate, pursuing professional development, and/or completing admission requirements for an undergraduate or graduate degree program.

Visiting students enrolled at another institution and are in good standing may take courses through PACE. Credit hours earned may be transferable to their home institution. Credit hours earned by non-degree students prior to matriculation into a UVM degree program must be approved by a UVM school or college. Non-degree students enrolling in graduate courses for the purpose of transferring the credits into a graduate degree should review the Non-Degree Student Course Enrollment for Graduate Credit guidelines.

Non-degree students register for courses two weeks (14 days) after course registration opens for UVM degree students.

Selection of courses for those having long-range plans of earning a degree should be made in consultation with information provided by this catalogue. Students interested in making a formal application for admission to the university should contact the Office of Undergraduate or Graduate Admissions. Non-degree students are encouraged to work with a PACE student services professional to discuss their educational goals and enrollment support needs.

Students are required to meet with a PACE student services professional, once reached 18 credit hours (6 if enrolled in graduate courses), unless in a certificate or other sequenced professional development program.

## REGISTRATION

Degree students must register for the next semester at the designated time, unless excused in advance by their college/school. Registration instructions are on the Office of the Registrar website. Approval of the student's college/school is required to register for more than nineteen credits.

Students with disabilities, who are in receipt of appropriate medical certification from the Center for Health and Wellbeing, will be approved to enroll for a course load of less than twelve credits (FTE). Such students will be afforded full-time status in accordance with Section 504 of the Rehabilitation Act of 1973.

Any credits earned at the University of Vermont are transferable to another institution at the discretion of the receiving school.

## CLASS STANDING

The designation of a student's class shall be determined by the number of academic credits completed. The designations are as follows:

	Credits
First-year	0-26.9
Sophomore	27.0-56.9
Junior	57.0-86.9
Senior	87.0 and over

## COURSE ADD/DROP

Courses may be added through the first five instructional days of the semester without instructor permission, unless indicated. Adding a course between the sixth and tenth instructional day will be at the discretion of the faculty member and will occur by means of a faculty override. Courses may be dropped through the first ten instructional days of the semester. During summer and winter sessions, the Add/Drop period varies from course to course depending on when the class begins and how long it runs.

Drops will only be allowed after the tenth day of instruction if a student did not attend the class. The disposition of such cases is handled by the registrar's office.

## COURSE WITHDRAWAL

From the eleventh day of instruction until the second business day after the 60% point in the semester, students may withdraw from courses. To do so, students must use the registration system to withdraw from the course. The student's advisor(s) and dean(s) will be notified. The instructor(s) will be aware of the withdrawal by the Withdraw status on the class roster and the presence of a grade of W on the grade roster.

Between the second business day after the 60% point in the semester and the last day of classes, students may withdraw from one or more courses only by demonstrating to their college/school Studies committee, through a written petition, that they are unable to continue in the course(s) due to circumstances beyond their control. Such petition must contain conclusive evidence, properly documented, of the illness or other situation preventing completion of the course(s). Acceptable reasons do not include dissatisfaction with performance or expected grade, dissatisfaction with the course or instructor, or desire to change major or program. If the petition is approved, a grade of W will be assigned and recorded on the student's permanent record. If the petition is denied, the instructor(s) will assign a final grade in accordance with the same criteria applied to all other students in the course(s). Final decisions rest with the student's home college/school.

Withdrawals will be permitted after the last day of classes only when the student was incapacitated before the end of the term and unable to process a late withdrawal request. To be considered, the request must be made within 60 days of the end of the term in which the course was taken, or before the end of the add/drop period of the subsequent term attended, whichever is sooner. Final decisions rest with the student's home college/school.

In all instances, withdrawal grades remain on the permanent academic record, but will not affect the grade-point average. Withdrawn courses are included in the number of credits used for billing purposes.

## DEFINITION OF A CREDIT HOUR

The Faculty Senate has defined a University of Vermont credit hour as follows:

1. One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester hour of credit or the equivalent amount of work over a different amount of time; or
2. At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.
3. "Direct faculty instruction" must include regular and substantive faculty/student contact regardless of delivery mode (for example, face-to-face, hybrid, distance/online).

Semester courses must span the full term (15 weeks in Fall and Spring) of the semester in which they are offered, with a minimum of 45 hours of total effort per credit. Part-of-Term courses in the semester or summer must span the full part-of-term in which they are offered and distribute the 45 hours of effort per credit over a shorter time window.

## ACADEMIC CALENDAR

**The academic calendar is subject to change. The calendar listed below reflects information known to be true in March of the prior academic year and is not further updated.** See the Office of the Registrar website for the most current calendar information and future year calendars.

Refunds related to dropping or withdrawing from courses vary. Contact Student Financial Services for more information.

Evening classes may have final exams scheduled during reading days.

Refer to the Student Rights and Responsibilities (p. 478) section of the Catalogue for the policy on class attendance and for information regarding observance of religious holidays and participation in intercollegiate athletics.

### FALL 2023

First Day of Classes	August 28	Monday
Last Day to Add Classes without Instructor Permission	September 1	Friday
Labor Day Holiday	September 4	Monday
Add/Drop, Pass /No Pass, Audit Deadline (Refunds vary; see Student Financial Services.)	September 11	Monday
Fall Recess	October 13	Friday
Last Day to Withdraw (Refunds vary; see Student Financial Services.)	October 30	Monday
Thanksgiving Recess	November 20-24	Monday - Friday
Last Day of Classes	December 8	Friday
Reading Days and Exam Period	December 9-15	Saturday - Friday
Reading Days (Evening classes may have final exams scheduled during reading days.)	December 9,10,13	Saturday, Sunday, Wednesday
Exam Days	December 11,12,14,15	Mon., Tues., Thurs., Fri.

### WINTER 2024

First Day of Classes	December 26	Tuesday
Last Day of Classes	January 12	Friday

### SPRING 2024

Martin Luther King Holiday	January 15	Monday
First Day of Classes	January 16	Tuesday
Last Day to Add Classes without Instructor Permission	January 22	Monday
Add/Drop, Pass/No Pass, Audit Deadline (Refunds vary; see Student Financial Services.)	January 29	Monday
Presidents' Day Holiday	February 19	Monday
Town Meeting Day Recess	March 5	Tuesday
Spring Recess	March 11-15	Monday - Friday
Last Day to Withdraw (refunds vary; see Student Financial Services)	April 1	Monday
Honors Day	April 19	Friday
Last Day of Classes	May 3	Friday
Reading Days and Exam Period	May 4-10	Saturday - Friday
Reading Days (Evening classes may have final exams scheduled during reading days.)	May 4,5,8	Saturday, Sunday, Wednesday
Exam Days	May 6,7,9,10	Mon., Tues., Thurs., Fri.
Graduate College Ceremony	May 18	Saturday
University Commencement	May 19	Sunday
Medical College Ceremony	May 19	Sunday

### SUMMER 2024

First Day of Classes	May 20	Monday
Memorial Day Holiday	May 27	Monday
Juneteenth Holiday	June 19	Wednesday
Fourth of July Holiday	July 4	Thursday
Last Day of Classes	August 9	Friday

## ADMISSION INFORMATION

The University of Vermont (UVM) welcomes applications from students of diverse backgrounds. Through a holistic admissions review, UVM selects students with potential for academic success who will contribute to the UVM community. The rigor of an applicant's academic program, grades, standardized test results (if submitted), and trends in performance are considered. Essays, a letter of recommendation, and other evidence of each student's life experience and character also assist the evaluation.

In recognition of the university's focus on engaging with global, national, and state issues, UVM's admissions policies attempt to balance geographic diversity, diversity of racial, ethnic, and international backgrounds with a firm commitment to residents of the state of Vermont.

The University of Vermont also welcomes applications from transfer students. Transfer candidates are evaluated on performance in college-level course work completed, standing at previous institutions, and/or other credentials that reflect educational history. For transfer candidates who present fewer than twenty-one semester credits, the high school record is more heavily weighted. With twenty-one or more college credits, the college record assumes more importance. The high school record will help determine completion of entrance requirements for the selected field of study. Course work not completed at the high school level may be fulfilled by equivalent college-level academic work. Students who were wait-listed or denied admission previously as high school students should be working towards completing two semesters of rigorous coursework at the point of applying to UVM.

University admissions staff reviews applications and is responsible for rendering final admissions decisions. Academic unit representatives may be consulted on a case-by-case basis when a candidate's credentials are inconclusive. Admission policies are developed by the Office of Admissions in collaboration with the schools and colleges that constitute the University of Vermont and are subject to review by the University of Vermont Faculty Senate, the Vice President for Enrollment Management, and the Provost's Office.

At a minimum, candidates for admission are expected to complete the entrance requirements prior to enrollment. These requirements have been established by the UVM faculty to ensure exposure to broad fields of intellectual inquiry; some programs require further study as indicated in the following sections. Most successful candidates have exceeded the minimums in all or most areas and, in many cases, present honors level course work, International Baccalaureate, Advanced Placement, or other rigorous course work.

## ADMISSIONS REQUIREMENTS AND RECOMMENDATIONS BY COLLEGE/SCHOOL

Each of the university's undergraduate colleges and schools reserves the right to set additional requirements for their majors and to

recommend courses of study beyond the minimum presented below. Transfer students may have additional requirements.

### COLLEGE OF AGRICULTURE AND LIFE SCIENCES

**REQUIRED:** One year of biology and one year of chemistry for science majors.

**RECOMMENDED:** Candidates are strongly encouraged to take one year of physics and four years of high school math (precalculus / calculus is preferred).

### COLLEGE OF ARTS AND SCIENCES

**RECOMMENDED:** Course work across the span of liberal arts disciplines (Fine Arts, Humanities, Natural Sciences and Social Sciences); four years of math, including trigonometry; foreign language study all four years of high school.

### GROSSMAN SCHOOL OF BUSINESS

**REQUIRED:** Four years of mathematics with high achievement, including at least one year beyond algebra II (trigonometry, precalculus or calculus are preferred).

### COLLEGE OF EDUCATION AND SOCIAL SERVICES

**RECOMMENDED:** Teacher Education majors are strongly encouraged to take math and science coursework beyond the UVM minimum entrance requirements. Human Development & Family Sciences and Social Work majors are strongly encouraged to take one year of biology as part of the university entrance requirements.

### COLLEGE OF ENGINEERING AND MATHEMATICAL SCIENCES

**REQUIRED:** Four years of mathematics, including trigonometry or precalculus. One year of chemistry and one year of physics for all engineering majors. All other majors: two years of a laboratory-based science as part of the university entrance requirements.

### RUBENSTEIN SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

**REQUIRED:** One year of biology and one year of chemistry or physics. Additional year of college preparatory math beyond algebra II.

### HONORS COLLEGE

**REQUIRED:** Admission to one of the seven undergraduate schools and colleges at UVM. Completion of the most challenging courses offered by the student's high school is expected. Admission is by invitation; no application is required.

### COLLEGE OF NURSING AND HEALTH SCIENCES

**REQUIRED:** One year of biology and one year of chemistry for all majors; four years of math, including trigonometry or precalculus.

**RECOMMENDED:** Additional science course beyond chemistry and biology in the senior year of high school for all majors in the college. One year of physics is recommended for applicants to the Medical Radiation Sciences and Medical Laboratory Science majors.

## MINIMUM ENTRANCE REQUIREMENTS

At a minimum, candidates for all majors at UVM are expected to have met the following requirements prior to enrollment:

- 4 years of English
- 3 years of mathematics (algebra I, geometry, algebra II, or equivalent courses)
- 3 years of social science
- 3 years of natural or physical science, including a lab science
- 2 years of the same foreign language; (American Sign Language meets this requirement)

Most successful applicants exceed the minimum entrance requirements. Any exceptions to these requirements are made on a case-by-case basis.

Course work not completed at the high school level may be fulfilled by equivalent college-level academic work. In general, one semester of college work is considered the equivalent of one year of high school study.

## MATRICULATION STATUS

The admissions office requires proof of high school graduation or equivalent for all students enrolling in degree programs at the University of Vermont.

## GED AND HISET

High school graduates must submit a final high school transcript showing date of graduation prior to the start of the semester of enrollment. Recipients of the General Education Development (GED) certificate are required to send an official score report from the testing agency to the admissions office in addition to official transcripts of any previous high school or college-level work completed. Students who chose to take HiSET (a passing score of 45 or above for the total scaled score is required) should have their Comprehensive Score Report forwarded to the Admissions Office in addition to official transcripts of any previous high school or college-level work completed.

## THREE-YEAR GRADUATES

The University of Vermont welcomes applications from students who plan to complete high school in three years, provided all entrance requirements and other admissions criteria have been met. Three-year graduates are asked to submit written proof of support from the high school indicating that the school district has approved early graduation and is prepared to issue a diploma prior to the start of the semester of enrollment.

## HOME-SCHOOLED STUDENTS

UVM welcomes applications from home-schooled students. Students are required to meet all the entrance requirements outlined in this catalogue, to document academic work covered by the curriculum (home-schooled students must supply the admissions office with a copy of the curriculum approved by the home state, if applicable), and provide acceptable proof of graduation. An official transcript of any course work taken at a local or virtual high school is also required. If entrance requirements cannot be determined from this information, the student may be contacted for more information or additional documentation. Official college transcripts are required for any college-level course work. Advanced Placement (AP) or College Level Examination Program (CLEP) results may be used to demonstrate background in required areas. If a home-schooled student chooses to enroll at UVM, the student will need to provide documentation of successful completion of secondary level studies in the form of a final transcript, a General Equivalency Diploma (GED), a passing score on a HiSET exam, or a certificate of completion from the local school district or state board of education. If the home school program does not provide a diploma, please contact the admissions office to discern the final documentation required before enrollment.

## ACCEPTABLE PROOF OF GRADUATION

- High School Diploma. (Some home-schooled students receive a diploma from their area secondary school.) High School Transcript with date of graduation noted.
- General Education Development (GED) certificates, HiSET exam (a passing score of 45 or above for the total scaled score is required) or state certificates.
- A Certificate of Completion of a home-study program if the program is recognized by the student's home state.
- For transfer students only: if a formerly home-schooled student has completed sixty semester credits of college course work comparable to the University of Vermont course work and has met all entrance requirements, no proof of high school graduation is required.
- Examination results for students educated outside the U.S.A.

## APPLICATION AND SUPPORTING MATERIALS FOR UNDERGRADUATES

To review an application and render a decision, the admissions office must receive the following by the appropriate deadlines:

**APPLICATION FOR ADMISSION:** Applicants for first-year and transfer admission may apply online using the Common Application at The Common Application website or the Apply Coalition by Scoir at the Coalition for Access, Affordability and Success website.

**APPLICATION FEE:** A non-refundable application fee of \$55 is charged for each application for undergraduate admission to a university degree program. The fee can be paid as part of the submission of the Common Application or Apply Coalition by Scoir via credit card or e-check. For candidates for whom the fee poses a financial hardship, fee waivers are accepted from the College

Board, school counselors, or other reputable sources familiar with the applicant's financial situation. The \$55 application fee is waived for first-year Vermont residents applying Early Action or Early Decision.

**OFFICIAL TRANSCRIPTS:** From all secondary and all postsecondary course work. Transfer student applicants should send transcripts of all postsecondary courses, including those taken while in high school to ensure greatest opportunity for transfer credit earned. Candidates may not ignore any previous academic work and are expected to provide a full, accurate account of the academic record. Only transcripts sent directly from the issuing agency are considered official.

**SECONDARY SCHOOL REPORT:** Should be completed by the secondary school counselor or other school official who is familiar with the student.

**STANDARDIZED TESTING RESULTS (Optional for First-Year candidates):** First year applicants have the option of submitting their test scores (it is not required). UVM's code for the SAT is 3920 and 4322 for the ACT. **Standardized test scores are considered official only if submitted directly from the testing agency.** For further information regarding these tests, contact a high school college counseling office or visit the College Board and ACT websites.

**LETTER OF RECOMMENDATION:** All first-year applicants must present one letter of recommendation. First-year students are encouraged to obtain a recommendation from either a college/school counselor or current or recent teacher. Transfer students are encouraged to obtain a recommendation from a current or recent professor.

**ESSAYS:** UVM requires one essay as part of the Common Application or Apply Coalition by Scoir.

**MUSIC MAJORS:** Candidates for the Bachelor of Arts in Music or Bachelor of Science in Music Education must contact the music department to arrange for an audition or submit an audition video or audio recording before an application is considered complete (Students applying for music technology may complete their audition after matriculation at UVM). These materials become property of UVM and will not be returned. More information is available at the Department of Music website.

## RESIDENCY REGULATIONS, IN-STATE STATUS REGULATIONS

The Vermont Legislature has established a lower rate of tuition for students who are Vermont residents. These regulations define eligibility requirements for in-state status classification. All students at the University of Vermont and State Agricultural College (UVM) shall be assigned an in-state or out-of-state status classification consistent with these regulations. The establishment of domicile in Vermont is necessary, but not sufficient, for a student to qualify for in-state status.

## IN-STATE STATUS CLASSIFICATION REGULATIONS

1. Domicile shall mean a person's true, fixed, and permanent home. It is the place at which one intends to remain indefinitely and to which one intends to return when absent.
2. In addition to establishing domicile, an in-state status applicant must reside in Vermont continuously for one full year prior to the semester for which in-state status is sought.
3. A residence or domicile established for the purpose of attending UVM shall not qualify a student for in-state status.
4. An in-state status applicant who applies for admission or registers for class within one year of first moving to the state shall have created a rebuttable presumption that residency in Vermont is for the purpose of attending UVM and/or acquiring in-state status for tuition purposes.
5. A domicile or residency classification assigned by a public or private authority other than UVM neither qualifies nor disqualifies a student for UVM in-state status. Such classification may be taken into consideration, however, in determining the student's status at UVM.
6. It shall be presumed that a student who has not reached the age of majority (18) holds the domicile of his/her parents or legal guardian(s).
7. Receipt of financial support by a student from his/her family shall create a rebuttable presumption that the student's domicile is with his/her family, regardless of whether the student has reached the age of 18.
8. A student who has not reached the age of 18 whose parents are legally separated or divorced shall be rebuttably presumed to hold the domicile of the parent with legal custody.
9. A student of parents legally separated or divorced may be granted in-state status if a noncustodial or joint custodial parent is domiciled in Vermont and has contributed more than 50 percent of financial support for at least one year prior to the semester for which in-state status is sought.
10. The burden of proof as to eligibility for in-state status rests with the student. Eligibility must be established by clear and convincing evidence.

## RESIDENCY RULES FOR V.A. BENEFICIARIES, MEMBERS OF THE ARMED FORCES AND THEIR FAMILY MEMBERS

Irrespective of a student's in-state status as defined in this Policy, upon submission of appropriate documentation, UVM will charge members of the armed forces, veterans, and qualifying family members thereof, the in-state tuition rate in accordance with applicable law (e.g. the Higher Education Opportunity Act and 38 U.S.C. 3679(c)) and further detailed in the University's Tuition Billing for Members of the Armed Forces and Veterans Operating Procedure.

## IN-STATE STATUS CLASSIFICATION DOCUMENTATION

1. The student must submit with the Application for In-State Status all relevant information.
2. The classification decision shall be made by the Residency Officer based upon information furnished by the student, information requested of the student, and other relevant information available consistent with University policies and procedures and legal guidelines.
3. Additional documents and/or verification may be requested.
4. The student's failure to produce information requested may adversely affect the decision for in-state status.
5. A student or others furnishing information may request the deletion of irrelevant private data from documents.
6. A determination of in-state status is valid only if a student actually enrolls for the semester in question. If a student does not enroll, they must submit a new and timely Application for In-State Status for subsequent semesters.

## APPEAL OF IN-STATE STATUS CLASSIFICATION

The decision of the Residency Officer must be appealed in writing to the Residency Appellate Officer within thirty calendar days of the date of the Residency Officer's written decision. Appeal to the Residency Appellate Officer is the final internal appeal at UVM.

## IN-STATE STATUS RECLASSIFICATION

1. A student who does not qualify for in-state status classification may reapply for such classification once each semester by submitting the Application for In-State Status to the Residency Officer.
2. In-state status reclassification becomes effective for the semester for which the successful application was made, provided that the Application for In-State Status was received on or before the last day to add/drop classes for that semester. An application may be submitted as early as 75 days in advance of the first day of classes for a semester or as requested by the Residency Officer. Approved residency reclassification will not be applied retroactively to previous terms.

## RE-EXAMINATION OF CLASSIFICATION STATUS

Classification status may be re-examined upon the initiative of the Residency Officer in the exercise of sound discretion. Circumstances such as periodic enrollment may be cause for re-examination. An in-state student who leaves Vermont may be required to re-apply and re-establish residency upon returning.

## ADMISSIONS PROGRAMS FOR UNDERGRADUATE STUDENTS

### EARLY ACTION

Students applying as first-year degree-seeking students who wish to learn of their admission decision by late December may apply by

November 1 under the Early Action program. Applicants admitted under Early Action have until May 1 to pay an acceptance fee and do not have to make a binding commitment to attend the university.

Some Early Action candidates will be deferred until the admissions office has reviewed all first-year applicants for fall admission. Deferred applications are automatically reviewed again and decisions are generally released by late February/early March. Early Action candidates may also be denied admission and do not have the option of reapplying for entry as a regular decision candidate. Early Action applicants may also be offered the wait list, spring semester (Spring Start) admission or an invitation to the Catamount Advance program after review is complete in late February/early March.

### EARLY DECISION

Students applying as first-year degree-seeking students who wish to learn of their admission decision by early December may apply by November 1 under the binding Early Decision program. Applicants admitted under Early Decision will be required to pay their acceptance fee three weeks from the time of admission (date listed in the admissions letter).

Some Early Decision candidates will be deferred until the admissions office has reviewed all first-year applicants for fall admission. Deferred applications are released from a binding decision, automatically reviewed again and decisions are generally released by late February/early March. Early Decision candidates may also be denied admission and do not have the option of reapplying for entry as a regular decision candidate. Early Decision applicants may also be offered the wait list, spring semester (Spring Start) admission or an invitation to the Catamount Advance program after review is complete in late February/early March.

### REGULAR DECISION

Students may apply as first-year degree-seeking students by January 15 for consideration for fall semester entrance. Students who complete their application for admission will be notified of an admissions decision by late February/early March. Regular decision applicants who are not admitted into the fall semester may be denied admission, offered the waitlist, spring semester (Spring Start) admission, or an invitation to the Catamount Advance program.

### SPRING ADMISSION FOR EARLY ACTION, EARLY DECISION OR REGULAR DECISION APPLICANTS (SPRING START)

Selected students who apply for fall admission may be offered admission beginning in the spring semester. Admission offers for spring admission are subject to college or school space availability. Students offered spring admission will be asked to confirm their intention to enroll by May 1. Spring Start students may enroll in college coursework in the fall, but may not enroll as a matriculated student elsewhere. Students who applied for fall and were offered Spring Start may not defer their admission to a future semester; they will need to reapply.



## CATAMOUNT ADVANCE PROGRAM

Selected students who apply for fall admission may be offered admission into the Catamount Advance program. The Catamount Advance program allows students in select majors to start at UVM in the fall semester as a non-degree student. Catamount Advance students take pre-selected courses in the fall and spring semesters, live together in a designated residential space, and receive special support from a Catamount Advance-specific professional advisor. Upon successful completion of this program (by maintaining a 2.8 GPA), students are offered full admission as a Sophomore for the following fall. Students invited to the Catamount Advance program will be asked to confirm their intention to enroll by May 1 (students are not able to defer their admission). Financial aid is not available for the Catamount Advance program but students are eligible for financial aid and scholarships when enrolled for Sophomore year.

## NEW ENGLAND REGIONAL TUITION BREAK PROGRAM

The University of Vermont participates with the other public two- and four-year institutions of higher education in the six New England states in the New England Board of Higher Education's (NEBHE) Tuition Break Program, an option aimed at increasing educational opportunities for the region's students. All approved programs can be accessed from the New England Board of Higher Education website.

New England resident students enrolling in an approved program are charged 175% of in-state tuition.

For a full listing of eligible UVM programs and policies, visit the New England Board of Higher Education website.

## ADMISSION TO THE HONORS COLLEGE

Admission to the Honors College is based on prior academic performance and students are admitted in one of two ways. First-year students are invited to the Honors College based on the strength of their application for admission to the university; no additional application is required. Approximately 260 first-year students comprise each year's class. The Honors College recognizes and encourages academic excellence; it also welcomes applications for sophomore admission from students who were not in the Honors College in the first year and are among the top performers as first-year students at UVM. Sophomore admission requires an application form, a 3.40 grade-point average at the end of the first year, a letter of recommendation from a UVM faculty member, and a brief essay. Students are admitted on a space-available basis.

External transfer students who have completed a minimum of two semesters of full-time undergraduate study and have a minimum grade point average of 3.40 from their former institution are eligible to apply for admission to UVM's selective Honors College on a space-available basis. An application to both to the University of Vermont and to the UVM Honors College is required. A transcript showing final grades, letter of recommendation, and a brief essay are required. Additional details and deadlines are found on the Honors College Transfer Admissions site.

## APPLICATION DEADLINES AND NOTIFICATION DATES FOR UNDERGRADUATES

(The deadlines noted below are electronic submission or postmark dates.)

### SPRING SEMESTER

November 1 — First-year and Transfer. Notification is on a space-available rolling basis. Payment of a \$495 non-refundable acceptance fee as proof of intention to enroll, is due by the date listed in a student's admissions letter. Payment of the acceptance fee is required prior to the start of the semester of enrollment, and no later than the first day of classes of the semester of enrollment.

### FALL SEMESTER

November 1 — Early Action and Early Decision First-Year candidates. Notification is generally in early December for Early Decision and late-December for Early Action. Early Action candidates have until May 1 to pay the \$495 non-refundable acceptance fee as proof of intention to enroll; this program is non-binding. Early Decision candidates have until late-December (the specific date is listed in the admissions letter) to pay the \$495 non-refundable acceptance fee as proof of intention to enroll; this program is binding. Payment of the acceptance fee is required prior to the start of the semester of enrollment, and no later than the first day of classes of the semester of enrollment.

January 15 — Regular First-Year candidates. Notification for most decisions is by early March. A \$495 non-refundable acceptance fee is due May 1 as proof of intention to enroll. Payment of the acceptance fee is required prior to the start of the semester of enrollment, and no later than the first day of classes of the semester of enrollment.

For first-year students who applied for fall semester and are offered spring semester (spring start) admission or an invitation to the Catamount Advance program, a \$495 non-refundable acceptance fee is due May 1 as proof of intention to enroll. Payment of the acceptance fee is required prior to the start of the semester of enrollment, and no later than the first day of classes of the semester of enrollment.

June 1 — Transfer candidates. Notification is on a rolling basis. Payment of a \$495 non-refundable acceptance fee as proof of intention to enroll is due June 1 or, after June 1 by the date listed in a student's admission letter. Payment of the acceptance fee is required prior to the start of the semester of enrollment, and no later than the first day of classes in the semester of enrollment.

Please note: deadlines and payment amounts are subject to change.

## COLLEGE CREDIT FOR HIGH SCHOOL CLASSES

### ADVANCED PLACEMENT PROGRAM (AP) OF THE COLLEGE BOARD

Credit through the Advanced Placement Program (AP) of the College Board is granted for scores of 4 or 5. Scores of 3 are acceptable for some exams. Consult UVM's AP credit guide for specifics. Official AP score reports from the College Board must be sent directly to the Office of Transfer Affairs in order to receive credit. AP course equivalencies are determined by the faculty of the corresponding subject area and are awarded by the Office of Transfer Affairs. AP credit is assigned a UVM course equivalency and applicability to the degree program is determined by the dean's office of the student's college or school. Students receiving transfer credit for AP may not receive credit for the same course at UVM.

### INTERNATIONAL BACCALAUREATE (IB)

Students who complete International Baccalaureate (IB) course work and receive a score of 5 or greater on higher level IB exams may be eligible for transfer credit (UVM does not award credit for standard level exams). Students may receive credit for course work without completing the entire IB Diploma curriculum.

### OTHER COLLEGE CREDIT PROGRAMS

College-level courses taken through high school cooperatives (such as SUPA, the Syracuse University Project Advance, or through local community colleges) may transfer to UVM if they meet the standards set forth above by the Office of Transfer Affairs. Credit may also be obtained through a nationally standardized exam to demonstrate college-level subject mastery. Advanced Placement Examinations (AP), which can be taken while still in high school, or College Level Examination Placement (CLEP) would serve as recognized standardized exams. More information about UVM's Credit by Exam policy is available in the Transfer section of the Office of the Registrar website. Contact the Office of Transfer Affairs for more information.

## ARTICULATION AGREEMENTS

Note: UVM's articulation agreements are reviewed periodically. The information below is subject to change.

### COMMUNITY COLLEGE OF VERMONT (CCV) TO UVM 2+2 PATHWAY PROGRAM

To promote the transfer of graduates from the Community College of Vermont (CCV) to the University of Vermont (UVM). Earn an Associate's Degree at CCV and guaranteed admission to UVM by following an approved curriculum plan. Students entering UVM through the CCV 2+2 Pathway are projected to earn a Bachelor's degree in 2 years.

For a current list of Pathway Programs, please visit: [go.uvm.edu/path2uvm](http://go.uvm.edu/path2uvm). Note: UVM Pathway Programs are reviewed annually. Students interested in UVM majors outside of these defined Pathway

Programs should refer to the Transfer Admissions website for application requirements, processes, and scholarship details.

- Students must be admitted to CCV before applying to UVM as a Pathway student.
- Pathway students must meet UVM's minimum entrance requirements prior to UVM matriculation.
- Any student who has been accepted into the Program shall have the benefit of the academic criteria in effect at the time of acceptance.
- The semester prior to enrolling at UVM, students must complete an official application to UVM. The application fee will be waived.
- The \$495 enrollment fee for UVM will be waived.
- Students with a minimum 2.80 cumulative transfer GPA in all prior college work are automatically awarded a Pathway Scholarship at the time of application.
- Students must continue to follow UVM's transfer credit policy.

### Application Process

Current or prospective CCV students interested in this Pathway Program should review the minimum entrance requirements, as listed on the Transfer Admissions website. CCV Pathway candidates are encouraged to stay in contact with the Transfer Admissions team in the UVM Admissions office with questions about the admissions process under the CCV to UVM Pathway Program. Candidates are required to submit their application, all supporting credentials and all financial aid forms by the stated UVM deadlines.

Candidates whose GPAs fall below the minimum will be reviewed by UVM on a case-by-case basis. Those denied admission are encouraged to connect with the Transfer Admissions team at UVM to review future options. Recipients of a CCV Associate's degree prior to 1999 may contact the UVM Admissions office for general transfer information.

For a current list of transferable CCV courses and UVM equivalents, students should review the Transfer Guide on the Office of the Registrar website. Additional questions can be directed to a CCV advisor or to UVM Office of Transfer Affairs.

CCV graduates interested in UVM programs outside of those referenced in the catalogue are encouraged to contact the UVM Transfer Admissions team to discuss their academic history and potential for transfer admission.

### COMMUNITY COLLEGE OF VERMONT (CCV) TO COLLEGE OF ENGINEERING AND MATHEMATICAL SCIENCES GUARANTEED ADMISSION AGREEMENT

Students who have completed an Associate's degree at the Community College of Vermont (CCV) will be admitted to the University of Vermont's College of Engineering and Mathematical Sciences (CEMS) under the following conditions:

- Students must complete a minimum of 60 transferable academic credits, at least 30 of those taken at CCV.

- Students must present a CCV grade-point average of 3.20 (on a 4.00 scale) or better. Students who earn a grade-point average of 2.80 to 3.19 will be strongly considered for admission, but admission is not guaranteed.
- Engineering majors require at least 1 semester of college-level calculus and 1 lab-science course. Statistics, Computer Science, and Data Science majors require at least 1 semester of college-level calculus and prefer 1 computer science or lab-science course. Individual course grades earned in STEM classes must be a B or higher.
- Candidates for this Agreement must meet UVM's minimum entrance requirements prior to CCV graduation.
- CCV students must initiate their degree program at UVM within 2 years of completing the CCV Associate's degree.
- The semester prior to enrolling at UVM, students must complete an official application to UVM. The application fee will be waived.
- Students with a minimum 2.80 cumulative transfer GPA in all prior college work are automatically awarded a Pathway Scholarship at the time of application.
- CCV Associate's degree students will be held to the degree requirements and policies that are in effect at the time they matriculate into UVM.

### APPLICATION PROCESS

Current or prospective CCV students interested in this Agreement should review the minimum entrance requirements, as listed on the Transfer Admissions website. Candidates are encouraged to stay in contact with the Transfer Admissions team in the UVM Admissions office with questions about the admissions process under this CCV to UVM Agreement. Candidates are required to submit their application, all supporting credentials and all financial aid forms by the stated UVM deadlines.

Candidates whose GPAs fall below the minimum will be reviewed by UVM on a case-by-case basis. Those denied admission are encouraged to connect with the Transfer Admissions team at UVM to review future options. Recipients of a CCV Associate's degree prior to 1999 may contact the UVM Admissions office for general transfer information.

For a current list of transferable CCV courses and UVM equivalents, students should review the Transfer Guide on the Office of the Registrar website. Additional questions can be directed to a CCV advisor or to UVM Office of Transfer Affairs.

CCV graduates interested in UVM programs outside of those referenced in the catalogue are encouraged to contact the UVM Transfer Admissions team to discuss their academic history and potential for transfer admission.

### COMMUNITY COLLEGE OF VERMONT (CCV) TO RUBENSTEIN SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES GUARANTEED ADMISSION AGREEMENT

Students who have completed an Associate's degree at the Community College of Vermont (CCV) will be admitted to the

University of Vermont's Rubenstein School of Environment and Natural Resources (RSENr) under the following conditions:

- Students must complete a minimum of 60 transferable academic credits, at least 30 of those taken at CCV.
- Students must present a CCV grade-point average of 2.80 (on a 4.00 scale) or better.
- Candidates for this Agreement must meet UVM's minimum entrance requirements prior to CCV graduation.
- CCV students must initiate their degree program at UVM within 2 years of completing the CCV Associate's degree.
- The semester prior to enrolling at UVM, students must complete an official application to UVM. The application fee will be waived.
- Students with a minimum 2.80 cumulative transfer GPA in all prior college work are automatically awarded a Pathway Scholarship at the time of application.
- CCV Associate's degree students will be held to the degree requirements and policies that are in effect at the time they matriculate into UVM.

### Application Process

Current or prospective CCV students interested in this Agreement should review the minimum entrance requirements, as listed on the Transfer Admissions website. Candidates are encouraged to stay in contact with the Transfer Admissions team in the UVM Admissions office with questions about the admissions process under this CCV to UVM Agreement. Candidates are required to submit their application, all supporting credentials and all financial aid forms by the stated UVM deadlines.

Candidates whose GPAs fall below the minimum will be reviewed by UVM on a case-by-case basis. Those denied admission are encouraged to connect with the Transfer Admissions team at UVM to review future options. Recipients of a CCV Associate's degree prior to 1999 may contact the UVM Admissions office for general transfer information.

For a current list of transferable CCV courses and UVM equivalents, students should review the Transfer Guide on the Office of the Registrar website. Additional questions can be directed to a CCV advisor or to UVM Office of Transfer Affairs.

CCV graduates interested in UVM programs outside of those referenced in the catalogue are encouraged to contact the UVM Transfer Admissions team to discuss their academic history and potential for transfer admission.

### SAINT MICHAEL'S COLLEGE (SMC)/UVM ENGINEERING 3+2 DUAL DEGREE PROGRAM AGREEMENT

Saint Michael's College (SMC) and The University of Vermont (UVM) offer a Dual Degree Program in Engineering ("the Program").

This agreement guarantees students who meet specified criteria admission to a prescribed program of study in UVM's College of Engineering and Mathematical Sciences (CEMS). Upon successful

completion of the Program and degree requirements, students will receive a Bachelor of Arts degree from SMC and a Bachelor of Science degree in the appropriate engineering area from UVM. Students will normally complete the Program in 5 years.

The academic advising, admission, transfer of credits, enrollment, and monetary conditions in this agreement applicable to students will be carried out in accordance with the following policies and procedures:

- Initial application to the Program will be made to Saint Michael's College.
- Students will enroll in this Program by declaring a major in Engineering (Bachelor of Arts) either at the time of admission to SMC or sufficiently early in their study at SMC to permit completion of all prerequisites in a reasonable time.
- Students may register for any of the options in the Biomedical, Civil, Electrical, Environmental, Mechanical Engineering, or Engineering Management programs.
- Students enrolling under this Program will be considered SMC students throughout the duration of the Program. Once students are admitted to UVM according to the policies of this Agreement, they also become UVM students for the remainder of the Program.
- For the first 3 years the host institution for students in the Program is SMC, and for the last 2 years the host institution is UVM. Tuition and fees will be paid to the host institution according to its normal policies.
- While students are enrolled at a host institution they will be independently responsible for applicable fees at the other institution according to the other institution's policies (at UVM this includes but is not limited to the admission fee and the comprehensive fee).
- The semester prior to enrolling at UVM, students must submit an official application to UVM, by the stated deadline. The application fee will be waived.
- To become a matriculated student at UVM, St. Michael's articulation students must pay an acceptance fee by the date stipulated in the admission letter.
- Students will matriculate at UVM and will be accepted to the appropriate engineering program at UVM once they have met the following requirements: completion of at least 60 credits at SMC with appropriate courses and in good standing; completion of the courses required for the engineering program elected as specified in the Program curriculum outline; and attainment of a cumulative GPA of 2.30 or higher in all college-level coursework, to include SMC and UVM coursework, in addition to transfer coursework from any other higher education institution.
- Students with a minimum 2.80 cumulative transfer GPA in all prior college work are automatically awarded a Pathway Scholarship at the time of application.
- Students will be held to the degree requirements and policies that are in effect at the time they matriculate into UVM.

## STATE UNIVERSITY OF NEW YORK PLATTSBURGH (SUNY PLATTSBURGH)/UVM MECHANICAL ENGINEERING 3+2 DUAL DEGREE PROGRAM AGREEMENT

State University of New York Plattsburgh (SUNY Plattsburgh) and The University of Vermont (UVM) offer a Dual Degree Program in Mechanical Engineering ("the Program").

This agreement guarantees students who meet specified criteria admission to the undergraduate Bachelor of Science degree in Mechanical Engineering in UVM's College of Engineering and Mathematical Sciences (CEMS). Upon successful completion of the Program and degree requirements, students will receive a Bachelor of Arts degree in Physics from SUNY Plattsburgh and a Bachelor of Science degree in Mechanical Engineering from UVM. Students will normally complete the Program in 5 years.

The academic advising, admission, transfer of credits, enrollment, and monetary conditions in this agreement applicable to students will be carried out in accordance with the following policies and procedures:

- Students will enroll in this Program by declaring a major in Physics (Bachelor of Arts) either at the time of admission to SUNY Plattsburgh or sufficiently early in their study at SUNY Plattsburgh to permit completion of all prerequisites in a reasonable time.
- For the first 3 years, the host institution for students in the Program is SUNY Plattsburgh, and for the last 2 years, the host institution is UVM. Tuition and fees will be paid to the host institution according to its normal policies. Students will follow the policies governing financial aid, academic status, and in-state/out-of-state student status according to the host institution.
- The semester prior to enrolling at UVM, students must submit an official application to UVM, by the stated deadline. The application fee will be waived.
- To become a matriculated student at UVM, SUNY Plattsburgh articulation students must pay an acceptance fee by the date stipulated in the admission letter.
- Students will matriculate at UVM and will be accepted into the Bachelor of Science degree in Mechanical Engineering at UVM once they have met the following requirements: completion of at least 90 credits at SUNY Plattsburgh with appropriate courses and in good standing; completion of the courses required for UVM as specified in the Program curriculum outline; and attainment of a cumulative GPA of 2.80 or higher in all college-level coursework which includes coursework from SUNY Plattsburgh in addition to transfer coursework from any other higher education institution. Students must receive a grade of "C" or higher for each course for credits to transfer into UVM.
- Students with a minimum 2.80 cumulative transfer GPA in all prior college work are automatically awarded a Pathway Scholarship at the time of application.
- After admission into UVM, students will complete the requirements for the Bachelor of Science degree in Mechanical Engineering as specified in the UVM catalogue corresponding to

the year in which they matriculate. Students must complete 30 of their last 45 credits at UVM to earn a UVM degree.

### **VERMONT STATE UNIVERSITY/UVM 2+2 FARMS PROGRAM**

Students who have completed an Associate's degree in the Vermont State University Agriculture and Food Entrepreneurship with a concentration in Dairy Management program can be admitted into the University of Vermont's College of Agriculture and Life Sciences (CALs), leading to a Bachelor's degree. Transferable courses are limited to those directly comparable to UVM courses and meeting the requirements for both programs.

For admission, students must meet the following criteria:

- Students must have a 3.00 grade-point average (on 4.00 scale) or better.
- Students must meet the minimum entrance requirements for the University and for the Animal Sciences major. A list of these courses can be obtained from the agreement coordinator in the College of Agriculture and Life Sciences.
- All students who do not meet the above conditions can apply for transfer admission and be reviewed on a case-by-case basis.
- Candidates applying to the University of Vermont under this agreement do not pay the application fee.

For more information about this agreement and course equivalencies, please contact the agreement coordinator in the College of Agriculture and Life Sciences at (802) 656-2980.

### **VERMONT TECHNICAL COLLEGE (VTC) TO COLLEGE OF AGRICULTURE AND LIFE SCIENCES GUARANTEED ADMISSION AGREEMENT**

Graduates of the Veterinary Technology A.A.S. degree at Vermont Technical College (VTC) will be admitted to the University of Vermont's B.S. degree in Animal Science (ASCI) within the College of Agriculture and Life Sciences (CALs) under the following conditions:

- Students must complete VTC's two-year Veterinary Technology A.A.S. degree with a minimum of 60 semester hours of credit and minimum of 2.80 GPA and are a student in good standing.
- Students must earn a C or higher in each course at VTC to transfer credit to UVM. Students must complete 30 of their last 45 credits at UVM to earn a UVM degree.
- VTC students must initiate their degree program at UVM within 3 academic years following completion of their VTC Veterinary Technology A.A.S. degree.
- The semester prior to enrolling at UVM, students must complete an official application to UVM. The application fee will be waived.
- Students with a minimum 2.80 cumulative transfer GPA in all prior college work are automatically awarded a Pathway Scholarship at the time of application.

- VTC Veterinary Technology A.A.S. degree students will be held to the degree requirements and policies that are in effect at the time they matriculate into UVM.

### **VERMONT TECHNICAL COLLEGE (VTC) TO COLLEGE OF ENGINEERING AND MATHEMATICAL SCIENCES GUARANTEED ADMISSION AGREEMENTS**

Graduates of the Civil & Environmental Engineering Technology Associate of Engineering (AE) degree at Vermont Technical College (VTC) will be admitted to the University of Vermont's B.S. degree in Civil Engineering within the College of Engineering and Mathematical Sciences (CEMS) under the conditions outlined below.

Graduates of the Electrical Engineering Technology Associate of Engineering (AE) degree at Vermont Technical College (VTC) will be admitted to the University of Vermont's B.S. degree in Electrical Engineering within the College of Engineering and Mathematical Sciences (CEMS) under the conditions outlined below.

- Students must complete the applicable Associate of Engineering (AE) degree with a minimum of 60 semester hours of credit and minimum of 2.80 GPA and are a student in good standing.
- Students must earn a C or higher in each course at VTC to transfer credit to UVM. Students must complete 30 of their last 45 credits at UVM to earn a UVM degree.
- VTC students must initiate their degree program at UVM within 3 academic years following completion of the applicable Associate of Engineering (AE) degree.
- The semester prior to enrolling at UVM, students must complete an official application to UVM. The application fee will be waived.
- Students with a minimum 2.80 cumulative transfer GPA in all prior college work are automatically awarded a Pathway Scholarship at the time of application.
- Students will be held to the degree requirements and policies that are in effect at the time they matriculate into UVM.

### **VERMONT TECHNICAL COLLEGE (VTC) TO RUBENSTEIN SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES GUARANTEED ADMISSION AGREEMENT**

Graduates of the Forestry A.A.S. degree at Vermont Technical College (VTC) will be admitted to the University of Vermont's B.S. degree in Forestry within the Rubenstein School of Environment and Natural Resources (RSENr) under the following conditions:

- Students must complete VTC's two-year Forestry A.A.S. degree with a minimum of 60 semester hours of credit and minimum of 2.80 GPA and are a student in good standing.
- Students must earn a C or higher in each course at VTC to transfer credit to UVM. Students must complete 30 of their last 45 credits at UVM to earn a UVM degree.

- VTC students must initiate their degree program at UVM within 3 academic years following completion of their VTC Forestry A.A.S. degree.
- The semester prior to enrolling at UVM, students must complete an official application to UVM. The application fee will be waived.
- Students with a minimum 2.80 cumulative transfer GPA in all prior college work are automatically awarded a Pathway Scholarship at the time of application.
- VTC Forestry A.A.S. degree students will be held to the degree requirements and policies that are in effect at the time they matriculate into UVM.

## UVM-UNIVERSITY OF GLASGOW MATRICULATION AGREEMENT

The University of Glasgow (UoG), Glasgow, UK and the University of Vermont (UVM), Burlington, VT USA have formed an agreement whereby University of Vermont students can complete a joint B.S./BVMS degree attending UoG in their fourth year at UVM. UVM may send students who have successfully completed 3 years of study in the University of Vermont Animal and Veterinary Sciences Bachelor of Science (B.S.) program to the Bachelor of Veterinary Medicine and Surgery programme (BVMS) hosted by the School of Veterinary Medicine, College of Medical, Veterinary and Life Sciences at Glasgow. Participating students will continue as candidates for degrees from their home institution (UVM) and will not, at the end of the first year at UoG, be eligible candidates for degrees from the host institution (UoG). Credit for subjects taken at UoG will be transferred to UVM to fulfill the requirements for awarding successful students a B.S. degree in Animal and Veterinary Sciences from UVM at the end of their fourth year. University of Vermont students meeting matriculation requirements and successfully completing Year 1 of the BVMS program at the University of Glasgow will be offered a direct entry place in Year 2 of the BVMS program. UVM students must work with the Department of Animal and Veterinary Sciences to apply at the beginning of the fall semester of their junior year. For more information, please visit: The College of Agriculture and Life Sciences < University of Vermont (uvm.edu) (p. 225)

## UVM-VERMONT LAW & GRADUATE SCHOOL (VLGS) 3+2 AND 3+3 DUAL DEGREE PROGRAMS

The UVM-VLGS 3+2 and 3+3 Programs provide high-achieving students with an opportunity to achieve a Bachelor's degree (B.A. or B.S.) and a Juris Doctor (JD) degree in a total of 5 or 6 years. The program is available to undergraduate students pursuing a Bachelor's degree. UVM students interested in pursuing a dual degree with VLGS are encouraged to pursue an undergraduate course of study that emphasizes critical reading, analytic, and expository writing skills.

Students complete 3 years of undergraduate study at UVM, then matriculate at Vermont Law & Graduate School where they complete 2 or 3 years of approved coursework for the JD degree from VLGS and are enrolled as full-time students.

Admission to the program occurs at the end of a student's first year at UVM. UVM students may apply for the dual degree program during

their sophomore year if they demonstrate they can complete their undergraduate degree requirements by end of their junior year.

Students must be enrolled as full-time students during the duration of their course of study at UVM. As students will complete their major requirements in a compressed timeframe, it is vital that students are planning how to complete all of the requirements from the beginning of their first year at UVM. Students should review the academic plan for their major and connect with the appropriate major advisor.

- Students enrolled into one of the UVM-VLGS Programs will be admitted to VLGS and matriculate as full-time students if they meet admissions criteria.
- Credits from the first year at VLGS are transferred back to UVM to allow completion of the undergraduate degree from UVM.
- Students who meet all requirements of the UVM-VLGS Program will be awarded the appropriate Bachelor's degree from UVM and a JD degree from VLGS.
- Students who enroll in this program but choose not to complete the law degree after the first year of enrollment at VLGS will have their credits transferred back to UVM for the completion of the Bachelor's degree.

### Requirements

Students apply to either the 3+2 or 3+3 Program no later than the end of their freshman year and if approved, their sophomore year at UVM. Eligible students must have completed a minimum of 30 credit hours in 2 semesters of full-time study with a minimum GPA of 3.3 and must meet the LSAT requirement. A UVM student must submit a plan demonstrating how the student will complete all general education and major requirements by the completion of their junior year, except for those requirements that can be fulfilled by a course at VLGS. Students must maintain their GPA at UVM to continue in the program.

UVM and VLGS have a separate Admissions Agreement pursuant to which UVM students recommended by UVM designated coordinator who have achieved a GPA and LSAT score above the median acceptance scores at VLGS for the prior year are guaranteed admission to VLGS. If a dual degree program candidate fails to meet the academic requirements of the dual degree program, that student will still be eligible for admission to VLGS pursuant to this agreement but as a regular VLGS student and not as a dual degree student. This means that the student must complete all the requirements of the bachelor's degree at UVM.

Eligible candidates for the Program must be U.S. citizens or permanent residents. The number of students selected will be determined each year based on availability. Students must maintain their GPA at UVM to continue in the program.

### Application Process

Students should submit the application by mid-April at the end of their first year. The application process includes submission of the application form, essay, and a minimum of 1 letter of recommendation from a full-time faculty member.

VLGS agrees to accept any UVM student who meets the qualifications designated in this agreement as long as that student completes the VLGS application process no later than March 31 of the junior year. Applications completed after this date will be considered but admission to the dual degree program is not guaranteed. VLGS will waive the application fee for students in the dual degree program.

To gain admission to VLGS, UVM students must sit for the LSAT no later than October of their third year of study at UVM and must present a score that is equal to or greater than 153 and a UVM cumulative GPA of 3.3. If a student's LSAT score falls below this standard, the student may seek permission from VLGS to retake the test. If a student earns an admissible score, the student may elect to retake the test to earn a higher score for scholarship funding.

Students must have completed the minimum requirements as set forth by the academic unit approving the applicable UVM degree program before matriculation at VLGS. VLGS reserves the right to deny admission to any students who have been subject to academic and/or disciplinary action.

### **UVM-VERMONT LAW & GRADUATE SCHOOL (VLGS) GUARANTEED ADMISSION AGREEMENT**

The purpose of this articulation agreement is to guarantee admission into Vermont Law School's (VLGS) Juris Doctor (JD), Master's, or Joint JD/Master's degree programs to University of Vermont and State Agricultural College (UVM) students who successfully complete UVM requirements for the bachelor's degree (B.A. or B.S.) and who also meet the VLGS entrance requirements stated below.

1. The applicant has successfully completed all requirements for the UVM bachelor's degree program;
2. The applicant has completed a minimum of 60 credits towards the bachelor's degree in residence at UVM with a cumulative grade point average calculated by the LSAC Credential Assembly Service that is equal to or exceeds the median grade point average of the first-year JD or Master's class in residence at Vermont Law & Graduate School at the time of UVM student's application to VLGS;
3. The applicant has a current LSAT score (dated less than 4 years from the first semester of enrollment at Vermont Law & Graduate School) that is equal to or exceeds the median LSAT score of the first-year JD class in residence at Vermont Law & Graduate School at the time of UVM student's application to VLGS. An equivalent GRE score is accepted for VLGS Master's applicants;
4. The applicant presents 2 acceptable letters of recommendation from UVM faculty, as determined by VLGS;
5. The applicant's file, from their tenure at UVM and any other academic institution from which credits were earned and/or applied toward UVM degree, contains no evidence of character or fitness concerns that would generally disqualify the applicant from admission into Vermont Law & Graduate School.

No credit may be given by VLGS for academic work completed before the student's regular matriculation into the first year of the JD, Master's, or Joint JD/Master's degree programs at VLGS.

## **TRANSFER STUDENT ADMISSIONS**

The University welcomes applicants who have demonstrated success at other institutions of higher education and who have met all university-wide entrance requirements either in high school or in college. For the purpose of admission, a transfer candidate is one who has enrolled in college-level courses for credit after completion of secondary school.

All transfer students are considered for admission on a space-available, competitive basis.

In making transfer admission decisions, the admissions office reviews all academic information available: official transcripts of all college-level work and the high school record (or equivalent). Submission of standardized test scores such as the SAT or the ACT is not required for transfer candidates.

Transfer candidates are subject to the minimum entrance requirements, including the specific college's or school's additional requirements. Any entrance requirement not fulfilled in high school can be met by an equivalent semester-long college course prior to admission to UVM.

For transfer candidates who have earned fewer than twenty-one college-level semester credits, the quality of the high school record and course rigor is reviewed in conjunction with the college record. After twenty-one earned semester credits, the college grade point average and course selection are the most important factors in a decision. The admissions office still reviews the high school record to determine if all university-wide entrance requirements have been met. Students who were wait-listed or denied admission previously as high school students should be working toward completion of a minimum of twenty-one credits at the point of applying to UVM.

Generally, a 3.0 average or above is recommended to be competitive. Transfer applicants are encouraged to review progression and graduation requirements for each college or school.

## **ADDITIONAL TRANSFER REQUIREMENTS**

### **College of Nursing and Health Sciences**

A limited number of seats may be available for qualified applicants interested in transferring to the College of Nursing and Health Sciences. Qualified applicants will be considered on a space-available basis.

### **GROSSMAN SCHOOL OF BUSINESS**

The Grossman School of Business (GSB) requires transfer candidates to have completed at least one semester of college-level calculus and one semester of college-level economics (microeconomics or macroeconomics is preferred). AP and CLEP credits are acceptable. Transfer candidates who do not meet these requirements may be considered for their second major choice outside of the Grossman

School of Business and are encouraged to work with a GSB advisor to internally transfer once the pre-requisite requirements are satisfied.

Upper-level business transfer credits must come from an AACSB-accredited institution to be considered for equivalent transfer credit.

### College of engineering and mathematical sciences

The College of Engineering and Mathematical Sciences (CEMS) requires transfer candidates to have completed additional coursework. Engineering majors require at least one semester of college-level calculus and one lab-science course. Mathematics, Computer Science, and Data Science majors require at least one semester of college-level calculus and prefer one computer science or lab-science course.

AP and CLEP credits are acceptable. Transfer candidates who do not meet these requirements may be considered for their second major choice outside of the College of Engineering and Mathematical Sciences and are encouraged to work with a CEMS advisor to internally transfer once the pre-requisite requirements are satisfied.

### Honors College

Transfer students who have completed a minimum of two semesters of full-time undergraduate study and have a minimum grade point average of 3.40 from their former institution are eligible to apply for admission to UVM's selective Honors College on a space-available basis.

Transfer students interested in becoming members of the Honors College must apply both to the University of Vermont and to the UVM Honors College (the Honors College invitation process for transfer students is separate from the UVM admission process). Students may work on both applications concurrently, but no action will be taken on the Honors College application until the student is admitted to the University.

The Honors College has two priority application deadlines for transfer students:

- January 2 for spring semester admission
- June 1 for fall semester admission

Students interested in applying for transfer admission to the Honors College must ensure that the application materials have been sent to [honors.college@uvm.edu](mailto:honors.college@uvm.edu) by 4PM ET the day of the deadline (application information can be found the Honors College Transfer Admissions site). Assuming admission to UVM and a cumulative GPA of at least 3.40 from the student's previous institution, an admissions decision to the Honors College will be rendered upon receipt of those materials.

### TRANSFER CREDIT POLICY

Students seeking to transfer academic credit may do so only for courses that are taken at a regionally accredited degree granting institution and are comparable in content, nature, and intensity to courses taught in the corresponding discipline at the University of Vermont. Credit is not given for transfer courses with grades lower than C. Questions regarding credit transfer should be directed to the

Office of Transfer Affairs, 339 Waterman, (802) 656-0867 or email: [transfer@uvm.edu](mailto:transfer@uvm.edu).

The Office of Transfer Affairs reviews each college-level course taken by transfer candidates accepted for admission. Transfer candidates are notified electronically with their official credit evaluation. The dean (or their designate) of the college or school determines the applicability of the transfer course(s) to the student's degree requirements at the university. Credit is given for course content only once; it is the student's responsibility not to duplicate courses. There are limits on the number of credits transferred that may be applied to the degree program and the major selected. In general, 30 of the last 45 credits earned for the UVM degree must be taken at UVM.

The UVM grade-point average reflects only course work taken here. Grades from other institutions are not calculated into the UVM GPA and will not appear on a UVM transcript.

Credits for college-level courses taken while in high school can sometimes be transferred to UVM. See the section "College Credit for High School Classes" under General Undergraduate Admissions.

### CATAMOUNT CORE CURRICULUM AND TRANSFER CREDIT

To receive Catamount Core Curriculum credit, a transfer course must be considered an exact equivalent to a UVM Catamount Core approved course and carry at least three credits. For courses that are not an exact equivalent, students can submit their request and course materials to Transfer Affairs at [transfer@uvm.edu](mailto:transfer@uvm.edu) for consideration.

### INTERNATIONAL STUDENT ADMISSIONS

The University of Vermont welcomes applications from international students. In addition to the specific requirements listed below, all other application information and requirements can be found here (p. 486).

### APPLICATION REQUIREMENTS

#### Academic Documents

International applicants must submit official original transcripts of all secondary and postsecondary education, including final exam results. If documents are not in English, certified translations are required. All arrangements for translation must be made directly with the translation option of the applicant's choice.

#### English Proficiency

International students for whom English is not their first language must demonstrate English proficiency. The University of Vermont offers multiple ways to meet English proficiency including a minimum iBT TOEFL score of 80 or a minimum IELTS score of 6.5, additional options for meeting English proficiency can be found on the International Admissions website. If an international student has attended a U.S. institution for three or more years, or attends a school with instruction in English for three or more years, or, in rare circumstances, if a combination of evidence exists which otherwise demonstrates a student's English language proficiency, the Office of



Admissions has the discretion to and may waive the requirement for an English proficiency test on a case-by-case basis.

Students whose English scores are between iBT TOEFL score of 80-89 (or equivalent) will be required to take additional English for Speakers of Other Languages (ESOL) courses.

### Financial Support for International Students

The university offers merit-based scholarships to international students each year; no additional application is required. Students attending on non-immigrant student visas are charged out-of-state tuition rates. Information about merit scholarships for international students may be found on the Student Financial Services website.

### UVM Visa Eligibility documents (F-1 I-20 or J-1 Ds-2019)

International students requiring an F-1 or J-1 student visa to begin studies at the University of Vermont must complete a New Student Immigration Document Request and submit it to UVM's Office of International Education. These documents can only be issued for programs that UVM has been approved for – online programs are not eligible. The UVM immigration document can only be issued when a student has been formally admitted to UVM and has provided proof of sufficient financial support to cover educational expenses for at least one full academic year. After students confirm intent to enroll, the Office of International Education will automatically contact students to allow them to initiate their request.

For more information on requesting a UVM immigration document, contact the Office of International Education at [internationalstudents@uvm.edu](mailto:internationalstudents@uvm.edu); Tel: 011-802-656-4296 or visit the Office of International Education website.

### TRANSFER CREDIT FOR INTERNATIONAL STUDENTS

International students who have attended postsecondary institutions in their home country may be eligible for UVM credit under the Transfer Credit Policy guidelines. International students should submit comprehensive course descriptions and outlines, translated in English, after they have been admitted into a degree program to the Office of Transfer Affairs, 360 Waterman Building, Burlington, VT 05405-0160, USA. Submission of these materials helps the Office of Transfer Affairs prepare a full credit evaluation prior to enrollment at UVM. Translations must accompany all original documentation. If you have post-secondary college-level course work, you may wish to have your credentials evaluated for U.S. academic equivalents. You will receive an official transfer credit evaluation of all prior college level coursework after you have been admitted into a degree program. For more information, please contact the Office of Transfer Affairs at (802) 656-0867, or email: [transfer@uvm.edu](mailto:transfer@uvm.edu).

### NONTRADITIONAL UNDERGRADUATE STUDENT ADMISSIONS

The admissions office recognizes that candidates 24 years and older who have not been enrolled in an educational institution may require additional consideration in the admissions process.

As with every applicant for admission, nontraditional candidates are required to present official documents of all academic work, including high school transcript and/or General Education Development certificate (GED) or passing HiSET exam and transcripts of all college-level work attempted. The admissions office looks for previous academic performance that would predict success at the university. Students may contact an admissions counselor for further information. Students are also encouraged to describe their activities after high school completion as part of their application to UVM.

Nontraditional applicants who are missing any entrance requirements are reviewed on a case-by-case basis. If a record is otherwise admissible, the admissions office may offer admission with a clause requiring completion of missing requirements prior to enrollment or concurrent with the UVM degree program. UVM does not grant college credit through portfolio assessment. Nontraditional candidates may explore credit options through the College Level Examination Program (CLEP) website.

Nontraditional applicants who completed college-level courses during high school should refer to the College Credit for High School Classes (p. 490) section of this catalogue.

### REAPPLYING TO THE UNIVERSITY AS AN UNDERGRADUATE

Transfer applicants denied admission for a given semester may reapply for a subsequent semester, and should present new information that demonstrates an improved academic record. Students wait-listed or denied admission previously as high school students should be working toward completion of two semesters of rigorous academic courses, at the point of applying to UVM. Anyone reapplying must submit a new application and application fee, and update any academic information. Essays may be adjusted to reflect applicant's recent activities. These individuals should contact the admissions office to discuss academic work that would improve their chances for admission.

### DEFERRING ENROLLMENT

Under certain conditions, candidates offered admission who choose not to attend in a given semester can defer entry for up to two semesters with permission of the admissions office (students offered spring start admission or Catamount Advance are not eligible to defer). Students who defer admission are required to pay the acceptance fee for the semester to which they applied (an additional fee may be required) and may not enroll in another degree program at another college or university. Students who wish to defer admission for more than two semesters from the term of the original application will be asked to reapply for admission. After that period, or if the admitted candidate failed to request deferred admission, another application and fee must be filed for review by the admissions office.

### RE-ENTRY TO UVM

Students who were previously enrolled as undergraduates working toward a degree and who wish to return to the University of Vermont following a voluntary leave (including an approved medical withdrawal) should submit the online Re-entry Application available

on the Admissions website. The Admissions Office does not readmit former degree-seeking students. Re-entry applications are reviewed by the Re-entry team upon submission. Please review additional information including the college-specific requirements and email [reentry@uvm.edu](mailto:reentry@uvm.edu) with any questions.

Students wishing to apply for re-entry following an academic dismissal or forced leave, should contact the Student Services team for their major college/school (i.e. College of Arts and Sciences, Grossman School of Business, etc.).

Students wishing to return to the University after an approved medical withdrawal must complete the medical withdrawal re-entry process. Applications following a medical withdrawal must be submitted no later than 45 days before the start of the semester. Please contact the Assistant Dean of Students at (802) 656-3380 for additional information.

Students wishing to return to the University after a conduct suspension, should contact the Dean of Students' office at (802) 656-3380 to schedule a meeting with the Assistant Dean of Students.

Students wishing to enroll as an undergraduate who have never been admitted as a degree-seeking student should visit the Admissions website for more information.

## FINANCIAL INFORMATION

### TUITION AND FEES

The student expenses outlined in the following sections are anticipated charges for the 2023-2024 academic year. These charges can also be viewed by on the Student Financial Services costs of attending page.

#### Acceptance Fee

To guarantee enrollment, admitted students may pay their \$495 non-refundable acceptance fee online through the application status page (encouraged method), or by mail with a check, made payable to: Office of Admissions, University of Vermont, 194 South Prospect Street, Burlington, VT 05401-3596 (include the student's date of birth on the check). Learn more about paying your acceptance fee at UVM. Payment of the acceptance fee must be received by the date specified in the acceptance letter.

#### Yearly Cost of Attendance

Listed below is the cost of attendance based on tuition for full-time undergraduate students, followed by an explanation of these charges. Cost of attendance (COA) is the total cost for a student to attend UVM each year, before financial aid. COA includes the following billable costs: tuition, fees, food, and housing. It also includes the following indirect costs: books and supplies, and personal, miscellaneous, and transportation expenses which are estimated in order to determine financial aid eligibility. A student's actual expenses will vary.

	Resident	Nonresident
Tuition	\$16,280	\$41,280
Comprehensive Fee	\$2,610	\$2,610
Average Food & Housing	\$13,324	\$13,324
Inter-Residence Association (IRA) Fee	\$30	\$30
Estimated Books and Supplies	\$1,200	\$1,200
Estimated Personal, Miscellaneous, & Transportation Expenses	\$2,554	\$2,998
Optional UVM Student Health Insurance Plan (SHIP) (academic year 2022-23 cost)	\$3,189 <sup>1</sup>	\$3,189 <sup>1</sup>

<sup>1</sup> This reflects the UVM Student Health Insurance Plan (SHIP) for the 2022-2023 school year. Learn more about 2023-2024 premium information through the Center for Health & Wellbeing.

#### Tuition

##### VERMONT RESIDENTS:

\$678 per credit under 12 credits. From 12-19 credits — \$8,140 per semester plus \$678 per credit for each credit above 19 credits.

##### OUT-OF-STATE RESIDENTS:

\$1,720 per credit under 12 credits. From 12-19 credits — \$20,640 per semester plus \$1,720 per credit for each credit above 19 credits.

Note: Tuition and fee charges are the same whether a course is taken as audit or for credit.

#### Comprehensive Student Fee

The comprehensive fee is a fee paid by all students in support of programs and services that support student success and strengthen the University community. The comprehensive fee supports a wide range of services, including those that students have access to whether taking their courses on-campus or through remote/online options. The comprehensive fee supports the University's maintenance of critical academic, athletic, health, technology, and community infrastructure, as well as library resources, academic support services, online learning platforms, career counseling, student organizations, and more.

#### Food and Housing Charges

All housing agreements include both food and housing and are legally binding for the 9-month academic year. Students living on-campus are billed each semester for room, food plan, and inter-residence association (IRA) fee.

Find more information on costs and fees related to food and housing or information on food plan options through Residential Life.

### Inter-Residence Association Fee

A per semester fee is charged to each on-campus resident to be used for activities within the residence hall system. More specific information on the inter-residence association fee can be found through Residential Life.

### Student Government Association Fee

Undergraduate degree students enrolled in 4 or more credits are charged the Student Government Fee each semester. This fee is allocated by the Student Government Association toward the support of student organizations and student activities. For students enrolled in 12 or more credits in a semester, this fee is included in the Comprehensive Student Fee. For additional information on specific fee amounts, please visit the Undergraduate Tuition and Fees page on the Student Financial Services website.

### Student Health Insurance

Health insurance is mandatory for undergraduate students enrolled in 9 or more credit hours. Each year students must either elect to purchase the UVM Student Health Insurance Plan (UVM SHIP), or waive UVM SHIP by providing information about their current non-UVM insurance policy. More details about UVM SHIP are available on The Center for Health & Wellbeing Website.

## OPTIONAL AND UNIQUE FEES

The following list reflects fee and supply expenses that are unique to a student's course of study. Students may be subject to additional unique fees that are not listed below.

### COURSE SPECIFIC FEES

Certain courses will have course specific fees associated with them that will be charged in addition to the fee for tuition to cover long distance travel expenses, special equipment, arrangements, or skilled consultants. Students will be notified of this fee through the registration process.

### CREDIT BY EXAM

A fee will be charged for administration of special tests in areas for which academic credit may be received. This fee must be paid in advance.

## ARTS AND SCIENCES - FEES FOR COURSES IN MUSIC PERFORMANCE STUDY

Private applied lessons in most instruments and voice are available each semester, for academic credit, to qualified students. Private lessons meet for 14 weeks during the semester. Both one-half hour (one academic credit) or one hour (two academic credits) lessons may be taken, depending on the recommendation of the faculty. Review detailed fees associated with music lessons on the Lessons page through the Department of Music website.

## EDUCATION AND SOCIAL SERVICES - TK20 ASSESSMENT SYSTEM FEE

Students in selected programs within The College of Education and Social Services are assessed a one-time fee of \$110.00 to participate in Tk20. Tk20 is a comprehensive web-based assessment system system that allows students to develop and submit assignments, track field placements and their status in the program, and access content after graduation. Tk20 accounts are accessible for 7 years after the purchase date.

## GROSSMAN SCHOOL OF BUSINESS - TECHNOLOGY FEE

The Grossman School of Business charges a \$75 Technology Fee per semester to all business majors, minors, and graduate students (Sustainable Innovation MBA and Master of Accountancy programs). The GSB Technology Fee covers terminals, monitors, servers and computer lab systems (Ex: A/V hardware and hookups), and software related to instruction (Bloomberg terminals, research databases for instructional purposes, online poll service for classroom response system, and other). The fee also covers associated digital displays within the GSB Study Rooms. Students who pay the fee get printing access for a limited amount of copies (180 per month). The fee also covers maintenance for printers, paper and print management system.

## NURSING AND HEALTH SCIENCES - DEPARTMENT OF NURSING

A fee of approximately \$40 a year (estimated) for professional liability insurance will be billed to juniors and seniors. ATI (Assessment Technologies Institute) testing fees will be billed to seniors, at approximately \$325. These fees are included with the usual tuition bills.

## RUBENSTEIN SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES SUMMER FIELD COURSES

Students majoring in Forestry or Wildlife Biology are required to take summer field courses. Forestry majors must take FOR 2220 and Wildlife Biology majors must take WFB 2310.

The tuition for the Rubenstein School of Environment and Natural Resources Summer Field Courses will be at the Summer Session credit rate. In addition, there may be charges for field expenses.

## STUDY ABROAD

A \$500 study abroad fee will be charged for a semester or full-year program and \$250 for summer programs not run by UVM. The fee primarily covers the expenses associated with having personnel available to provide study abroad advising services up to and beyond the point of departure. Learn more about the Study Abroad Fee on the Office of International Education website.

## PART-TIME STUDENT FEES

Students enrolled in 1 to 4 credits in a semester will be charged \$10 per credit to offset costs associated with registration. Visit the Undergraduate Tuition and Fees page on the Student Financial Services website for more information on part-time student fees.

Comprehensive fees are charged to all part-time students enrolled in at least 5 but less than 12 credits in a semester, as follows:

Credits Enrolled/Semester: 5	Fee: \$530
Credits Enrolled/Semester: 6	Fee: \$590
Credits Enrolled/Semester: 7	Fee: \$665
Credits Enrolled/Semester: 8	Fee: \$739
Credits Enrolled/Semester 9 to 11.5	Fee: \$809

## PAYMENTS

By registering for courses, students are entering into a financial arrangement with UVM and accept responsibility for charges billed to their UVM account. This legal responsibility of the student is regardless of whether a third party is assisting with payment of their UVM expense. The online registration system will generate charges based on enrolled credits. Students who enroll in advance for courses will receive notification at their university email address when itemized billing statements of applicable charges are ready to view online. The billing statement will include instructions to settle in full by a specific date. Advance payments are accepted; checks should be made payable to the University of Vermont. Any checks or payments received by the university may be applied to outstanding balances.

Students who cannot meet their financial obligations because of unusual circumstances should contact the Office of Student Financial Services as soon as possible before the payment due date.

The university reserves the right to withhold registration, the diploma, degree, and all information regarding the record, including transcript, of any student who is in arrears in the payment of tuition, fees, or other charges, including, but not limited to, student loans, dining and housing charges, and parking fines. The student may also be subject to dis-enrollment.

Seriously delinquent accounts may be placed with an outside collection agency and/or reported to the national credit bureau system. Students are responsible for all late payment fees, collection charges, attorney fees, interest and any other costs and charges necessary for the collection of amounts not paid when due.

International student accounts may be placed with a collection agency if the University can identify a collection agency willing to pursue collections in the student's home country. Since international student visas require students to supply proof of ability to pay, if it is determined that they no longer have the ability to meet their financial obligations they may have their immigration records terminated and the student will be required to leave the United States.

Accounts with problematic history of payment may be required to pre-pay for the semester or year depending upon case by case assessment by the Director of Student Financial Services.

## BUDGETED PAYMENT

The university offers a monthly payment plan that allows payment of tuition and fees, as well as university billed housing and meals, over a 5-month period (July 1 to November 1 and December 1 to April 1). The plan is available for a fee of \$60 per semester.

## LATE PAYMENT FEE

Students who have not satisfactorily completed financial arrangements by the announced due date will be assessed a late payment fee of \$250 and a financial hold blocking access to add courses, view grades, or get transcripts. They are also subject to potential cancellation of their enrollment. Dis-enrollment will automatically place a registration hold on a student's account that will prevent re-enrolling until the student has contacted Student Financial Services to discuss the account. Learn more about reviewing and responding to your bill to avoid a late payment fee.

## REFUND AND BILL ADJUSTMENT POLICIES

### ACCEPTANCE FEE

The acceptance fee is a \$495 non-refundable fee. The acceptance fee is a one-time fee which is separate from tuition.

### REFUNDING IN THE EVENT OF CANCELLATION, WITHDRAWAL, CREDIT LOAD CHANGES, DEATH

For information about refunds and bill adjustments due to cancellation, withdrawal, changes in credit load, or death of a student, please refer to the university's Refund and Bill Adjustment Policy (PDF).

## FINANCIAL AID AND SCHOLARSHIPS

The university's need and merit-based scholarship, grant, loan, work-study and tuition remission offers reflect a commitment to access and affordability. Students are considered for most university merit scholarships based on the application for admission. Filing the FAFSA allows a student to also be considered for need-based scholarships, grants, loans, and work-study, as well as allowing access to non-need-based Federal loans when eligible. Learn more about scholarships or types of aid available to students.

## FINANCIAL AID

### ELIGIBILITY

Students seeking assistance in meeting their university expenses with student loans, grants, or work-study should apply for federal, state, and university financial aid. To apply for financial aid, a student must be a U.S. citizen or an eligible non-citizen. Most aid programs also require students be enrolled at least half-time (6 credits) in a degree program. Audited credits or credits by exam cannot be included as part of the credit hours to determine financial aid eligibility. Courses taken which are not part of a student's degree requirements are not eligible for financial aid. Students enrolling as non-degree (through

Professional and Continuing Education) may be eligible for limited financial aid. Visit the Student Financial Services website for more information.

## FINANCIAL AID APPLICATION PROCEDURES

### FAFSA and VSAC

Incoming first-year and returning UVM students who wish to apply for aid should submit the Free Application for Federal Student Aid (FAFSA) as soon as possible after October 1 to receive an on-time aid offer. Funding may be limited for FAFSAs submitted after February 1. Students will be notified via email if additional information is required in order to determine financial aid eligibility. Students should apply to their state financial aid grant agency for assistance in addition to filing the FAFSA. Vermont residents should apply for the Vermont Grant through Vermont Student Assistance Corporation (VSAC) as soon as possible after October 1, as funds are limited.

Out-of-state residents should contact their state grant agency for more information.

### FINANCIAL AID OFFER PROVIDED BY THE UNIVERSITY

The University of Vermont participates in most federal and state financial aid programs and must adhere to their requirements. Additionally, the university makes available a variety of grant and loan opportunities from its own operating and endowment funds. While most federal and state aid is based exclusively on student need, eligibility for university funds is based on student need and on the strength of the applicant's academic record. Applicants are considered for all aid programs for which they are eligible. Most aid offers will include student loans.

Student loan funding is available to all eligible students who have applied, regardless of need, in the form of a Federal Direct Unsubsidized Loan. Once eligibility has been determined by Student Financial Services, students will be notified by email of their aid offer. Their financial aid offer will indicate if they qualify for "need-based" aid along with the Federal Direct Unsubsidized Loan.

Aid offers are based on current information available regarding federal, state and University budgets and programs. Any changes to federal, state or University budgets, may result in changes to aid offers.

### SATISFACTORY ACADEMIC PROGRESS (SAP) STANDARD FOR FINANCIAL AID RECIPIENTS

Federal financial aid regulations require that financial aid recipients maintain satisfactory academic progress in order to remain eligible for financial aid. Learn more about UVM's Satisfactory Academic Progress (SAP) policy for financial aid recipients on our website or by contacting UVM Student Financial Services. All students should review the complete SAP policy to understand the requirements to remain eligible for aid.

## VETERANS EDUCATIONAL BENEFITS

The university provides support and information to any veteran or dependent eligible for benefits under Federal Law, Chapters 30, 31, 32, 33, 34, 35, or 1606 and 1607. Students eligible for these benefits should contact Student Veteran Services each semester to request an enrollment certification. Students wishing to register for benefits should be prepared to present their certificates of eligibility. UVM is a Yellow Ribbon school. Eligible students must apply annually.

Student veterans may also be eligible for Federal Financial Aid. Visit Student Financial Services Veteran Information page for aid opportunities for veterans.

Student veterans may also go directly to the FAFSA to apply. Students involved in the Veterans program should contact Veterans@uvm.edu in the event of any change in credit hours, dependency status, address, or major.

## SCHOLARSHIPS

Prospective first-year and transfer undergraduate applicants are automatically considered for most UVM merit-based scholarships when applying for admission, including those listed below. For more information, including details on scholarships that require separate applications visit the UVM Scholarship page.

### Akol Aguek Scholarship

The Akol Aguek Scholarship is designated for new admitted first-year and transfer Vermont residents who left their home country as a refugee, and who have demonstrated academic talent. Recipients are selected based on review of the admission application and are awarded a merit-based scholarship of \$1,000 annually for 4 years (8 semesters). The Akol Aguek Scholarship will be awarded in addition to any previous scholarships awarded. Recipients must be enrolled in 12 or more credits per semester and maintain a minimum cumulative grade point average of 3.0. Renewal eligibility is evaluated at the end of each spring term.

### Dean's Merit Scholarship

The Dean's Merit Scholarship is awarded to the most academically talented transfer students (from another institution) admitted to UVM. Recipients typically have completed 21 college credits earning at least a 3.5 cumulative grade-point average in all prior college work. For students who earned less than 21 college credits, both the college and high school records are reviewed to determine eligibility. Recipients are selected based on the application for admission. Dean's Merit Scholars are awarded a 4-year (8 semester) merit scholarship of \$5,000 annually for Vermont residents and \$7,000 to \$10,000 annually for out-of-state residents. Students must be enrolled in 12 or more credits per semester and maintain a minimum cumulative grade point average of 3.0. Renewal eligibility is evaluated at the end of each spring term.

### Green and Gold Scholars Award

This full in-state tuition, 4-year merit scholarship (currently valued at over \$65,000) is awarded to select seniors attending eligible Vermont high schools (including public high schools and select private high

schools in Vermont, and a number of border high schools). The highest-achieving Vermont resident in each eligible high school at the end of the junior year may be considered. Selection criteria will be determined by each eligible high school. Students must be enrolled in 12 or more credits per semester and maintain a minimum cumulative grade point average of 3.0. Renewal eligibility is evaluated at the end of each spring term.

### Justin Morrill Scholarship

This scholarship is designated for Vermont first-year students who demonstrate strong academic performance. Recipients are selected based on the application for admission. Morrill scholars are awarded a 4-year (8 semester) merit scholarship for \$5,000 annually. Students must be enrolled in 12 or more credits per semester and maintain a minimum cumulative grade point average of 3.0. Renewal eligibility is evaluated at the end of each spring term.

### Pathway Scholarship

The Pathway Scholarship is designated for new transfer applicants admitted to UVM through a Pathway articulation agreement. Recipients must have earned at least a 2.8 cumulative grade point average in all prior college work. Students are reviewed for eligibility based on the application for admission. The scholarship amount awarded is \$6,000 for Vermont residents and \$12,000 for out-of-state residents annually for 3 years (6 semesters). The Pathway Scholarship cannot be combined with the Dean's Merit Scholarship; a student will receive the more beneficial of the two if they are eligible for both scholarships. The recipient must be enrolled in 12 or more credits per semester.

### Patrick Family Scholarship

This scholarship is designated for Vermont first-year students who demonstrate outstanding academic performance. Recipients are selected based on the application for admission. Patrick scholars are awarded a 4-year (8 semester) merit scholarship of \$7,000 annually. Students must be enrolled in 12 or more credits per semester and maintain a minimum cumulative grade point average of 3.0. Renewal eligibility is evaluated at the end of each spring term.

### Phi Theta Kappa Scholarship

The Phi Theta Kappa Scholarship is designated for new admitted out-of-state residents who are members of Phi Theta Kappa and have transferred into UVM from a community college. Recipients are selected based upon review of the admission application and proof of Phi Theta Kappa membership, and are awarded a merit-based scholarship of \$2,000 annually for 4 years (8 semesters). The Phi Theta Kappa Scholarship will be awarded in addition to any previous scholarships awarded. The recipients must be enrolled in 12 or more credits per semester and maintain a minimum cumulative grade point average of 3.0. Renewal eligibility is evaluated at the end of each spring term.

### Presidential Scholarship

Out-of-state first-year students who demonstrate the highest academic performance are eligible for consideration for the Presidential Scholarship. Recipients are selected based on the application for admission. Presidential Scholars are awarded a 4-

year (8 semester) merit scholarship, which ranges from \$16,000 to \$20,000 annually. Students must be enrolled in 12 or more credits per semester and maintain a minimum cumulative grade point average of 3.0. Renewal eligibility is evaluated at the end of each spring term.

### Trustees Scholarship

Out-of-state first-year students who demonstrate outstanding academic performance are eligible for consideration for the Trustees Scholarship. Recipients are selected based on the application for admission. Trustees scholars are awarded a 4-year (8 semester) merit scholarship, which ranges from \$12,000 to \$15,000 annually. Students must be enrolled in 12 or more credits per semester and maintain a minimum cumulative grade point average of 3.0. Renewal eligibility is evaluated at the end of each spring term.

### Vermont Scholars Award

This scholarship is designated for Vermont first-year students who demonstrate the highest academic performance. Recipients are selected based on the application for admission. Vermont scholars are awarded a 4-year (8 semester) merit scholarship of \$10,000 annually. Students must be enrolled in 12 or more credits per semester and maintain a minimum cumulative grade point average of 3.0. Renewal eligibility is evaluated at the end of each spring term.

## HOW TO APPLY FOR UVM SCHOLARSHIPS

There is no separate application process for most UVM merit-based scholarships. First-year and transfer applicants are automatically considered for most UVM merit-based scholarships simply by submitting the UVM application for admission. UVM awards scholarships based on a variety of factors, including academic achievement, leadership, geographic location, and field of study. Additionally, students must file the Free Application for Federal Student Aid (FAFSA) in order to be considered for need-based scholarships. For more information, including details on scholarships that do require separate applications, visit the UVM Scholarship page.

## OTHER SCHOLARSHIP RESOURCES

- VSAC (Vermont Student Assistance Corporation) offers a guide to scholarships for Vermont students. Contact VSAC toll-free at (800) 798-8722 or visit the VSAC website.
- The Army ROTC Program offers an opportunity for students to earn a degree of their choice and possibly qualify for an officer's commission. For ROTC Scholarship information, visit the U.S. Army ROTC website.
- The Air Force ROTC, through a dual enrollment agreement between UVM and Norwich University, offers an opportunity for students to earn a degree of their choice and possibly qualify for an officer's commission. For Air Force ROTC Scholarship information, visit the U.S. Air Force ROTC website.
- Veterans are encouraged to consult with UVM Veteran Services and to visit the Student Financial Services website for information regarding G.I. Bill® benefits for education, including the Yellow Ribbon Program. GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about

education benefits offered by VA is available at the official U.S. government Web site at <https://www.benefits.va.gov/gibill>.

- Many organizations offer scholarship opportunities for deserving students. Check with local schools and community organizations for their offerings, and review information listed on the Student Financial Services website for outside scholarship opportunities.

## UNIQUE LEARNING OPPORTUNITIES

In addition to the areas of study detailed in the catalogue, a number of unique curricular and co-curricular opportunities are available to UVM students.

Accelerated Master's Degree Programs (p. 503)

Exchange Programs with New England State Universities (p. 503)

Learning Communities (p. 504)

Military Studies (p. 504)

Pre-Professional Options for Undergraduate Students (p. 505)

Professional and Continuing Education (p. 505)

Research Opportunities for Undergraduate Students (p. 505)

Study Abroad (p. 506)

## ACCELERATED MASTER'S DEGREE PROGRAMS

A number of departments and programs provide opportunities for selected undergraduates to participate in Accelerated Master's Programs (AMPs). The AMP allows early admission to graduate studies with up to 9 concurrent credits double-counted toward the bachelor's and master's degrees. Consult the Graduate Catalogue or the appropriate Dean's Office for information about these or other accelerated degree programs. This option is available for admission to the following graduate programs:

Accountancy

Animal Biosciences

Biochemistry

Biology

Biomedical Engineering

Biostatistics

Chemistry

Civil Engineering

Community Development and Applied Economics

Complex Systems and Data Science

Computer Science

Counseling

Curriculum and Instruction

Educational Leadership and Policy Studies

Electrical Engineering

English

Environmental Engineering

Food Systems

Greek and Latin

Historic Preservation

History

Materials Science

Mathematical Sciences

Mechanical Engineering

Medical Laboratory Science - This AMP is not currently accepting students

Microbiology and Molecular Genetics

Middle Level Education

Natural Resources

Nursing - This AMP is not currently accepting students

Nutrition and Food Sciences

Pharmacology

Physics

Psychology

Public Administration

Public Health

Secondary Education

Special Education

Statistics

## EXCHANGE PROGRAMS WITH NEW ENGLAND STATE UNIVERSITIES

The six New England land-grant universities (Universities of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut) participate in an exchange program to enable students at the subdegree level to take advantage of a course or combination of courses not available at the home institution. In order to participate in the program, state university students must:

1. Identify a course or combination of courses related to their area of academic interest and not available on the home campus.
2. Receive permission from the appropriate university exchange authorities at both the sending and receiving institutions.
3. Meet minimum eligibility requirements which include the following: students must be in good standing and have at least a 2.50 grade-point average; must be degree candidates; and must be at least first semester sophomores (application may be made as early as the second semester of the first year). There is no upper limit in terms of class standing on participation.

Exchanges may not exceed a total period of two academic semesters, but these need not be taken consecutively. Summer sessions are not considered part of the exchange program. Course work approved by the student's host institution and completed satisfactorily is fully transferable to the home institution. Transferability of grades and inclusion in grade-point averages are subject to home institutional policy.

The student will pay normal tuition and required fees to the home institution and room and board (where applicable) to the host institution. Students on financial aid must contact their home institution's financial aid office to determine eligibility for continued scholarship assistance.

Participation in the exchange program will not affect a student's residence status either at the home or host institution, nor does participation improve or prejudice possibilities for transfer.

## LEARNING COMMUNITIES

Learning Communities (LCs) at the University of Vermont are designed to integrate students' residential and academic experiences through housing, linked academic courses and other learning opportunities built around a common theme. LCs engage the whole student, weaving together the intellectual, ethical, cultural, and social aspects of college life. By living with fellow students who share common interests and ideals, the individual student becomes part of a community that is also tied to the greater world beyond the university. In addition, students, faculty, and staff are given the opportunity to interact outside the classroom, the lab, or the office, thereby encouraging the pursuit of knowledge as a lifetime activity.

Engaging in our Community Learning Model, students in LCs participate in a variety of activities that are designed to explore the theme of their community, including workshops, field trips, attending music and theater performances, guest lectures, and participating in recreational and cultural activities. First-time students are offered the opportunity to take a course that complements each community's theme and learning goals.

More information about these dynamic communities can be found in the Learning Community section of the Residential Life website.

## MILITARY STUDIES

### ARMY RESERVE OFFICER'S TRAINING CORPS (ROTC) PROGRAM

The Army ROTC program offers men and women the opportunity to develop leadership and management skills that can lead to commission as an officer at the rank of second lieutenant in the United States Army, Army Reserve, or Army National Guard. Instruction focuses on leadership, problem-solving, decision-making, ethics, and military doctrine. Students complete individual and group exercises and assignments in classroom and field environments, and are encouraged to participate in numerous military training opportunities including Mountain Warfare School; Airborne School; Air Assault School; and the Cultural Understanding and Language Program (with numerous worldwide countries).

#### Department Course Offerings

The four-year Military Studies program at UVM consists of a two-year Basic Course (first & second years) and a two-year Advanced Course (third & fourth years). A fully funded 30-day Basic Camp conducted at Fort Knox, Kentucky is offered as an alternative to the first two years of study, and meets all prerequisites for students wishing to start ROTC at the end of their sophomore year. The department conducts military physical training classes three days a week with all cadets as a faculty-run, cadet-led activity.

#### Interdepartmental Course Offerings

The Military Studies department also offers a one-credit fitness course on behalf of the UVM Department of Physical Education.

PEAC 017 Military Fitness exposes students to the fitness methodologies implemented by the U.S. Army. Students do not need to participate in ROTC to take this course. The PEAC course incurs no military obligation.

### ARMY ROTC SCHOLARSHIPS AND FINANCIAL AID

Scholarships: Two, three, and four-year Army ROTC scholarships paying full tuition and fees, and \$1,200 a year for books are available to qualified applicants. Application for the four-year Army ROTC scholarship is made during the high school senior year by applying to the Army via: <http://www.goarmy.com/rotc/scholarships.html>. All other Army ROTC scholarship applications are made through the department.

Financial Aid: Contracted sophomore, junior, and senior ROTC students can earn up to \$6,300 a year through the simultaneous membership program (SMP), which involves participation in the Army National Guard or Army Reserves. All contracted cadets receive a monthly ROTC stipend. The stipend is \$420 per month.

The Department of Military Studies is located at Adams House, 601 Main Street, (802) 656-2966. Website: <http://www.uvm.edu/~goldbar/>.



## AIR FORCE ROTC AT NORWICH UNIVERSITY

Through a dual-enrollment agreement with University of Vermont and Air Force ROTC, we are able to provide commissioning opportunities to students who wish to become United States Air Force officers. Additionally, the Air Force has scholarship funds available to assist qualified candidates to continue their studies while earning commissions as second lieutenants in the Air Forces. For more information, contact the Unit Admissions Officer at:

Norwich University  
Air Force ROTC Detachment 867  
158 Harmon Drive  
Northfield, Vermont 05663

Call 1-800-468-6679 (press "1" for admissions, then ask for the Air Force ROTC department).

## PRE-PROFESSIONAL OPTIONS FOR UNDERGRADUATE STUDENTS

Pre-medical, pre-dental, and other pre-health students of all majors are supported by the Career Center's Health Professions Interest Group (HPIG). Students are strongly encouraged to take advantage of the HPIG website, and in their twice monthly newsletter, to learn about the myriad pathways in health, as well as about networking and job/internship opportunities. Additional information and support are available to those pursuing medical school through the Career Center's pre-med website. Academic advisors are essential as students select courses and gain experiences in the pursuit of a well-rounded education.

Pre-law preparation is available to students of any major through the Career Center's pre-law advisors and several faculty members in the College of Arts & Sciences. Students can explore the field and learn about the law school experience through events and opportunities promoted on the pre-law listserv and the Career Center's Education, Policy and Social Impact Interest Group. Advisors meet with students at any point during their college career and support students through the law school application process. For more information, visit the pre-law section of the Career Center's website and sign up for the listserv there.

Pre-vet preparation and advising is offered in Animal Sciences, a major in the College of Agriculture and Life Sciences.

## PROFESSIONAL AND CONTINUING EDUCATION

Professional and Continuing Education (PACE) serves the University of Vermont's commitment to lifelong learning and statewide outreach. Through the development and delivery of courses and programs on the UVM campus and online, PACE connects the resources of the university with the needs of diverse non-degree students year-round and undergraduate and graduate students during the summer and winter sessions. PACE's innovative courses, programs, certificates, and professional education opportunities attract individuals from Vermont and beyond.

The Professional and Continuing Education office is located at 322 South Prospect Street, (802) 656-2085 / (800) 639-3210. PACE's web address is: <http://learn.uvm.edu>. The email address is [learn@uvm.edu](mailto:learn@uvm.edu).

## STUDENT SERVICES

Student services are available to individuals enrolled in PACE credit courses and professional educational workshops and seminars. Student services coordinators guide non-degree students through the back to school process, and help current and potential students gain the necessary credentials to attain admission to a degree and/or professional school program. PACE representatives are available to help anyone register for any PACE learning opportunity. Serving as the dean's office for non-degree students, PACE provides access to the university's academic resources and support services and helps direct students to the most appropriate office within the larger university. Non-degree students are encouraged to become familiar with the PACE office to learn how to maximize their educational experience. Please call to speak with a student services staff member.

## ACADEMIC YEAR AND SUMMER SESSION

During the academic year courses are offered at varying times to provide greater access to non-degree students who enroll at the University of Vermont. PACE attracts high school students, pre-college and college students, pre-graduate/pre-professional students, and working professionals who are all interested in gaining credits on an official UVM transcript. Vermont residents who are aged 65+ may attend, on a space available basis, tuition free but must pay course fees and comprehensive fees, if applicable.

During the summer, hundreds of courses are offered on campus, online, around the state and throughout the world in various travel programs. Course registration is open to all learners. Courses are taught by UVM faculty, visiting professors or practitioners, and apply the same academic rigor as courses scheduled during the academic year.

The summer session offers entry-level courses designed for high school students to get ahead and get a taste of the university experience and for undergraduates to catch up on subjects which require more preparation. The summer session can also be an opportunity for undergraduates to take a course that is in high demand during the academic year or gain real world experience in an internship. Courses are also available in the summer session for professionals in education, healthcare, library science, engineering, public administration and environmental studies. In addition, advanced and graduate courses are included on the summer session's roster.

## RESEARCH OPPORTUNITIES FOR UNDERGRADUATE STUDENTS

Undergraduate students work one-on-one or in small teams on scholarly projects under the supervision of a faculty mentor. By pursuing undergraduate research or creative endeavors, students learn how disciplines advance and knowledge is acquired; they

begin to define and focus their academic and career interests; and they may receive academic credit. Students have an opportunity to present their research or creative work at the annual Student Research Conference held in the spring semester, at conferences around the country, and across the world.

The Fellowships, Opportunities, and Undergraduate Research (FOUR) Office staff help students identify mentors and projects in all areas of research, scholarship, and creative activity. The staff advises undergraduate students across the university at every step of the way—from helping students understand research in their disciplines, providing research support, and funding both the research and the students to present their work. Additionally, as students are finishing their undergraduate education, the FOUR Office can help plan the next steps - research, teaching abroad, funding a graduate education, or year-long internship. We help you translate your research to the next stage in your life.

The FOUR Office supports undergraduate research at the annual Student Research Conference, through the Summer Undergraduate Research Fellowships (SURF) Program, the Leahy Scholars Program, Brennan Summer Scholars, Simon Family Foundation Fellowships and Awards, and Mini- and Travel Grants. FOUR also vets applications for the Pre-health/Pre-medical Enhancement Program (PEP) and the Office of the Chief Medical Examiner Internship Program.

Contact information: email [four@uvm.edu](mailto:four@uvm.edu), call (802)656-5533, or visit the FOUR website.

## STUDY ABROAD

The Office of International Education (OIE), located in B101 of the Living/Learning Center, is an advising and resource center for students interested in a year, semester, short-term or summer study abroad experience. Study abroad advisors maintain extensive information about study abroad opportunities. They, in conjunction with the academic advisor and the Office of Transfer Affairs, help students identify programs appropriate to their needs and arrange credit evaluation from UVM. All students who intend to study abroad are required to have their study abroad program officially approved by the Office of International Education prior to departure. Contact the OIE for deadlines. Official approval is required for students to confirm that their programs of study are eligible for appropriate financial aid, where applicable. There is a \$500 study abroad fee for semester and year-long programs and a \$250 fee for summer programs.

To be eligible to apply for a semester or more, a student must meet eligibility requirements listed below for UVM, as well as for the approved study abroad program and/or foreign institution.

- Have been admitted to UVM as a degree-seeking student and have been enrolled in UVM classes as a degree-seeking student the semester before the planned study abroad term. (Continuing Education students are only eligible to study abroad on short-term UVM programs.)

- Have completed one semester as a full-time, matriculated student at UVM and have attained at least sophomore standing.
- Have a minimum UVM cumulative GPA of 2.50. Students with a cumulative GPA under a 2.50 and above a 2.00 may seek permission to study abroad by submitting an Academic Eligibility form (AEF) to their academic dean's student services office for consideration. Contact OIE to make an appointment with a study abroad advisor to discuss eligibility requirements and to pick up an AEF.
- Have approval by the academic dean's student services office associated with the student's area of study.
- Have not been academically dismissed, nor be on academic trial or probation.
- Have not ever been suspended, nor be on deferred suspension at the time of application.

More stringent conduct record eligibility requirements may be imposed by UVM short-term, semester or exchange programs as stated in their applications.

Students who are on a leave of absence or otherwise are not enrolled in UVM classes the semester prior to the planned study abroad term must be granted permission by their academic dean's student services office and the Assistant Director of Study Abroad.

After initial UVM approval is granted, students must maintain good academic and behavioral standing until departing to study abroad for the UVM approval to become final.

For more information about study abroad, visit the Office of International Education website.

## ABOUT THE UNIVERSITY

### THE MISSION OF THE UNIVERSITY OF VERMONT

To create, evaluate, share, and apply knowledge and to prepare students to be accountable leaders who will bring to their work dedication to the global community, a grasp of complexity, effective problem-solving and communication skills, and an enduring commitment to learning and ethical conduct.

### OUR COMMON GROUND

The University of Vermont is an educationally purposeful community seeking to prepare students to live in a diverse and changing world. We who work, live, study, teach, do research, conduct business, or participate in the University of Vermont are members of this community. As members, we believe in the transforming power of education and agree to help create and foster an environment where we can discover and reach our true potential.

#### **We aspire to be a community that values:**

**RESPECT.** We respect each other. We listen to each other, encourage each other and care about each other. We are strengthened by our diverse perspectives.

**INTEGRITY.** We value fairness, straightforward conduct, adherence to the facts, and sincerity. We acknowledge when things have not turned out the way we had hoped. As stewards of the University of Vermont, we are honest and ethical in all responsibilities entrusted to us.

**INNOVATION.** We want to be at the forefront of change and believe that the best way to lead is to learn from our successes and mistakes and continue to grow. We are forward-looking and break new ground in addressing important community and societal needs.

**OPENNESS.** We encourage the open exchange of information and ideas from all quarters of the community. We believe that through collaboration and participation, each of us has an important role in determining the direction and well-being of our community.

**JUSTICE.** As a just community, we unite against all forms of injustice, including, but not limited to, racism. We reject bigotry, oppression, degradation, and harassment, and we challenge injustice toward any member of our community.

**RESPONSIBILITY.** We are personally and collectively responsible for our words and deeds. We stand together to uphold our common ground.

Aspirations and shared values for the UVM Community, endorsed by the UVM Board of Trustees

## THE UNIVERSITY: A BRIEF HISTORY

Chartered in 1791, the same year that Vermont became the fourteenth state in the union, the University of Vermont was established as the fifth college in New England (after Harvard, Yale, Dartmouth and Brown). The university is popularly called UVM, a derivation of its Latin name, *Universitās Viridis Montis*, the University of the Green Mountains. Ira Allen, brother of Revolutionary War hero Ethan Allen and a central figure in Vermont's early economic and social development, led the drive to charter a state university and locate it in Burlington and is credited with founding the university. The new university's charter explicitly declared support for freedom of religion – making it the nation's first institution of higher learning to take such a public stance. This tradition of openness continued in 1871, when the university defied custom and admitted two women as students. Four years later, the university's Phi Beta Kappa chapter became the first honor society in the nation to admit women; two years after that, in 1877, the society became the nation's first to admit African American students.

The citizens of Burlington helped fund the university's first building and, when fire destroyed it in 1824, also paid for its replacement: the Old Mill. The Marquis de Lafayette, a French general who became a commander in the American Revolution, laid the cornerstone for the Old Mill, which still stands on the historic University Row, along with Ira Allen Chapel, Billings Hall, Williams Hall, Royall Tyler Theatre and Morrill Hall.

Although it began as a private university, UVM attained quasi-public status with the passage of the Morrill Land-Grant College Act in 1862 and the addition of the State Agricultural College. Today, the university blends the traditions of both a private and public university,

drawing 12 percent of its general fund (and about 6 percent of its total budget) from the state of Vermont.

Some of UVM's most famous graduates typify the university's independence of spirit and social consciousness. They include John Dewey, the late-19th-century educational philosopher; Jody Williams, recipient of the 1997 Nobel Peace Prize for the international campaign to ban landmines; John McGill, who led the U.S. section of Doctors Without Borders when it won the Nobel Peace Prize in 1999; and John Kilik, who has produced groundbreaking major motion pictures, including "Malcolm X," "Do the Right Thing" and "Dead Man Walking."

UVM offers 100+ undergraduate majors, more than 55 master's programs and 27 doctoral degrees including a medical degree.

In the Fall of 2022, the university enrolled approximately 11,300 undergraduate students, 1,700 graduate students, and 480 medical students. The university's academic units include: the Colleges of Agriculture and Life Sciences and Extension; Arts and Sciences; Education and Social Services; Engineering and Mathematical Sciences; Medicine; Nursing and Health Sciences; the Rubenstein School of Environment and Natural Resources; the Grossman School of Business; the Honors College; the Graduate College; Professional and Continuing Education; and the UVM Libraries. The university employs over 4,200 full- and part-time faculty and staff.

The campus of the University of Vermont is located in Burlington, the state's largest city. Within a greater Burlington area of 168,000 people, the city with its population of 43,000 enjoys magnificent views of Lake Champlain and the Adirondack Mountains to the west and Vermont's Green Mountains to the east. Burlington is located approximately 200 miles northwest of Boston, 300 miles north of New York City, and 100 miles south of Montreal.

Although its legal title is The University of Vermont and State Agricultural College, the university is known to its students and alumni as UVM. This popular abbreviation is derived from the Latin *Universitas Viridis Montis*, University of the Green Mountains. The colors of the university are green and gold. The mascot is the catamount.

## UNIVERSITY ADMINISTRATION AND GOVERNANCE

The University of Vermont combines elements of a private and public institution, a unique arrangement that is reflected in the makeup of the Board of Trustees.

The Board, which has full legal responsibility and authority for the university, consists of 25 members: nine legislative; nine self-perpetuating; three gubernatorial; two students; and two ex-officio members: the governor of Vermont and the president of the university.

The Trustees set and approve policies, budgets and strategic planning, and they have the authority to award honorary degrees and appoint the president of the university.

The administration, led by the president and the senior vice president/provost, and the Faculty Senate share responsibility in managing the university's academic affairs.

The Staff Council works with the administration on issues and policies that affect university staff.

The Student Government Association and Graduate Student Senate also play advisory roles to the administration, as well as recognizing student clubs and organizations and allocating funding.

## THE BOARD OF TRUSTEES

Phil Scott	Governor, ex officio
Suresh V. Garimella	President, ex officio

### Term Ending March 2024

Robert P. Brennan, Jr.	Pleasantville, New York
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### Term Ending March 2025

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Samuel R. Young	Greensboro, Vermont

### Term Ending March 2026

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### Term Ending March 2027

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### Term Ending March 2028

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### Term Ending March 2029

Frank J. Cioffi	South Burlington, Vermont
Monique E. Priestley	Bradford, Vermont
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## ADMINISTRATION

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Linda Schadler, Ph.D.	Dean, College of Engineering and Mathematical Sciences
Sanjay Sharma, Ph.D.	Dean, Grossman School of Business
Katharine Shepherd, Ph.D.	Dean, College of Education and Social Services
Allan Strong, Ph.D.	Interim Dean, Rubenstein School of the Environment and Natural Resources

## UNIVERSITY PROFESSORSHIPS

- The **Williams Professorship of Mathematics**, 1853, honors Azarias Williams of Concord, Vermont, merchant and judge, native of Sheffield, England, who in 1839 deeded to the University extensive land holdings. Dr. Jainke Yang, Ph.D., is the Williams Professor of Mathematics.
- The **Marsh Professorship of Intellectual and Moral Philosophy** was established in 1867 to honor James Marsh, distinguished UVM president and philosopher of the 1830's. Dr. Terence D. Cuneo, Ph.D., is the Marsh Professor of Intellectual and Moral Philosophy.
- The **John N. Pomeroy Professorship of Chemistry** was established in 1878 by John N. Pomeroy, AB, 1809, who lectured on chemistry and served as trustee of the University. Dr. Christopher C. Landry, Ph.D., is the John N. Pomeroy Professor of Chemistry.
- The **Howard Professorship of Natural History** was established in 1881 by John Purple Howard, a generous benefactor of the University. This Professorship supports the appointee's salary, specimen purchase, protection and exhibition, suitable for development and instruction, and for books to increase and improve "The Howard Library". Dr. Ingi Agnarsson, Ph.D., is the Howard Professor of Natural History.
- The **Flint Professorship of Mathematics, Natural or Technic Science** was established in 1895 by a bequest from Edwin Flint. Dr. Peter S. Dodds, Ph.D., is the Flint Professor of Mathematics, Natural or Technic Science.
- The **Converse Professorship in Commerce and Economics** was established in 1899 by John H. Converse, AB, 1861, LL.D., 1897, who as a trustee of the University proposed the teaching of Latin, modern languages, history, and other subjects. Dr. William A. Gibson, Ph.D., is the Converse Professor in Commerce and Economics
- The **Samuel W. Thayer Professorship of Neurological Sciences** was established in 1910 to honor Dr. Samuel White Thayer, Dean of the College of Medicine from 1854-1871 and 1880-1882, from contributions made by alumni of the College of Medicine. Dr. Gary M. Mawe, Ph.D., is the Samuel W. Thayer Professor of Neurological Sciences.
- The **RC Hawkins Fund Professorship** was established in 1920 by General Rush C. Hawkins to be used in payment of the salaries of the teaching staff in the College of Arts and Sciences in the University of Vermont. Dr. Kelley H. Di Dio, Ph.D., is the RC Hawkins Fund Professor.
- The **John G. McCullough Professorship in Political Science** was established in 1926 through grants made by Gov. and Mrs. John G. McCullough. Dr. Caroline C. Beer, Ph.D., is the John G. McCullough Professor in Political Science.
- The **George H. Perkins Professorship of Zoology** was established in 1931 to honor George H. Perkins, a teacher of science and dean of the College of Arts and Sciences. Dr. Nicholas J. Gotelli, Ph.D., is the George H. Perkins Professor of Zoology.
- The **Elliot W. Shipman Professorship of Ophthalmology** was established in 1934 by a bequest from Dr. Elliot W. Shipman, MD, 1885. Dr. Brian Y. Kim, M.D., is the Elliot W. Shipman Professor of Ophthalmology.
- The **Lyman-Roberts Professorship of Classical Languages and Literature** was established in 1941 to honor Robert Roberts, mayor of Burlington in the 1890's and a University trustee from 1895-1939. This Professorship supports the appointee's salary, giving preference to instruction in Latin and literature, and thereafter academic, literary, linguistic, cultural and general courses of study. Dr. Mark D. Usher, Ph.D., is the Lyman-Roberts Professor of Classical Languages and Literature.
- The **Corse Professorship of English Language and Literature** was established in 1952 by Frederick M. and Fannie C.P. Corse. Dr. Lokangaka Losambe, Ph.D., is the Corse Professor of English Language and Literature.
- The **Edwin W. Lawrence Forensic Professorship of Speech** was established in 1965 by Edwin W. Lawrence, lawyer and financier of Rutland, Vermont, AB, 1901. Dr. Helen Morgan Parmett, Ph.D., is the Edwin W. Lawrence Forensic Professor of Speech.
- The **Daniel Clarke Sanders Endowed Chair** was established in 1968 by UVM alumni, honoring the Rev. Daniel Clarke Sanders, first president of the University.
- The **John L. Beckley Professorship in American Business** was established in 1983 by John L. Beckley, 1934 graduate of UVM a trustee from 1966-1970, to encourage economic education. Dr. David A. Jones, Ph.D., is the John L. Beckley Professor in American Business.
- The **Bishop Robert F. Joyce Chair in Human Development** was established in 1983 by alumni and friends, honoring Robert F. Joyce, 1917 graduate, a trustee from 1948-1954, and Bishop of the R. C. Diocese of Burlington for 15 years. Dr. Betsy Hoza, Ph.D., is the Robert F. Joyce Chair in Human Development.
- The **Ernest Hiram Buttles Professorship of Pathology and Laboratory Medicine** was established in 1984 to honor Ernest Hiram Buttles, Professor of Pathology and Bacteriology, 1921-1946. Dr. Pamela C. Gibson, M.D., is the Ernest Hiram Buttles Professor of Pathology and Laboratory Medicine.
- The **McClure Professorship in Musculoskeletal Research** was established in 1988 by J. Warren and Lois H. McClure. Dr. Bruce David Beynon, Ph.D., is the McClure Professor in Musculoskeletal Research.
- The **E.L. Amidon Chair in the Department of Medicine** was established in 1989 to honor Dr. E.L. Amidon, a revered teacher and former chair of the Department of Medicine.
- The **Roger H. Allbee '31 Professorship in Surgery** was created in 1992 by Roger H. Allbee, M.D. '31, to provide support for a research fellow in the Department of Surgery. Dr. Jonathan E. Boyson, Ph.D., is the Roger H. Allbee '31 Professor in Surgery.
- The **Harry W. Wallace Professorship in Neonatology** was established in the Department of Pediatrics 1995 by the family of Harry W. Wallace to represent Mr. Wallace's philanthropic interests. Dr. Roger F. Soll, M.D., is the Harry W. Wallace Professor in Neonatology.
- The **Gund Professorship in the Liberal Arts**, established in 1995 by Gordon and Lulie Gund, provides the College of Arts

and Sciences with the opportunity to attract a leading teacher-scholar to one of the liberal arts disciplines. Dr. Robert V. Bartlett, Ph.D., is the Gund Professor in the Liberal Arts.

- The **Dorothean Chair of Engineering and Science** was established in 1996 by Dr. Stuart Martin in memory of his wife, Dorothy Webster Martin, to support an outstanding individual in the field of engineering or a related science. Dr. Donna M. Rizzo, Ph.D., is the Dorothean Chair of Engineering and Science.
- The **Berta Pi-Sunyer Williams Endowed Professorship** was established in 1996 in recognition of the importance of women's health care issues. Established to provide general support for education, research and patient services in women's health care at Fletcher Allen and its affiliated organizations. Dr. Cheung Wong, M.D., is the inaugural Berta Pi-Sunyer Williams Endowed Professor.
- The **S.D. Ireland Family Professorship in Surgical Oncology** was established in 1999 in recognition of the cancer research being conducted at the University of Vermont. Dr. David N. Krag, M.D., is the inaugural S.D. Ireland Family Professor in Surgical Oncology.
- The **Henry and Carleen Tufo Chair in General Internal Medicine** was created in 1999 by Henry M. and Carleen Ann Tufo to support continued excellence in teaching, research and patient care in General Internal Medicine. Dr. Benjamin Littenberg, M.D., is the inaugural Henry and Carleen Tufo Chair in General Internal Medicine.
- The **Robert F. and Genevieve B. Patrick Endowed Chair in Nephrology** was established in 2000 through a generous bequest from the estate of Genevieve Patrick. The endowment is intended to support the study or specialty of Nephrology.
- The **Robert F. and Genevieve B. Patrick Endowed Chair in Watershed Science and Planning** was established in 2000 through a generous bequest from the estate of Genevieve Patrick, to provide in perpetuity vital support for teaching and scholarly innovation. Dr. Anne J. Jefferson, Ph.D., is the Robert F. and Genevieve B. Patrick Endowed Chair in Watershed Science and Planning.
- The **John Van Sicklen Maeck, M.D. Chair in Obstetrics and Gynecology** was established in 2000. The endowment supports the Chair of the Department of Obstetrics, Gynecology and Reproductive Sciences, who also holds the faculty position. Dr. Ira M. Bernstein, M.D., is the John Van Sicklen Maeck, M.D. Chair in Obstetrics and Gynecology.
- The **Gund Professorship of Ecological Economics** was established in 2001 by Gordon and Lulie Gund and their sons, Grant and Zachary. Dr. Taylor H. Ricketts, Ph.D., is the Gund Professor of Ecological Economics.
- The **Stanley S. Fieber '48 Chair in Surgery** was created in 2002 by Stanley S. Fieber, M.D., to enhance the research and educational activities of the Department of Surgery. Dr. Mitchell C. Norotsky, M.D., is the Stanley S. Fieber '48 Chair in Surgery.
- The **Irwin H. Krakoff, M.D. Green and Gold Professorship in the University of Vermont Cancer Center** was established in 2003 in honor of Dr. Krakoff, first director of the University of Vermont Cancer Center. It supports outstanding senior or promising junior faculty members in the University of Vermont Cancer Center in cancer research.
- The **Duncan W. Persons, M.D. '34 Green and Gold Professorship in Ophthalmology** was established in 2003 by Dr. Duncan Persons, an ophthalmologist who graduated from The Robert Larner, M.D. College of Medicine at the University of Vermont in 1934, to support an ophthalmology faculty member who demonstrates scholarly productivity in the mission areas of education and research, as well as clinical excellence. Dr. Christopher J. Brady, M.D., MHS, is the Duncan W. Persons, M.D. '34 Green and Gold Professor.
- The **Lisa Steele Professorship in Nursing and Health Sciences** was established in the College of Nursing and Health Sciences in 2003 by an anonymous donor for a tenured Medical Laboratory and Radiation Sciences faculty member with a focus on regulation of human health and disease. Dr. Paula B. Deming, Ph.D., is the Lisa Steele Professor in Nursing and Health Sciences.
- The **Heinz and Rowena Ansbacher Green and Gold Professorship in Psychology** was established by Max, Ben, Ted, and Charles Ansbacher in October 2004 to honor the lifetime achievement of their father and mother, Heinz and Rowena, in the field of Psychology.
- The **Mary Kay Davignon Green and Gold Professorship** was established in 2005 to support the strategic priorities of the Dean of Medicine.
- The **Cordell E. Gross Green and Gold Professorship in Neurosurgery** was established in 2005 by former professor and chief of neurosurgery Dr. Cordell Gross to provide annual support for educational or research purposes. Dr. Brandon D. Liebelt, M.D., is the Cordell E. Gross Green and Gold Professor in Neurosurgery.
- The **Samuel B. and Michelle D. Labow Green and Gold Professorship of Colon and Rectal Surgery** was established in 2005 to support colon and rectal surgeons in the Department of Surgery. Dr. Peter A. Cataldo, M.D., is the Samuel B. and Michelle D. Labow Green and Gold Professor of Colon and Rectal Surgery.
- The **Albert G. Mackay M.D. '32 and H. Gordon Page M.D. '45 Professorship in Surgical Education** was established in 2005 to support the academic mission of the Department of Surgery. Dr. Edward C. Borrazzo, M.D., FACS, is the Albert G. Mackay, M.D. '32 and H. Gordon Page, M.D. '45 Professor in Surgical Education.
- The **John P. and Kathryn H. Tampas '54 Green and Gold Professorship in Radiology** was established in 2005 to support education and research in the Department of Radiology. Dr. Kristen K. DeStigter, M.D., is the John P. and Kathryn H. Tampas '54 Green and Gold Professor of Radiology.
- The **Richard and Pamela Ader Green and Gold Professorship** was established in 2006 by Richard H. Ader '63, to be awarded to a faculty member in the College of Arts and Sciences or the Grossman School of Business. Dr. William E. Mierse, Ph.D., is the Richard and Pamela Ader Green and Gold Professor.
- The **Richard A. Dennis Green and Gold Professor** was established in 2006 by family and friends of Richard A. Dennis '57

as a university-wide professorship, assigned at the discretion of the Provost, to recruit or retain a faculty member embodying the ideals to which Dick Dennis dedicated his life.

- The **Raul Hilberg Distinguished Professorship of Holocaust Studies** was established in 2006 by Leonard '51 and Carolyn Miller in the College of Arts and Sciences Holocaust Studies Program. Dr. Alan E. Steinweis, Ph.D., is the Raul Hilberg Distinguished Professor of Holocaust Studies.
- The **R. James McKay, M.D. Green and Gold Professorship in Pediatrics** was established in 2006 to support the research and educational activities in the Department of Pediatrics. Dr. Marshall L. Land, Jr., M.D., is the inaugural R. James McKay, M.D. Green and Gold Professor in Pediatrics.
- The **Leonard and Carolyn Miller Distinguished Professorship of Holocaust Studies** was established in 2006 by Leonard '51 and Carolyn Miller in the College of Arts and Sciences Holocaust Studies Program. Dr. Jonathan D. Huener, Ph.D., is the Leonard and Carolyn Miller Distinguished Professorship of Holocaust Studies
- The **A. Bradley Soule and John Tampas Green and Gold Professorship of Radiology** was established in 2006 to support the Department of Radiology's academic mission. Dr. Jeffrey S. Klein, M.D., is the inaugural A. Bradley Soule and John Tampas Green and Gold Professor of Radiology.
- The **Achenbach Chair in Developmental Psychopathology** was established in 2007 by the Research Center for Children, Youth and Families, Inc., to support the research and education activities of a faculty member in the UVM College of Medicine Department of Psychiatry.
- The **Robert L. Bickford, Jr. Green and Gold Professorship** was established in 2007 in the College of Agriculture and Life Sciences by Robert L. Bickford, Jr. '43 and Oletha T. Bickford '41 to advance the teaching and research of a distinguished professor whose research efforts are at the intersection of nutrition, biochemistry and human health. Dr. Jean R. Harvey, Ph.D., R.D., is the Robert L. Bickford, Jr. Green and Gold Professor.
- The **Jerold F. Lucey, MD Chair in Neonatal Medicine** was established in 2007 by Vermont Oxford Network, Inc. and other donors to advance the care of newborn infants and their families through research, education, and quality improvement in the Department of Pediatrics. Dr. Jeffrey D. Horbar, M.D., is the inaugural Jerold F. Lucey, M.D. Chair in Neonatal Medicine.
- The **Breazzano Family Green and Gold Professorship** was established in 2008 by David and Roxanne Breazzano to support an endowed faculty position in the College of Arts and Sciences. Dr. Jim O. Vigoreaux, Ph.D., is the inaugural Breazzano Family Green and Gold Professor.
- The **Holly D. and Robert E. Miller Professorship in Nursing Leadership** was established in 2009 so the College of Nursing and Health Sciences may pilot an innovative approach to enable future nurses to strengthen their commitment to the profession, embody more fully the deeply held values of nursing, and assume a leadership role in the formation of a better and more compassionate health care system that continues today. Dr. Rosemary L. Dale, Ed.D., is the inaugural Holly D. and Robert E. Miller Professor in Nursing Leadership.
- The **Robert B. Lawson Green and Gold Professorship in Psychology** was established in 2010 by the Segal and Davis Family Foundation of Charles Town, WV, in honor of Dr. Robert B. Lawson, who retired in May of 2010 from the University of Vermont's Department of Psychology. The professorship was founded to support teaching, service and research in the Department of Psychology.
- The **L. Richard Fisher Professorship of Electrical Engineering** was established in 2011 by Dick Fisher to attract and retain high quality faculty in electrical engineering in the College of Engineering and Mathematical Sciences. Dr. Mads R. Almssalkhi, Ph.D., is the L. Richard Fisher Professor of Electrical Engineering.
- The **Roy Korson, M.D. and Lorraine Korson, M.S. Green and Gold Professorship in Pathology** was established in 2011 by the Korsons to promote academic excellence in the Department of Pathology and Laboratory Medicine. Dr. Mark K. Fung, M.D., Ph.D., is the inaugural Roy Korson, M.D. and Lorraine Korson, M.S. Green and Gold Professor of Pathology.
- The **Elliott A. Brown Green and Gold Professorship of Law, Politics, and Political Behavior** was established in 2012 to support an endowed faculty position in the Department of Political Science. Dr. Robert Pepperman Taylor, Ph.D., is the Elliott A. Brown Green and Gold Professor of Law, Politics, and Political Behavior.
- The **David Blittersdorf Professorship of Sustainability Science and Policy** was established in 2013 by David Blittersdorf to support a faculty position in the Rubenstein School of Environment and Natural Resources that fosters collaboration with the College of Engineering and Mathematical Sciences to build a sustainability curriculum addressing solutions to fossil fuel resource depletion and renewable energy. Dr. Jon D. Erickson, Ph.D., is the David Blittersdorf Professor of Sustainability Science and Policy.
- The **Virginia H. Donaldson, M.D. '51 Professorship** was established in 2013 in The Robert Larner, M.D. College of Medicine at the University of Vermont by Virginia Donaldson, MD to faculty who demonstrate a commitment to translational science and who actively contribute to the goal of promoting the impact of biological science on clinical medicine, as Dr. Donaldson did. Dr. Stephen T. Higgins, Ph.D., is the Virginia H. Donaldson, M.D. '51 Professor.
- The **Steven Grossman Endowed Chair in Entrepreneurship** was established in 2013 by the Grossman Family Foundation to recruit and retain an outstanding faculty member to the Grossman School of Business. Dr. Erik Monsen, Ph.D., is the inaugural Steven Grossman Endowed Chair in Entrepreneurship.
- The **Steven Grossman Endowed Chair in Finance** was established in 2013 by the Grossman Family Foundation to recruit and retain an outstanding faculty member to the Grossman School of Business. Dr. Charles R. Schnitzlein, Ph.D., is the inaugural Steven Grossman Endowed Chair in Finance.

- The **Steven Grossman Endowed Chair in Sustainable Business** was established in 2013 by the Grossman Family Foundation to recruit and retain an outstanding faculty member to the Grossman School of Business. Dr. Dror Etzion, Ph.D., is the Steven Grossman Endowed Chair in Sustainable Business.
- The **Frank P. Ittleman, M.D. Chair in Cardiothoracic Surgery** was established in 2013 by Dr. Frank P. Ittleman, M.D., to allow the holder of the Endowed Chair to advance their scholarly activities through access to additional resources outside of customary institutional support for the Department. The Fund will serve as a way to recognize and reward outstanding faculty. Dr. Frank P. Ittleman, M.D., is the Frank P. Ittleman Chair in Cardiothoracic Surgery.
- The **Wolfgang and Barbara Mieder Green and Gold Professorship** was established in 2013 by Wolfgang and Barbara Mieder to recognize outstanding faculty in smaller academic units within the arts and humanities, the social sciences, and education, beginning with the Department of German and Russian. Dr. Helga Schreckenberger, Ph.D., is the Wolfgang and Barbara Mieder Green and Gold Professor.
- The **Steven Rubenstein Professorship for Environment and Natural Resources** was established in 2013 by Steve and Beverly Rubenstein. Dr. Adrian J. Ivakhiv, Ph.D., is the Steven Rubenstein Professor for Environment and Natural Resources.
- The **Peter Weimersheimer Endowed Professorship in Emergency Medicine** was established in 2013 to advance clinical and academic Emergency Medicine at The Robert Larner, M.D. College of Medicine at the University of Vermont and the University of Vermont Medical Center.
- The **Mark J. Zwynenburg Green and Gold Professorship of Financial History** was established in 2013 to honor Mark J. Zwynenburg '81 to assist the Department of Economics in its efforts to recruit and retain exceptionally qualified new faculty members actively engaged in teaching and research investigating financial history issues. Dr. Jane E. Knodell, Ph.D., is the inaugural Mark J. Zwynenburg Green and Gold Professor of Financial History.
- The **Barrett Foundation Chair in Engineering** was established in 2013 by the Barrett Foundation to recruit and retain a new dean for the College of Engineering and Mathematical Sciences. Dr. Luis A. Garcia, Ph.D., is the inaugural Barrett Foundation Chair in Engineering.
- The **Green and Gold Professorship of Pediatric Surgery** was established in 2013 to recognize and reward outstanding faculty and to allow the holder to advance his or her scholarly activities through access to additional resources outside of customary institutional support of the Department. Dr. Kenneth H. Sartorelli, M.D., FACS, is the inaugural Green and Gold Professor of Pediatric Surgery.
- The **Levitt Family Green and Gold Professorship** was established in 2013 by an anonymous donor to reward high-performing faculty in the teacher education program. Dr. Katharine G. Shepherd Ed.D., is the inaugural Levitt Family Green and Gold Professor.
- The **Green and Gold Professorship of Urology** was established in 2013 in recognition of the outstanding faculty of the Department of Surgery and as an investment to increase philanthropy to benefit the Department of Surgery, the Foundation's Board of Directors approved the creation of this Professorship as a quasi-endowment from an unrestricted gift made by University Medical Education Associates. Dr. Mark K. Plante, M.D., FRCS(C), FACS is the inaugural Green and Gold Professor of Urology.
- The **Green and Gold Professorship of Vascular Surgery** was established in 2013 in recognition of the outstanding faculty of the Department of Surgery and as an investment to increase philanthropy to benefit the Department of Surgery, the Foundation's Board of Directors approved the creation of this Professorship as a quasi-endowment from an unrestricted gift made by University Medical Education Associates. Dr. Andrew C. Stanley, M.D., FACS, is the inaugural Green and Gold Professor of Vascular Surgery.
- The **Robert A. Pierattini, M.D., Green and Gold Professorship in Psychiatry** was established in 2013 by Katherine Teetor to enhance excellence in teaching and research for the medical discipline of psychiatry, to support the Department's teaching clinical service, research programs, or other general purposes in ways that promote the perpetuation of academic, clinical and research excellence. Dr. Judith L. Lewis, M.D., is the inaugural Robert A. Pierattini, M.D., Green and Gold Professor in Psychiatry.
- The **Elizabeth and David Daigle Professorship in Finance** was established in 2014 to attract and retain high quality faculty in finance. Dr. Andrew K. Prevost, Ph.D., is the inaugural Elizabeth and David Daigle Professor in Finance.
- The **Arthur Jason Perelman, M.D. '52 Professorship** was established in 2014 to both recognize and support the invaluable work of research in cancer. Dr. Perelman's special interest in genomic medicine and research, in addition to his ongoing interest in research for gynecological cancer, general cancer research, and supportive initiatives to help patients and their families navigate the cancer journey with clarity and dignity. Dr. Gary S. Stein, Ph.D., is the inaugural Arthur Jason Perelman, MD '52 Professor.
- The **Cyril G. Veinott Green and Gold Professorship** was established in 2014 as part of the philanthropic legacy of Cyril G. Veinott '26 to enhance faculty support in the College of Engineering and Mathematical Sciences. Dr. Joshua C. Bongard, Ph.D., is the inaugural Cyril G. Veinott Green and Gold Professor.
- The **Green and Gold Professorship of Neurosurgery** was established in 2014 recognition of the outstanding faculty of the Department of Surgery and as an investment to increase philanthropy to benefit the Department of Surgery. Dr. Susan R. Durham, M.D., is the inaugural Green and Gold Professor of Neurosurgery.
- The **Green and Gold Professorship of Surgical Research** was established in 2014 to recognize and reward outstanding faculty and allow their advancement of scholarly activities through



access to additional resources. Dr. Brian L. Sprague, Ph.D., is the inaugural Green and Gold Professor of Surgical Research.

- The **Green and Gold Professorship of Transplant Surgery and Immunology** was established in 2014 to recognize and reward outstanding faculty and allow their advancement of scholarly activities through access to additional resources. Dr. Carlos E. Marroquin, M.D., FACS, is the inaugural Green and Gold Professor of Transplant Surgery and Immunology.
- The **Green and Gold Professorship of Otolaryngology – Head and Neck Surgery** was established in 2014 to allow the holder of the Professorship to advance their scholarly activities through access to additional resources outside of customary institutional support for the Department, and as a way to recognize and reward outstanding faculty. Dr. William J. Brundage, M.D., is the inaugural Green and Gold Professor of Otolaryngology – Head and Neck Surgery.
- The **Robert Larner Professorship in Medical Education** was established in 2015 in medical education for The Teaching Academy at The Robert Larner, M.D. College of Medicine at the University of Vermont. Dr. Kathryn N. Huggett, Ph.D., is the inaugural Robert Larner Professor in Medical Education.
- The **Holly and Bob Miller Endowed Chair in Palliative Medicine** was established in 2015 for the position of division chief for palliative medicine in the Department of Family Medicine to recognize and support excellence in palliative medical education. Dr. Robert E. Gramling, M.D., is the inaugural Holly and Bob Miller Endowed Chair in Palliative Medicine.
- The **Sarah Nichols Gruenig Green and Gold Professorship of Diabetes Research** was established in 2015 to benefit the Division of Endocrinology, Diabetes and Metabolism in the Department of Medicine. Dr. John L. Leahy, M.D., is the inaugural Sarah Nichols Gruenig Green and Gold Professor of Diabetes Research.
- The **Philip Ades, M.D. Professorship of Cardiovascular Disease Prevention** was established in 2016 for the Director of Cardiac Rehabilitation in the Department of Medicine to allow continued evolution and growth of the program, ensuring that cardiac rehabilitation and cardiovascular disease prevention services will be available to patients in the region. Dr. Philip A. Ades, M.D., is the inaugural Philip Ades, M.D., Professor of Cardiovascular Disease Prevention.
- The **Robert W. Hamill, M.D. Green and Gold Professorship** was established in 2016 to provide support to conduct cutting-edge research and to advance educational activities in Parkinson's disease and related conditions. Dr. James T. Boyd, M.D., is the inaugural Robert W. Hamill, MD Green and Gold Professor.
- The **Gregory N. Sweeny Green and Gold Professorship of Civil Engineering** was established in 2016 by Gregory N. Sweeny to recruit good professors, and retain good professors by rewarding those whose accomplishments should be honored. This Green and Gold Professorship is Gregory's way of thanking the University for what it did for him, and for what the University can do for the faculty and students in the future. Dr. Eric M. Hernandez, Ph.D. is the inaugural Gregory N. Sweeny Green and Gold Professor of Civil Engineering.
- The **Bloomfield Early Career Professorship in Cardiovascular Research** was established in 2017 by Martin Bloomfield, M.D. '60, to help young investigators combine practice and research by providing more assistance, reduce teaching loads, and offer salary support early in their careers at the Cardiovascular Research Institute of Vermont (CVRI). Dr. Timothy B. Plante, M.D., MHS, is the Bloomfield Early Career Professor in Cardiovascular Research.
- The **Julian Lindsay Green and Gold Professorship of English** was established in 2017 by Robert E. Fenix to honor his late father-in-law Julian Lindsay, who taught in UVM's English Department from 1910 to 1952. The Professorship will recognize and foster the research and teaching of the recipient, a tenured faculty member in the English Department who has made, and continues to make, a significant contribution to the study of American literature. Dr. Emily E. Bernard, Ph.D., is the inaugural Julian Lindsay Green and Gold Professor of English.
- The **Pizzagalli Chair of Free Enterprise** was established in 2017 to advance the value and benefits of capitalism to the global economy, and to educate individuals in, and to promote, basic concepts of free enterprise, business competition, limited government, capitalism and self-reliance. Dr. Andrey D. Ukhov, Ph.D., is the inaugural Pizzagalli Chair of Free Enterprise.
- The **Holly and Bob Miller Endowed Chair in Memory and Aging** was established in 2018 in honor of Michael LaMantia, M.D., MPH, UVM Associate Professor of Medicine & Neurological Sciences, Section Head of Geriatric Medicine in the Department of Medicine, and Director of the UVM Center on Aging. Holly and Bob Miller wish for this Chair to support a recognized leader in the fields of memory and aging/geriatrics, and the continued growth of the memory and aging program(s) in the UVM LCOM and the UVMCMC. Because of his compassionate care of patients and families in the UVMCMC Memory Clinic and the groundbreaking research he is conducting at UVM in the fields of memory and aging. Dr. Michael A. LaMantia, M.D., MPH, is the inaugural Holly and Bob Miller Endowed Chair in Memory and Aging.
- The **Adam and Abigail Burack Green and Gold Professorship of Education** was established in 2018 to support an education faculty member focused on school climate in the Department of Education, and to help recruit and retain education faculty who will expand students' development to becoming transformational educators and teachers. Dr. Bernice R. Garnett, Sc.D., is the inaugural Adam and Abigail Burack Green and Gold Professor of Education.
- The **Blodwen S. Huber Early Career Green and Gold Professorship in Pathology and Laboratory Medicine** was established in 2018 by Sally A. Huber, Ph.D., to honor her mother to continue her spirit for the love of learning, knowledge, and the love of helping others to make a success of their lives, and benefit the Department of Pathology and Laboratory Medicine. Dr. Sarah A. Nowak, Ph.D., is the inaugural Blodwen S. Huber Early

- Career Green and Gold Professor in Pathology and Laboratory Medicine.
- The **Elmer R. Huber Early Career Green and Gold Professorship in Pathology and Laboratory Medicine** was established in 2018 by Sally A. Huber, Ph.D., to honor her father to continue his spirit for the love of learning, knowledge, and the love of helping others to make a success of their lives, and benefit the Department of Pathology and Laboratory Medicine. Dr. David J. Seward, Ph.D., is the inaugural Elmer R. Huber Early Career Green and Gold Professor in Pathology and Laboratory Medicine.
  - The **Rogers and Nancy Follansbee Professorship in Dermatology** was established in 2019 by their daughter, Lenore Broughton, in support of solidifying a permanent foundation of excellence in Dermatology in the Department of Medicine at the University of Vermont, and to support the goal of fostering education, encouraging research, and promoting the exchange of skill sets with international colleagues and other general purposes of an Endowed faculty position.
  - The **Chris Abajian, M.D. and Margaret Abajian Green and Gold Professorship in Pediatric Anesthesiology** was established in 2019 by Chris Abajian, M.D. and Margaret Abajian for their years of service and philanthropy to the Department of Anesthesia, the UVM Larner College of Medicine, and the UVM Medical Center, and Dr. Abajian's leadership in the field of Pediatric Anesthesiology.
  - The **Morris Goldman '29, M.D. '32 Green and Gold Professorship of Family Medicine** was established in 2019 in honor of Morris Goldman, M.D., to support the threefold mission of the department: to provide high quality care and service to our patients; to insure high quality education programs for our residents and students; and to advance the science and specialty of family medicine through investigation and query. Dr. Thomas C. Peterson, M.D., is the inaugural Morris Goldman '29, M.D. '32 Green and Gold Professor of Family Medicine.
  - The **Schlesinger-Grossman Chair of Family Business** was established in 2019 by Steve Schlesinger and Steven Grossman, to inspire students to become entrepreneurs, to join or start their own family businesses, and to reinforce Family Business as an integral part of the curriculum in the Grossman School of Business as it continues to build its reputation as one of the nation's most distinguished business schools. Dr. Pramodita Sharma, Ph.D., is the inaugural Schlesinger-Grossman Chair of Family Business.
  - The **Sanford Friedman-Jerome Higgs Green and Gold Professorship of Education** was established in 2020 in honor of the teaching, research, and support of LGBTQ students, faculty, and administrators at the post-secondary education and public education levels, where teaching, research, and support is inclusive of LGBTQ students, faculty and administrators of color, as well as Caucasians and the non-binary categorization of gender, sexuality, sex, etc. Dr. Jason C. Garvey, Ph.D., is the inaugural Sanford Friedman-Jerome Higgs Green and Gold Professor of Education.
  - The **Wolfgang and Barbara Mieder Green and Gold Professorship in Romance Languages** was established in 2020 by Wolfgang and Barbara Mieder, to recognize and support one of the outstanding faculty members in the Department of Romance Languages in the College of Arts and Sciences. Dr. Cristina Mazzoni, Ph.D., is the inaugural Wolfgang and Barbara Mieder Green and Gold Professor in Romance Languages.
  - The **George W. Albee Green and Gold Professorship of Psychological Science** was established in 2020 by Jean Rhodes, in honor of UVM Professor of Psychology George W. Albee, 1971-1991, to have an active program of research or scholarship that aligns with Professor Albee's commitment to social justice, prevention, and the expansion of mental health care to marginalized populations, by using contemporary interdisciplinary approaches, including psychology and emerging technologies. Dr. Matthew Price, Ph.D., is the inaugural George W. Albee Green and Gold Professor of Psychological Science.
  - The **Dr. Ronald W. Pero International Research Green and Gold Professorship** was established in 2020 by Margaretha Pero, M.D., Ph.D., to honor her husband's lifetime career at his alma mater in the Department of Biomedical and Health Sciences in the College of Nursing and Health Sciences. Dr. Seth R. Frieze, Ph.D., is the inaugural Dr. Ronald W. Pero International Research Green and Gold Professor.
  - The **Richard L. Gamelli, M.D. '74 Green and Gold Professorship in Surgery** was established in 2020 by Mary C. Gamelli to integrate knowledge obtained through research to improve and expand the Department of Surgery's Burn Program, and benefit the Department of Surgery at the University of Vermont. Dr. Margaret A. Tandoh, M.D., FACS, is the inaugural Richard L. Gamelli, M.D. '74 Green and Gold Professor in Surgery.
  - The **J. Walter Juckett Chair in Cancer Research** was established in 2020 by the J. Walter Juckett Cancer Research Foundation endeavor to support the University of Vermont Cancer Center to achieve its mission to prevent, treat and cure cancer. Dr. Randall F. Holcombe, M.D., MBA, is the inaugural J. Walter Juckett Chair in Cancer Research.
  - The **Howard Schapiro, M.D. '80 and Janet Carroll, MSN, M.P.H. Green and Gold Professorship in Anesthesiology** was established in 2021 by Howard Schapiro and Jan Carroll for their years of service and philanthropy to the Department of Anesthesia, the UVM Larner College of Medicine, and the UVM Health Network, and Dr. Schapiro's leadership as Chair of the Department of Anesthesiology and his strategic navigation of the Department through challenging times, including the revival of the residency program and a renewed academic program that supports the mission of the department and the organization. Dr. Melissa L. Davidson, M.D., is the inaugural Howard Schapiro, MD '80 and Janet Carroll, MSN, M.P.H. Green and Gold Professor in Anesthesiology.
  - The **Green and Gold Early Career Professorship in the Department of Medicine** was established in 2021 and awarded to full-time Department of Medicine faculty members who

are assistant professors in the first five years of their faculty appointment. Dr. Diego A. Adrianzen Herrera, M.D., is the inaugural Green and Gold Early Career Professor in the Department of Medicine.

- The **Asfaw Yemiru Green and Gold Professorship in Global Health** was established in 2021 to support a faculty member in the Department of Pediatrics to strengthen the relationship between the University of Vermont and Vermont Oxford Network in Global Health by supporting global health research and service. Dr. Danielle E. Y. Ehret, M.D., M.P.H., is the inaugural Asfaw Yemiru Green and Gold Professor in Global Health.
- The **Holly D. and Robert E. Miller Green and Gold Professorship in Nursing Research** was established in 2021 in honor of Holly and Bob Miller, which will focus on academic priorities in the Department of Nursing defined by the Chair and the Dean. Dr. Jennifer S. Laurent, Ph.D., APRN, is the inaugural Holly D. and Robert E. Miller Green and Gold Professor in Nursing Research.
- The **Holly D. and Robert E. Miller Green and Gold Professorship in Nursing Workforce Research** was established in 2021 in honor of Holly and Bob Miller, which will focus on academic priorities in the Department of Nursing defined by the Chair and the Dean. Dr. Mary Val Palumbo, D.N.P., APRN, is the inaugural Holly D. and Robert E. Miller Green and Gold Professor in Nursing Workforce Research.
- The **Raymond M. P. Donaghy Professorship** was established in 2021 to honor the life and accomplishments of Raymond M. P. “Pete” Donaghy and to support the continuation of his legacy of excellence in training of neurosurgeons and outstanding patient care. Dr. Bruce I. Tranmer, M.D., is the inaugural Raymond M. P. Donaghy Professor.
- The **Karl and Mary Fessenden Professorship in Biomedical Engineering** was established in 2022 by Karl and Mary Fessenden, to improve the lives of individuals and societies, and to help promising young faculty to continue their progress towards international impact in their field. Ryan S. McGinnis, Ph.D., is the inaugural Karl and Mary Fessenden Professor in Biomedical Engineering.

## HONORARY AND RECOGNITION SOCIETIES

Honorary and recognition societies at the University of Vermont recognize student contributions to the UVM community and their leadership in campus life.

University-wide honorary societies include the Boulder Society, which acknowledges outstanding senior men; and the Tower Society, which acknowledges outstanding seniors from all groups who have been traditionally marginalized based on their gender identity or expression.

National honorary societies represented on campus are as follows:

The Alpha of Vermont Chapter of Phi Beta Kappa was established at the university in 1848 and has the honor of being the first Phi Beta Kappa chapter to initiate women and African Americans to membership, which it did in the 1870s. Membership in Phi Beta Kappa reflects outstanding academic achievement in a broad range of liberal arts disciplines and is typically extended to students in their senior year. The chapter also selects one junior each year to receive the Bogorad Award, which recognizes superlative academic achievement in the liberal arts through the sophomore year.

The Mortar Board is a national society for senior women and men. Although membership in Mortar Board comes as a high honor for a UVM student in recognition of outstanding service, scholarship, and leadership, it is also a challenge for continued unselfish service in the best interests of the college campus.

The Golden Key National Honor Society recognizes the top fifteen percent of juniors and seniors in all fields of study. The society emphasizes scholarship and community service.

The Society of the Sigma Xi, established in 1945, initiates those who have proven their ability to do research in one of the sciences, including students who have a high scholastic standing.

The alpha chapter of Nu Delta Epsilon was established at UVM in 1993. It is the first national honor society to recognize non-degree students who excel academically and exhibit a strong commitment to higher education and personal achievement.

The National Society for Collegiate Scholars (NSCS) recognizes first- and second-year students for outstanding academic achievement.

Other national honorary societies include: Alpha Kappa Delta (sociology), Alpha Omega Alpha (medical), Alpha Zeta (agriculture), Beta Beta Beta (biology), Beta Gamma Sigma (business administration), Chi Epsilon (civil and environmental engineering), Eta Sigma Phi (classical studies), Delta Sigma Rho (debating), Gamma Kappa Alpha (italian), Gamma Theta Upsilon (geography), Kappa Delta Pi (education), Mu Sigma Rho (statistics), Nu Rho Psi (neuroscience), Omicron Delta Epsilon (international economics), Omicron Nu (home economics), Order of Omega (fraternities and sororities), Phi Alpha (social work), Phi Alpha Theta (history), Phi Eta Sigma (first-year students), Pi Delta Phi (french), Pi Sigma Alpha (political science), Psi Chi (psychological science), Sigma Delta Pi (spanish), Sigma Gamma Epsilon (geology), Sigma Pi Sigma (physics), Theta Tau (nursing), Tau Beta Pi (engineering), Triota (Iota Iota Iota, women's studies) and Upsilon Pi Epsilon (computer science).

## ACCREDITATIONS

The University of Vermont is accredited by the New England Commission of Higher Education (NECHE), a non-governmental, nationally-recognized organization whose affiliated institutes include elementary schools through collegiate institutions offering postgraduate instruction.

Accreditation of an institution by the New England Commission indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited school or college is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the New England Commission is not partial but applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding the status of an institution's accreditation by NECHE should be directed to the administrative staff of the university. Individuals may also contact:

New England Commission of Higher Education  
209 Burlington Road  
Bedford, MA 01730-1433  
(781) 271-0022

Specific academic program accreditations include:

## AGRICULTURE AND LIFE SCIENCES

- Dietetics — Accreditation Council for Education and Dietetics of the Academy of Nutrition and Dietetics
- Public Administration — Network of Schools of Public Affairs and Administration - NASPAA

## ARTS AND SCIENCES

- Chemistry — American Chemical Society
- Clinical Psychology — American Psychological Association

## GROSSMAN SCHOOL OF BUSINESS

- AACSB International — The Association to Advance Collegiate Schools of Business

## EDUCATION AND SOCIAL SERVICES

- Social Work — Council on Social Work Education
- Educator Preparation — Council for the Accreditation of Educator Preparation and Vermont Standards Board for Professional Educators
- Clinical Mental Health Counseling — Council for Accreditation of Counseling and Related Educational Programs
- School Counseling — Council for Accreditation of Counseling and Related Educational Programs; Vermont Standards Board for Professional Educators

## ENGINEERING AND MATHEMATICAL SCIENCES

- Biomedical, Civil, Electrical, Environmental, and Mechanical Engineering — The Engineering Accreditation Commission (EAC) of ABET, <https://www.abet.org>.

## LARNER COLLEGE OF MEDICINE

- Liaison Committee on Medical Education (American Medical Association & Association of American Medical Colleges)
- Master of Public Health Program – Council on Education for Public Health
- Clinical Simulation Laboratory – American College of Surgeons and Society for Simulation in Healthcare
- Continuing Medical and Interprofessional Education - American Nurses Credentialing Center, Accreditation Council for Pharmacy Education, and Accreditation Council for Continuing Medical Education

## NURSING AND HEALTH SCIENCES

- Athletic Training Education Program — Commission on Accreditation of Athletic Training Education
- Integrative Health and Wellness Coaching Certificate - National Board of Health and Wellness Coaching
- Radiation Therapy — Joint Review Committee on Education in Radiologic Technology
- Medical Laboratory Science — National Accrediting Agency for Clinical Laboratory Science
- Nuclear Medicine Technology — Joint Review Committee on Education Programs in Nuclear Medicine Technology
- Nursing — The baccalaureate degree program in nursing, master's degree program in nursing, Doctor of Nursing Practice program and post-graduate APRN certificate program at the University of Vermont are accredited by the Commission on Collegiate Nursing Education, 655 K Street NW, Suite 750, Washington, DC 20001, 202-887-6791
- Physical Therapy — Commission on Accreditation in Physical Therapy Education
- Speech-Language Pathology — Council for Academic Accreditation
- Clinical Simulation Laboratory – American College of Surgeons and Society for Simulation in Healthcare

## RUBENSTEIN SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

- Forestry Program — Society of American Foresters

## UVM EQUAL OPPORTUNITY STATEMENTS

### EQUAL OPPORTUNITY IN EDUCATIONAL PROGRAMS AND ACTIVITIES POLICY

The University of Vermont and State Agricultural College is committed to a policy of equal educational opportunity. The

university therefore prohibits discrimination on the basis of unlawful criteria such as race, color, religion, national or ethnic origin, age, sex, sexual orientation, marital status, disability, or gender identity or expression, as those terms are defined under applicable law, in admitting students to its programs and facilities and in administering its admissions policies, educational policies, scholarship and loan programs, athletic programs, and other institutionally administered programs or activities made available to students at the university. The university also prohibits harassment, as defined in the Vermont Statutes at Title 16, section 11(a)(26). Unlawful harassment is a form of discrimination and is therefore prohibited. Sources: Title VI of the Civil Rights Act of 1964; Title IX of the Education Amendments of 1972; the Age Discrimination Act of 1975; Section 504 of the Rehabilitation Act of 1973; the Americans with Disabilities Act of 1990; the Vermont Public Accommodations Act; and such other federal, state, and local non-discrimination laws as may apply.

For more information on this policy, please refer to the Equal Opportunity in Educational Programs and Activities and Non-Harassment Policy web page.

## **EQUAL EMPLOYMENT OPPORTUNITY AND AFFIRMATIVE ACTION POLICY**

The University of Vermont and State Agricultural College is committed to a policy of equal employment opportunity and to a program of affirmative action in order to fulfill that policy. The University will accordingly recruit, hire, train, and promote persons in all positions and ensure that all other personnel actions are administered without regard to unlawful criteria including race, color, religion, ancestry, national origin, place of birth, sex, sexual orientation, disability, age, positive HIV-related blood test results, genetic information, gender identity or expression, or status as a disabled veteran, recently separated veteran, active duty wartime or campaign badge veteran, or Armed Forces service medal veteran (collectively "protected veterans"), or crime victim status, as these terms are defined under applicable law, or any other factor or characteristic protected by law, and ensure that all employment decisions are based only on valid job requirements.

In addition, the University of Vermont recognizes that discriminatory harassment and sexual harassment are forms of unlawful discrimination, and it is, therefore, the policy of the University that discriminatory harassment and sexual harassment will not be tolerated. The University also prohibits unlawful harassment on the basis of other characteristics protected by law.

Further, employees and applicants will not be subjected to harassment or retaliation because they have engaged in or may engage in the following: filing a complaint or assisting or participating in an investigation regarding alleged discrimination or harassment as prohibited in the policy statement above; filing a complaint or assisting or participating in an investigation, compliance evaluation, or any other activity related to the administration of the Vietnam Era Veterans' Readjustment Assistance Act of 1974 ("VEVRAA"), Section 503 of the Rehabilitation Act of 1973 ("Rehabilitation Act"), or the Affirmative Action provisions of federal, state or local law; opposing any act or practice made unlawful by VEVRAA, requiring equal

employment opportunities for individuals with disabilities, disabled veterans, recently separated veterans, other protected veterans, or Armed Forces service medal veterans; or exercising any rights under VEVRAA or the Rehabilitation Act.

Sources: Titles VI and VII of the Civil Rights Act of 1964; the Immigration Reform and Control Act of 1986; Title IX of the Education Amendments of 1972; the Equal Pay Act of 1963; the Age Discrimination in Employment Act of 1967; the Age Discrimination Act of 1975; Sections 503 and 504 of the Rehabilitation Act of 1973; the Americans with Disabilities Act of 1990; Section 402 of the Vietnam-Era Veterans Readjustment Assistance Act of 1974; Executive Order 11246; the Genetic Information Nondiscrimination Act of 2008; and the Vermont Fair Employment Practices Act, all as amended; and such other federal, state and local non-discrimination laws as may apply.

Note: This Statement of Policy is the official University of Vermont Equal Educational Opportunity Policy Statement and supersedes all prior policy statements regarding its subject matter. It may be modified only by written statement issued by the President as Chief Executive Officer of the University or by formal action by the University of Vermont and State Agricultural College Board of Trustees. This Policy Statement is designed to express the University's intent and commitment to comply with the requirements of federal, state and local non-discrimination laws. It shall be applied co extensively with such laws, and shall not be interpreted as creating any rights, contractual or otherwise, that are greater than exist under such non-discrimination laws. Persons seeking to participate in educational opportunities offered by the University must consult position and program descriptions to determine criteria for eligibility. All such criteria shall be established in a manner consistent with the legal requirements herein referenced.

For more information on this policy, please refer to the Equal Employment Opportunity/Affirmative Action Policy Statement web page.

## **FACULTY**

The full-time and part-time faculty list included in the Undergraduate Catalogue is static, and is updated annually each November. The prior academic year's faculty list will appear in the Undergraduate Catalogue until the November update.

The emeriti faculty list is updated annually in the Spring and reflects the addition of the cohort of faculty granted emeriti status at the close of the prior academic year.

- Emeriti Faculty (p. 517)
- Faculty List (p. 544)

## **EMERITI FACULTY**

### **THE FOLLOWING UNIVERSITY OF VERMONT FACULTY MEMBERS WERE GRANTED EMERITI STATUS IN 2023:**

Patricia R. Ajamie, Professor of Music, College of Arts and Sciences

Ellen Baker, Lecturer, College of Education and Social Services

JB Barna, Senior Lecturer, College of Education and Social Services

David S. Barrington, Professor of Plant Biology, College of Agriculture and Life Sciences

Cynthia L. Belliveau, Research Assistant Professor, College of Agriculture and Life Sciences

Mark E. Bouton, University Distinguished Professor and Robert B. Lawson Green and Gold Professor of Psychology, College of Arts and Sciences

Dona L. Brown, Professor of History, College of Arts and Sciences

John R. Brumsted, Professor of Obstetrics, Gynecology and Reproductive Sciences, Larner College of Medicine

Ronald J. Bryant, Associate Professor of Pathology and Laboratory Medicine, Larner College of Medicine

Eileen Burgin, Professor of Political Science, College of Arts and Sciences

Sarah E. Carleton, Associate Professor of Theatre, College of Arts and Sciences

Catherine M. Christenson, Associate Professor of Anesthesiology, Larner College of Medicine

Anne L. Clark, Professor of Religion, College of Arts and Sciences

Cameron Davis, Senior Lecturer, College of Arts and Sciences

Wendy S. Davis, Professor of Pediatrics, Larner College of Medicine

Cynthia J. Forehand, Professor of Neurological Sciences, Larner College of Medicine

Rex L. Forehand, University Distinguished Professor of Psychology, and Heinz and Rowena Ansbacher Professor of Psychology, College of Arts and Sciences

Shirley J. Gedeon, Associate Professor of Economics, College of Arts and Sciences

Niels G. Giddins, Associate Professor of Pediatrics, Larner College of Medicine

Glenn D. Goldman, Rogers and Nancy Follansbee Professor in Dermatology, and Medicine, Larner College of Medicine

Paul S. Kindstedt, Professor of Food and Nutrition Sciences, College of Agriculture and Life Sciences

Christopher J. Koliba, Professor of Community Development and Applied Economics, College of Agriculture and Life Sciences

Daniel H. Krymkowski, Professor of Sociology, College of Arts and Sciences

Jeffrey D. Marshall, Library Professor, University Libraries

Nancy E. Mathews, Dean, Rubenstein School of Environment and Natural Resources

Juan F. Maura, Professor of Spanish, College of Arts and Sciences

Catherine A. Paris, Senior Lecturer, College of Agriculture and Life Sciences

Polly E. Parsons, E. L. Amidon Chair and Professor of Medicine, Larner College of Medicine

Joanne M. Pencak, Lecturer, Grossman School of Business

Timothy D. Perkins, Research Professor, College of Agriculture and Life Sciences

Lyman B. Ross, Library Assistant Professor, University Libraries

Joel J. Schnure, Professor of Medicine, Larner College of Medicine

Richard J. Solomon, Robert F. and Genevieve B. Patrick Endowed Chair in Nephrology, and Medicine, Larner College of Medicine

Martin A. Thaler, Professor of Theatre, College of Arts and Sciences

Judy K. Tam, Associate Professor of Radiology, Larner College of Medicine

Edward F. Terrien, Associate Professor of Medicine, Larner College of Medicine

George Till, Associate Professor of Obstetrics, Gynecology and Reproductive Sciences, Larner College of Medicine

Shelley L. Velleman, Professor of Communication Sciences and Disorders, College of Nursing and Health Sciences

Donald L. Weaver, Professor of Pathology and Laboratory Medicine, Larner College of Medicine

**THE FOLLOWING UNIVERSITY OF VERMONT FACULTY MEMBERS WERE GRANTED EMERITI STATUS IN 2022:**

Daniel Baker, Professor of Community Development and Applied Economics, College of Agriculture and Life Sciences

Linda Berlin, Extension Associate Professor, College of Agriculture and Life Sciences

Nancy A. Bianchi, Library Associate Professor, University Libraries

Marcia S. DeWolf Bosek, Associate Professor of Nursing, College of Nursing and Health Sciences

William B. Bowden, Robert and Genevieve Patrick Professor of Watershed Science and Planning, Rubenstein School of Environment and Natural Resources

Ralph C. Budd, University Distinguished Professor of Medicine, and Microbiology and Molecular Genetics, Larner College of Medicine

Janice Yanushka Bunn, Research Associate Professor, College of Engineering and Mathematical Sciences

Jacqueline Barbara Carr, Professor of History, College of Arts and Sciences

Jeffrey Earle Carter, Extension Associate Professor, College of Agriculture and Life Sciences

Suzanne L. W. Drolet, Senior Lecturer, College of Arts and Sciences

Mary Alice Favro, Clinical Professor, College of Nursing and Health Sciences

Patricia A. Fobare Erickson, Senior Lecturer, College of Agriculture and Life Sciences

Karen M. Fondacaro, Clinical Professor, College of Arts and Sciences

John B. Forbes, Professor of Theatre, College of Arts and Sciences

Richard A. Galbraith, Professor of Medicine, Larner College of Medicine

Michael F. Giangreco, University Distinguished Professor of Special Education, College of Education and Social Services

William Gibson, Converse Professor in Commerce and Economics, College of Arts and Sciences

Jean R. Harvey, Robert L. Bickford, Jr. Green and Gold Professor, and Professor of Nutrition and Food Sciences, College of Agriculture and Life Sciences

Alan C. Homans, Professor of Pediatrics, Larner College of Medicine

James J. Hudziak, Thomas M. Achenbach Endowed Chair of Developmental Psychopathology Professor of Psychiatry, Medicine and Pediatrics, Larner College of Medicine

Jeffrey W. Hughes, Associate Professor of Plant Biology, College of Agriculture and Life Sciences

Dale J. Jaffe, Professor of Sociology, College of Arts and Sciences

Maria Patrizia Jamieson, Lecturer, College of Arts and Sciences

Gordon L. Jensen, Senior Associate Dean of Research, Larner College of Medicine

Douglas I. Johnson, Professor of Microbiology and Molecular Genetics, Larner College of Medicine

Patricia A. King, Professor of Medicine, Larner College of Medicine

Andrea Lini, Associate Professor of Geology, College of Arts and Sciences

Scott W. Morrical, Professor of Biochemistry, and Microbiology and Molecular Genetics, Larner College of Medicine

David Neiweem, Professor of Music, College of Arts and Sciences

Amy Nickerson, Senior Lecturer, College of Agriculture and Life Sciences

Roberta O'Brien, Professor of Pediatrics, Larner College of Medicine

Stephen O'Donnell, Associate Professor of Anesthesiology, Larner College of Medicine

Donna L. Parrish, Research Professor Emerita, Rubenstein School of Environment and Natural Resources

Mary L. Peabody, Extension Professor, College of Agriculture and Life Sciences

Paul P. Philbin, Library Associate Professor, University Libraries

Ann D. Pugh, Senior Lecturer, College of Education and Social Services

Howard M. Schapiro, Associate Professor of Anesthesiology, Larner College of Medicine

Sherry Ann Schoenberg, Research Associate, College of Education and Social Services

Stephanie Seguino, Professor of Economics, College of Arts and Sciences

John Seyller, Professor of Art and Art History, College of Arts and Sciences

Robert E. Shapiro, Professor of Neurological Sciences, Larner College of Medicine

Judith S. Shaw, Professor of Pediatrics, Larner College of Medicine

Betsy Sussman, Professor of Radiology, Larner College of Medicine

Susan A. Torncello, Lecturer, College of Education and Social Services

Paula B. Tracy, Professor of Biochemistry, Larner College of Medicine

Kevin M. Trainor, Professor of Religion, College of Arts and Sciences

Sheila O'Leary Weaver, Senior Lecturer, College of Engineering and Mathematical Sciences

Peter E. Weimersheimer, Professor of Surgery, Larner College of Medicine

Nancy Welch, Professor of English, College of Arts and Sciences

Robert K. Williams, Chris Abajian, MD and Margaret Abajian Green and Gold Professor in Pediatric Anesthesiology, and Pediatrics, Larner College of Medicine

Marie E. Wood, Professor of Medicine, Larner College of Medicine

Scott B. Yeager, Professor of Pediatrics, Larner College of Medicine

**THE FOLLOWING UNIVERSITY OF VERMONT FACULTY MEMBERS WERE GRANTED EMERITI STATUS IN 2021:**

Robert V. Bartlett, Gund Professor of the Liberal Arts and Professor of Political Science, College of Arts and Sciences

Tania F. Bertsch, Associate Professor of Medicine, Larner College of Medicine

Carol Buck-Rolland, Clinical Professor, College of Nursing and Health Sciences

Leah W. Burke, Professor of Pediatrics, Larner College of Medicine

Holly-Lynn Busier, Senior Lecturer, College of Education and Social Services

Richard B. Colletti, Professor of Pediatrics, Larner College of Medicine

Lia Cravedi, Senior Lecturer, College of Education and Social Services

Catherine Wright Donnelly, Professor of Nutrition and Food Sciences, College of Agriculture and Life Sciences

Janice M. Gallant, Associate Professor of Radiology and Pediatrics, Larner College of Medicine

Anne M. Geroski, Associate Professor of Counseling Education, College of Education and Social Services

Joel M. Goldberg, Associate Professor of Chemistry, College of Arts and Sciences

Gary J. Hawley, Research Associate, Rubenstein School of Environment and Natural Resources

Barry W. Heath, Professor of Pediatrics, Larner College of Medicine

Britt A. Holmén, Professor of Civil and Environmental Engineering, College of Engineering and Mathematical Sciences

Susan B. Hughes, Associate Professor of Accounting, Grossman School of Business

Deborah E. Hunter, Associate Professor of Education, College of Education and Social Services

Diane M. Jaworski, Professor of Neurological Sciences, Larner College of Medicine

Walter F. Keuntzel, Professor of Parks, Recreation, and Tourism, Rubenstein School of Environment and Natural Resources

John L. Leahy, Professor of Medicine, Larner College of Medicine

Bruce J. Leavitt, Professor of Surgery, Larner College of Medicine

Cindy S. Leonard, Senior Lecturer, College of Education and Social Services

Patricia E. Mardeusz, Library Associate Professor, University Libraries

Wolfgang Mieder, University Distinguished Professor of German, College of Arts and Sciences

Donna J. Millay, Associate Professor of Surgery, Larner College of Medicine

Angela Patten, Senior Lecturer, College of Arts and Sciences

David S. Pederson, Professor of Microbiology and Molecular Genetics, Larner College of Medicine

Jeffrey M. Rimmer, Professor of Medicine, Larner College of Medicine

Julie L. Roberts, Professor of Linguistics, College of Arts and Sciences

S. Ellen Rowe, Extension Associate Professor, College of Agriculture and Life Sciences

Lawrence G. Shelton, Associate Professor of Human Development and Family Studies, College of Education and Social Services

Richard I. Sugarman, Professor of Religion, College of Arts and Sciences

Rup Tandan, Professor of Neurological Sciences, Larner College of Medicine

Gretchen J. van Slyke, Professor of French, College of Arts and Sciences

Stuart L. Whitney, Clinical Professor, College of Nursing and Health Sciences

James T. Williamson, Senior Lecturer, College of Arts and Sciences

Ann S. Wittpenn, Associate Professor of Pediatrics, Larner College of Medicine

**THE FOLLOWING UNIVERSITY OF VERMONT FACULTY MEMBERS WERE GRANTED EMERITI STATUS IN 2020:**

Sidney C. Bosworth, Extension Professor, College of Agriculture and Life Sciences

John P. Burke, John G. McCullough Professor of Political Science, College of Arts and Sciences

Mark A. Capeless, Professor of Medicine, Larner College of Medicine

Mutsumi Matsubara Corson, Senior Lecturer, College of Arts and Sciences

Candace Fraser, Associate Professor of Family Medicine, Larner College of Medicine

Hesterly Black Goodson, Senior Lecturer, College of Arts and Sciences

Christine G. Griffin, Senior Lecturer, College of Nursing and Health Sciences

Brenda Pauline Hamel-Bissell, Professor of Nursing, College of Nursing and Health Sciences

Ruth Heimann, Professor of Radiology, Larner College of Medicine



Virginia Hood, Professor of Medicine, Larner College of Medicine

John R. Hughes, Professor of Psychiatry, Larner College of Medicine

Craig Lawrence Kien, Mary Kay Davignon Green and Gold Professor of Pediatrics, Larner College of Medicine

Martin M. LeWinter, Professor of Medicine, Larner College of Medicine

John H. Lunde, Professor of Pathology and Laboratory Medicine, Larner College of Medicine

Scott D. Luria, Associate Professor of Medicine, Larner College of Medicine

Hendrika J. Maltby, Professor of Nursing, College of Nursing and Health Sciences

Keith Peter Mintz, Associate Professor of Microbiology and Molecular Genetics, Larner College of Medicine

Robert J. Nash, Professor of Interdisciplinary Studies, College of Education and Social Services

Patrick A. Neal, Professor of Political Science, College of Arts and Sciences

George J. Osol, Professor of Obstetrics, Gynecology and Reproductive Services, Larner College of Medicine

Sylvia B. Parker, Senior Lecturer, College of Arts and Sciences

Mercedes Rincón, Professor of Medicine, Larner College of Medicine

Donald S. Ross, Research Professor of Plant and Soil Science, College of Agriculture and Life Sciences

Jonathan W. Sands, Professor of Mathematics and Statistics, College of Engineering and Mathematical Sciences

R. Thomas Simone, Professor of English, College of Arts and Sciences

Peter H. Spitzform, Library Associate Professor, University Libraries

Brenda V. Tessmann, Assistant Professor of Microbiology and Molecular Genetics, Larner College of Medicine

Guy Tousignant, Associate Professor of Anesthesiology, Larner College of Medicine

Richard C. Wasserman, Professor of Pediatrics, Larner College of Medicine

Junru Wu, Professor of Physics, College of Arts and Sciences

**THE FOLLOWING UNIVERSITY OF VERMONT FACULTY MEMBERS WERE GRANTED EMERITI STATUS IN 2019:**

Judith A. Aiken, Associate Professor of Education, College of Education and Social Services

Jamie A. Alpert, Associate Professor of Medicine, Larner College of Medicine

Takamaru Ashikaga, Facility Director, Medical Biostatistics and Biometry Facility

Adrian D. Bonev, Assistant Professor of Pharmacology, Larner College of Medicine

Christopher R. Chase, Associate Professor of Anesthesiology, Larner College of Medicine

Jeffrey H. Dinitz, Professor of Mathematics and Statistics, College of Engineering and Mathematical Sciences

Maj Eisinger, Associate Professor of Family Medicine, Larner College of Medicine

Richard M. Foote, Professor of Mathematics and Statistics, College of Engineering and Mathematical Sciences

Barbara L. Frankowski, Professor of Pediatrics, Larner College of Medicine

James C. Hebert, Associate Professor of Pathology and Laboratory Medicine, Larner College of Medicine

Nancy Swords Jenny, Associate Professor of Pathology and Laboratory Medicine, Larner College of Medicine

Brian P. Kent, Senior Lecturer, College of Arts and Sciences

Douglas O. Lantagne, Dean of UVM Extension

Dwight E. Matthews, Professor of Chemistry and Medicine, College of Arts and Sciences

Kevin J. McKenna, Professor of German and Russian, College of Arts and Sciences

Charlotte J. Mehrtens, Professor of Geology, College of Arts and Sciences

Jeff Modereger, Professor of Theatre, College of Arts and Sciences

Kurt Oughstun, Professor of Electrical and Biomedical Engineering, College of Engineering and Mathematical Sciences

William C. Paganelli, Professor of Anesthesiology, Larner College of Medicine

Alison Merel Pechenick, Senior Lecturer, College of Engineering and Mathematical Sciences

Stephen J. Pintauro, Associate Professor of Nutrition and Food Sciences, College of Agriculture and Life Sciences

Michael Radermacher, Professor of Molecular Physiology and Biophysics, Larner College of Medicine

Joanna M. Rankin, Professor of Physics, College of Arts and Sciences

Brian V. Reed, Associate Professor of Rehabilitation and Movement Science, College of Nursing and Health Sciences

Frederick B. Rogers, Professor of Surgery, Larner College of Medicine

Mara R. Saule, Dean of University Libraries

Tom Streeter, Professor of Sociology, College of Arts and Sciences

James A. Vecchio, Professor of Medicine, Larner College of Medicine

Thomas C. Vogelmann, Dean of the College of Agriculture and Life Sciences

Arthur Woolf, Associate Professor of Economics, College of Arts and Sciences

**THE FOLLOWING UNIVERSITY OF VERMONT FACULTY MEMBERS WERE GRANTED EMERITI STATUS IN 2018:**

Sarah E. Abrams, Associate Professor of Nursing, College of Nursing and Health Sciences

Marianne Deschenes Burke, Library Associate Professor, University Libraries

Sheldon M. Cooper, Professor of Medicine, Larner College of Medicine

Carson J. Cornbrooks, Associate Professor of Neurological Sciences, Larner College of Medicine

Susan Dinitz, Senior Lecturer, College of Arts and Sciences

Margaret (Maggie) J. Eppstein, Professor of Computer Science, College of Engineering and Mathematical Sciences

Charles William Ferreira, Associate Professor of Community Development and Applied Economics, College of Agriculture and Life Sciences

Eva V. Fraser-Harris, Associate Professor of Anesthesiology and Pediatrics, Larner College of Medicine

Natalia I. Gokina, Associate Professor of Obstetrics, Gynecology and Reproductive Sciences, Larner College of Medicine

Barry Guitart, Professor of Communication Sciences and Disorders, College of Nursing and Health Sciences

Huck Gutman, Professor of English, College of Arts and Sciences

Theresia Hoeck, Senior Lecturer, College of Arts and Sciences

Rachel Kline Johnson, Professor of Nutrition and Food Sciences, College of Agriculture and Life Sciences

David E. Kerr, Professor of Animal and Veterinary Sciences, College of Agriculture and Life Sciences

Joseph M. Kreutz, Associate Professor of Anesthesiology, Larner College of Medicine

Carol T. Miller, Professor of Psychological Science, College of Arts and Sciences

Beth Mintz, Professor of Sociology, College of Arts and Sciences

Peter L. Moses, Professor of Medicine, Larner College of Medicine

Eliot W. Nelson, Professor of Pediatrics, Larner College of Medicine

Garrison Nelson, Professor of Political Science, College of Arts and Sciences

Francis R. Nicosia, Professor of History, College of Arts and Sciences

Robert G. Oppenheimer, Professor of Radiology, Larner College of Medicine

Turner M. Osler, Professor of Surgery Emeritus, Larner College of Medicine

Richard Paradis, Lecturer, Rubenstein School of Environment and Natural Resources

Robert L. Parsons, Extension Professor of Community Development and Applied Economics, College of Agriculture and Life Sciences

Fiona M. Patterson, Associate Professor of Social Work, College of Education and Social Services

Dennis A. Plante, Associate Professor of Medicine, Larner College of Medicine

Susan E. Roche, Associate Professor of Social Work, College of Education and Social Services

Deborah Z. Rubin, Associate Professor of Radiology, Larner College of Medicine

George B. Salembier, Associate Professor of Education, College of Education and Social Services

Susan S. Wallace, Professor of Microbiology and Molecular Genetics, Larner College of Medicine

Judith Van Houten, Professor of Biology, College of Arts and Sciences

Curtis (Curt) Ventriss, Professor of Natural Resources, Rubenstein School of Environment and Natural Resources

Walter J. Varhue, Professor of Electrical and Environmental Engineering, College of Engineering and Mathematical Sciences

Ge Wu, Professor of Rehabilitation and Movement Science, College of Nursing and Health Sciences

Junji Yano, Research Assistant Professor of Biology, College of Arts and Sciences

**THE FOLLOWING UNIVERSITY OF VERMONT FACULTY MEMBERS WERE GRANTED EMERITI STATUS IN 2017:**

Jean E. Beatson, Clinical Professor of Nursing, College of Nursing and Health Sciences

Joseph E. Brayden, Professor of Pharmacology, Larner College of Medicine

Jeanine Carr, Associate Professor of Nursing, College of Nursing and Health Sciences

Catherine Connor-Swietlicki, Professor of Spanish, College of Arts and Sciences

George L. Cook, Extension Professor of Maple and Farm Safety, College of Agriculture and Life Sciences

Ann P. Guillot, Professor of Pediatrics, Larner College of Medicine

Jonathan B. Hayden, Associate Professor of Medicine, Larner College of Medicine

Malai Holland, Research Associate Professor of Metabolic Nutrition, College of Education and Social Services

C. William Kilpatrick, Professor of Biology, College of Arts and Sciences

Willem R. Leenstra, Associate Professor of Chemistry, College of Arts and Sciences

Jonathan G. Leonard, Senior Lecturer, College of Agricultural and Life Sciences

David N. Little, Professor of Family Medicine, Larner College of Medicine

Dennis F. Mahoney, Professor of German, College of Arts and Sciences

Christina S. Melvin, Clinical Associate Professor of Nursing, College of Nursing and Health Sciences

Ruth Mickey, Professor of Statistics, College of Engineering and Mathematical Sciences

Betty Ann Rambur, Professor of Nursing, College of Nursing and Health Sciences

Robert H. Rodgers, Professor of Classics, College of Arts and Sciences

Gregory H. Sharp, Associate Professor of Pathology and Laboratory Medicine, Larner College of Medicine

Dinah K. Smith, Clinical Associate Professor of Communication Sciences and Disorders, College of Nursing and Health Sciences

Kevoork Spartalian, Associate Professor of Physics, College of Arts and Sciences

Deane Wang, Associate Professor of Natural Resources, Rubenstein School of Environment and Natural Resources

Burton W. Wilcke, Jr., Associate Professor of Medical Laboratory and Radiation Sciences, College of Nursing and Health Sciences

Stanley L. Witkin, Professor of Social Work, College of Education and Social Services

Denise Youngblood, Professor of History, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 2016:**

Eleanor Lacava Capeless, Professor of Obstetrics, Gynecology and Reproductive Sciences, College of Medicine

Stephen Harry Contompasis, Professor of Pediatrics, College of Medicine

Nicholas L. Danigelis, Professor of Sociology, College of Arts and Sciences

Josie Davis, Lecturer of Animal and Veterinary Sciences, College of Agriculture and Life Science

Eugene R. Delay, Associate Professor of Biology, College of Arts and Sciences

Rona J. Delay, Associate Professor of Biology, College of Arts and Sciences

David S. Dummit, Professor of Mathematics, College of Engineering and Mathematical Sciences

Susan Wilson Edelman, Research Associate Professor of Education, College of Education and Social Services

Kenneth I. Golden, Professor of Mathematics, Electrical Engineering and Physics, College of Engineering and Mathematical Sciences

Robert J. Gordon, Professor of Anthropology, College of Arts and Sciences

Kenneth I. Gross, Professor of Mathematics, College of Engineering and Mathematical Sciences

Sharon M. Henry, Professor of Physical Therapy, College of Nursing and Health Sciences

Sally A. Huber, Professor of Pathology and Laboratory Medicine, College of Medicine

David W. Leitner, Professor of Surgery, College of Medicine

Suzanne N. Levine, Associate Professor of Environment and Natural Resources, Rubenstein School of Environment and Natural Resources

Robert E. Manning, Professor of Environment and Natural Resources, Rubenstein School of Environment and Natural Resources

Elaine McCrate, Associate Professor of Economics and Gender, Sexuality and Women's Studies, College of Arts and Sciences

Lynda Reeves McIntyre, Professor of Art, College of Arts and Sciences

Fayneese Miller, Dean of the College of Education and Social Services, College of Education and Social Services

Kenneth E. Najarian, Professor of Radiology, College of Medicine

Deborah A. O'Rourke, Clinical Professor of Physical Therapy, College of Nursing and Health Sciences

Leonard Payne Perry, Extension Professor of Plant and Soil Science, College of Agriculture and Life Science

Barbara Saylor Rodgers, Professor of Classics, College of Arts and Sciences

Jane Ross-Allen, Research Associate of Leadership and Developmental Sciences, College of Education and Social Services

Kathleen McGann Schneider, Professor of Art, College of Arts and Sciences

Wayne Schneider, Associate Professor of Music, College of Arts and Sciences

James M. Sinkula, Professor of Business Administration, Grossman School of Business

Stephen Titcomb, Associate Professor of Electrical Engineering, College of Engineering and Mathematical Sciences

Brenda L. Waters, Associate Professor of Pathology and Laboratory Medicine, College of Medicine

Nancy Woods, Research Associate of Education, College of Education and Social Services

**The following University of Vermont faculty members were granted emeriti status in 2015:**

James W. Burgmeier, Professor of Mathematics, College of Engineering and Mathematical Sciences

John M. Burke, Professor of Microbiology and Molecular Genetics, College of Medicine

Karen H. Burke, Associate Professor of Family Medicine, College of Medicine

Judith Ann Cohen, Professor of Nursing, College of Nursing and Health Sciences

D. Brookes Cowan, Senior Lecturer of Sociology, College of Arts and Sciences

Riley A. Elliott, Associate Professor of Anesthesiology, College of Medicine

Roger S. Foster, Jr., Professor of Surgery, College of Medicine

Naomi K. Fukagawa, Professor of Medicine, College of Medicine

Robert Griffin, Professor of Leadership and Developmental Sciences, College of Education and Social Service

Jurij Homziak, Extension Assistant Professor, Rubenstein School of Environment and Natural Resources

Thomas R. Hudspeth, Professor of Environmental Studies and Natural Resources, Rubenstein School of Environment and Natural Resources

Neil Hyman, Professor of Surgery, College of Medicine

Dennis Kauppila, Extension Associate Professor, University Extension

Stephanie Kaza, Professor of Environmental Studies and Natural Resources, Rubenstein School of Environment and Natural Resources

Ray E. Keller, Associate Professor of Surgery, College of Medicine

Susan Lowey, Professor of Molecular Physiology & Biophysics, College of Medicine

Ted Lyman, Professor of Art and Art History, College of Arts and Sciences

Kathleen Manning, Professor of Leadership and Developmental Sciences, College of Education and Social Services

Barbara McIntosh, Professor of Business Administration, School of Business Administration

William McMaster, Extension Associate Professor, University Extension

Jane E. Mekkelson, Senior Lecturer of Education, College of Education and Social Services

Gagan Mirchandani, Professor of Electrical Engineering, College of Engineering and Mathematical Sciences

Lee Burns Nelson, Clinical Professor of Physical Therapy, College of Nursing and Health Sciences

S. Abu Turab Rizvi, Professor of Economics, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 2014:**

David D. Aronsson, MD, Professor of Orthopaedics and Rehabilitation, College of Medicine

Jay I. Ashman, Senior Lecturer of Community Development and Applied Economics, College of Agriculture and Life Sciences

Allyson Bolduc, MD, Associate Professor of Family Medicine, College of Medicine

Lynne A. Bond, Professor of Psychology, College of Arts and Sciences

Gale Burford, Professor of Social Work, College of Education and Social Services

John N. Evans, PhD, Professor of Molecular Physiology & Biophysics, College of Medicine

Lawrence K. Forcier, Associate Professor of Environment and Natural Resources, Rubenstein School of Environment and Natural Resources

Jeanne Goldhaber, Associate Professor of Early Childhood Education, College of Education and Social Services

Vladimir V. Gouli, Research Associate Professor of Plant and Soil Science, College of Agriculture and Life Sciences

Christopher James Grace, MD, Professor of Medicine, College of Medicine

Nicholas H. Heintz, PhD, Professor of Pathology, College of Medicine

Susan M. Hill, Clinical Associate Professor of Dental Hygiene, College of Nursing and Health Sciences

Albert Joy, Library Associate Professor, University Libraries

Arthur Kuflik, Associate Professor of Philosophy, College of Arts and Sciences

John C. Lawlor, Senior Lecturer of Mathematics, College of Engineering and Mathematical Sciences

Edward S. Leib, MD, Professor of Medicine, College of Medicine

Alan William McIntosh, Professor of Environmental Sciences, Rubenstein School of Environment and Natural Resources

Diane E. Mincher, Extension Associate Professor, University Extension

Leslie A. Morrissey, Associate Professor of Environmental Sciences, Rubenstein School of Environment and Natural Resources

Rodney Parsons, PhD, Professor of Neurological Sciences, College of Medicine

William W. Pendlebury, MD, Professor of Pathology, College of Medicine

Mark Philippe, MD, Professor of Obstetrics, Gynecology and Reproductive Sciences, College of Medicine

Karen Richardson-Nassif, PhD, Professor of Family Medicine, College of Medicine

Thomas A. Roland, MD, Professor of Radiology, College of Medicine

Jane K. Ross, Professor of Nutrition and Food Science, College of Agriculture and Life Sciences

Joseph Julian Schall, Professor of Biology, College of Arts and Sciences

David A. Shiman, Professor of Education, College of Education and Social Services

Jill Mattuck Tarule, Professor of Leadership and Developmental Sciences, College of Education and Social Services

Peter Jack Tkatch, Associate Professor Theatre, College of Arts and Sciences

Gary Charles Widrick, Research Associate Professor of Social Work, College of Education and Social Services

Martha Woodman, Lecturer, School of Business Administration

David W. Yandell, Sc.D., Professor of Pathology, College of Medicine

**The following University of Vermont faculty members were granted emeriti status in 2013:**

J. Christian Abajian, Professor of Anesthesiology, College of Medicine

Frank M. Bryan, Professor of Political Science, College of Arts and Sciences

Peter A. Dietrich, Professor of Radiology, College of Medicine

Jeanne M. Douglas, Senior Lecturer of Computer Science, College of Engineering and Mathematical Sciences

Elizabeth B. Ezerman, Assistant Professor of Neurological Sciences, College of Medicine

John C. Ferguson, Associate Professor of Family Medicine, College of Medicine

Jerome F. Fiekers, Associate Professor of Neurological Sciences, College of Medicine

Berta M. Geller, Professor - Research Scholar Pathway of Family Medicine, College of Medicine

Lynne Greeley, Associate Professor of Theatre, College of Arts and Sciences

Michael A. Gurdon, Professor of Business Administration, School of Business Administration

Robert W. Hamill, Professor of Neurological Sciences, College of Medicine

Nancy J. Hayden, Associate Professor of Engineering, College of Engineering and Mathematical Sciences

Eva A. Kristensen, Associate Professor of Anesthesiology, College of Medicine

Kenneth G. Mann, Professor of Biochemistry, College of Medicine

James H. Mosenthal, Associate Professor of Education, College of Education and Social Services

Thomas F. Patterson, Jr., Senior Lecturer of Community Development and Applied Economics

Jeryl R. Shapiro, Associate Professor of Anesthesiology, College of Medicine

David F. Smail, Associate Professor of Anesthesiology, College of Medicine

Mary C. Watzin, Professor of Natural Resources, Rubenstein School of Environment and Natural Resources

**The following University of Vermont faculty members were granted emeriti status in 2012:**

Edwin Bovill, Professor of Pathology, College of Medicine

Peter Cherouny, Professor of Obstetrics and Gynecology, College of Medicine

Gerald S. Davis, Professor of Medicine, College of Medicine

Jonathan T. Fairbank, Professor of Radiology, College of Medicine

Brian S. Flynn, Professor of Family Medicine, College of Medicine

Barbara Grant, Associate Professor of Medicine, College of Medicine

James G. Howe, Professor of Orthopaedics and Rehabilitation, College of Medicine

Robert Jenkins, Professor of Engineering, College of Engineering and Mathematical Sciences

Robert Karp, Associate Professor of Medicine, College of Medicine

Edward L. Krawitt, Professor of Medicine, College of Medicine

Richard A. LeVitre, Extension Associate Professor of Extension Services, University Extension

Daniel Lusk, Senior Lecturer of English, College of Arts and Sciences

Theodore W. Marcy, Professor of Medicine, College of Medicine

Anne B. Mason, Professor of Biochemistry, College of Medicine

Paul A. Newhouse, Professor of Psychiatry, College of Medicine

Chester F. Parsons, Extension Associate Professor of Extension Services, University Extension

Allan Ramsay, Professor of Family Medicine, College of Medicine

Bela L. Ratkovits, Professor of Radiology, College of Medicine

Michael Ricci, Professor of Surgery, College of Medicine

Daniel H. Riddick, Professor of Obstetrics, Gynecology and Reproductive Sciences, College of Medicine

Karen A. Schneider, Extension Associate Professor of Extension Services, University Extension

John B. Shane, Jr., Lecturer of Natural Resources, Rubenstein School of Environment and Natural Resources

Jean Szilva, Assistant Professor of Anatomy and Neurobiology, College of Medicine

John P. Tampas, Professor of Radiology, College of Medicine

John Henry Todd, Research Professor of Natural Resources, Rubenstein School of Environment and Natural Resources

G. Scott Waterman, Professor of Psychiatry, College of Medicine

Wes (Wayne) Williams, Professor of Education, College of Education and Social Services

**The following University of Vermont faculty members were granted emeriti status in 2011:**

Lorraine P. Berkett, Professor and Extension Professor of Plant and Soil Science, College of Agriculture and Life Sciences

Linda S. Brew, Library Associate Professor of Libraries, University Libraries

Lyndon B. Carew, Professor of Animal Science and Nutrition and Food Science, College of Agriculture and Life Sciences

Susan C. Crockenberg, Professor of Psychology, College of Arts and Sciences

William W. Currier, Associate Professor of Plant Biology, College of Agriculture and Life Sciences

Timothy J. Fox, Research Associate of Education, College of Education and Social Services

James F. Gatti, Associate Professor of Business Administration, School of Business Administration

William E. Geiger, Professor of Chemistry, College of Arts and Sciences

F. John Gennari, Professor of Medicine, College of Medicine

Dale E. Goldhaber, Associate Professor of Education, College of Education and Social Services

Joyce E. Heckman, Research Assistant Professor of Microbiology and Molecular Genetics, College of Medicine

Richard R. Jesse, Associate Professor of Business Administration, School of Business Administration

Robbie P. Kahn, Associate Professor of Sociology, College of Arts and Sciences

James M. Kraushaar, Associate Professor of Business Administration, School of Business Administration

Paul A. Krusinski, Professor of Medicine, College of Medicine

Jeffrey Laible, Professor of Engineering, College of Engineering and Mathematical Sciences

Diane H. Lamb, Extension Associate Professor of Extension Services, University Extension

Timothy J. McEvoy, Extension Professor of Natural Resources, Rubenstein School of Environment and Natural Resources

Herman W. Meyers, Associate Professor of Integrated Professional Studies, College of Education and Social Services

Frank Owen, Professor of Art and Art History, College of Arts and Sciences

Larry Shirland, Professor of Business Administration, School of Business Administration

Robert A. Sofferman, Professor of Surgery, College of Medicine

Ian A. F. Stokes, Research Associate of Orthopaedics, College of Medicine

Robyn Warhol, Professor of English, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 2010:**

Susan Baker, Senior Lecturer of Education, College of Education and Social Services

Richard A. Bernstein, Associate Professor of Psychiatry, College of Medicine

Kenneth A. Brown, Professor of Medicine, College of Medicine

Corrine Glesne, Professor of Education, College of Education and Social Services

Susan B. Hasazi, Professor of Education, College of Education and Social Services

Robert B. Lawson, Professor of Psychology, College of Arts and Sciences

Arthur M. Levy, Professor of Medicine, College of Medicine

Jerold F. Lucey, Professor of Pediatrics, College of Medicine

William E. Mann, Professor of Philosophy, College of Arts and Sciences

Luther H. Martin, Professor of Religion, College of Arts and Sciences

George H. Moyser, Professor of Political Science, College of Arts and Sciences

Timothy Murad, Associate Professor of Romance Languages, College of Arts and Sciences

Glen F. Rogers, Extension Professor of Extension Services, University Extension

Joseph-André Senécal, Professor of Romance Languages, College of Arts and Sciences

Susan Sobel, Associate Professor of Psychiatry, College of Medicine

Janet Whatley, Professor of Romance Languages, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 2009:**

Anthony G. Bradley, Professor of English, College of Arts and Sciences

Judy H. Branch, Extension Associate Professor of Extension Services, University Extension

Jean-Guy L. Béliveau, Professor of Civil and Environmental Engineering, College of Engineering and Mathematical Sciences

Stephen J. Cutler, Professor of Sociology, College of Arts and Sciences

Laura T. Fishman, Associate Professor of Sociology, College of Arts and Sciences

Laura Fulwiler, Lecturer of Elementary Education, College of Education and Social Services

John Helzer, Professor of Psychiatry, College of Medicine

David H. Hirth, Associate Professor of Wildlife and Fisheries Biology, Rubenstein School of Environment and Natural Resources

Richard Hong, Clinical Professor of Pediatrics, College of Medicine

David Huddle, Professor of English, College of Arts and Sciences

Alan Irwin, Professor of Surgery, College of Medicine

Louis M. Izzo, Associate Professor of Medical Laboratory and Radiation Science, College of Nursing and Health Sciences

Justin M. Joffe, Professor of Psychology, College of Arts and Sciences

Christina A. Kasprisin, Clinical Assistant Professor of Nursing, College of Nursing and Health Sciences

Marjorie Youmans Lipson, Professor of Literacy and Elementary Education, College of Education and Social Services

Brian V. MacPherson, Lecturer of Mathematics and Statistics, College of Engineering and Mathematical Sciences

David W. Maughan, Research Professor of Molecular Physiology and Biophysics, College of Medicine

Stephanie H. McConaughy, Research Professor of Psychiatry and Psychology, College of Medicine

William E. Paden, Professor of Religion, College of Arts and Sciences

Phyllis Paolucci-Whitcomb, Professor of Social Work, College of Education and Social Services

Charles Rathbone, Associate Professor of Education/Curriculum and Instruction, College of Education and Social Services

Mary Lucia Razza, Research Associate of Education, College of Education and Social Services

Fred Schmidt, Associate Professor of Community Development and Applied Economics, College of Agriculture and Life Sciences

David A. Scrase, Professor of German, College of Arts and Sciences

M. Dale Skinner Steen, Extension Associate Professor of Extension Services, University Extension

Dennis William Vane, Professor of Surgery and Pediatrics, College of Medicine

Juefei Wang, Research Professor of Educational Leadership and Policy Studies, College of Education and Social Services

Ian A. Worley, Professor of Environmental Studies/Plant Biology, College of Agriculture and Life Sciences

**The following University of Vermont faculty members were granted emeriti status in 2008:**

Russell Maynard Agne, Professor of Education, College of Education and Social Services

A. John Bramley, Professor of Microbiology and Molecular Genetics, College of Agriculture and Life Sciences

Richard F. Branda, Professor of Medicine, College of Medicine

Sara Ann Burczy, Extension Professor of Extension Services, University Extension

Donald H. DeHayes, Professor of Natural Resources, Rubenstein School of Environment and Natural Resources

John P. Fogarty, Professor of Family Medicine, College of Medicine

Joe R. Haeberle, Associate Professor of Molecular Physiology and Biophysics, College of Medicine

Ruth Irene Hamilton, Research Assistant Professor of Education, College of Education and Social Services

David R. Hemenway, Professor of Civil and Environmental Engineering, College of Engineering and Mathematical Sciences

James Paul Hoffmann, Associate Professor of Plant Biology and Computer Science, College of Agriculture and Life Sciences

William Donald Lakin, Professor of Mathematics and Statistics/Biomedical Engineering, College of Engineering and Mathematical Sciences

Frederic J. Meier, Lecturer of Business, School of Business Administration

Joyce Morris, Research Assistant Professor of Education, College of Education and Social Services

Jo Anne Murad, Lecturer of Romance Languages/Spanish, College of Arts and Sciences

Thomas L. Read, Professor of Music, College of Arts and Sciences

Steven R. Shackford, Professor of Surgery, College of Medicine

Laura J. Solomon, Research Professor of Family Medicine/Psychology, College of Medicine

Nancy A. Sowan, Associate Professor of Nursing, College of Nursing and Health Sciences

Mary Jackman Sullivan, Lecturer of Education, College of Education and Social Services

Susan Yuan, Research Assistant Professor of Education, College of Education and Social Services

Nancy J. Zimny, Associate Professor of Rehabilitation Movement Science/Physical Therapy, College of Nursing and Health Sciences

**The following University of Vermont faculty members were granted emeriti status in 2007:**

Pamela Judd Ainsworth, Extension Professor of Extension Services, University Extension

Peter E. Battelle, Assistant Professor of Business Administration, School of Business Administration

Sara N. Burchard, Associate Professor of Psychology, College of Arts and Sciences

Willi Coleman, Associate Professor of History and ALANA U.S. Ethnic Studies, College of Arts and Sciences

Kenneth R. Cutroneo, Professor of Biochemistry, College of Medicine

Marty Dewees, Associate Professor of Social Work, College of Education and Social Services

J. R. Deep Ford, Associate Professor of Agricultural Economics, College of Agriculture and Life Sciences

James Gilmore, Associate Professor of Animal Science, College of Agriculture and Life Sciences

Frederick R. Magdoff, Professor of Plant and Soil Science, College of Agriculture and Life Sciences

Brooke T. Mossman, Professor of Pathology, College of Medicine

Carlton M. Newton, Professor of Forestry, Rubenstein School of Environment and Natural Resources

Eric C. Nichols, Senior Lecturer of Integrated Professional Studies, College of Education and Social Services

James H. Overfield, Professor of History, College of Arts and Sciences

Joseph B. Patlak, Professor of Molecular Physiology and Biophysics, College of Medicine



Holly P. Puterbaugh, Senior Lecturer of Mathematics and Statistics, College of Engineering and Mathematical Sciences

J. Patrick Reed, Associate Professor of Biomedical Technologies, College of Nursing and Health Sciences

John J. Saia, Associate Professor of Family Medicine, College of Medicine

Gerald C. Silverstein, Lecturer of Microbiology and Molecular Genetics, College of Agriculture and Life Sciences/College of Medicine

Mark A. Stoler, Professor of History, College of Arts and Sciences

Ruth E. Uphold, Professor of Surgery, College of Medicine

**The following University of Vermont faculty members were granted emeriti status in 2006:**

Joseph A. Abruscato, Professor of Education, College of Education and Social Services

Z. Philip Ambrose, Professor of Classical Languages and Literature, College of Arts and Sciences

Marguerite Gemson Ashman, Extension Professor of Community Development and Applied Economics, University Extension

William F. Averyt, Associate Professor of Business Administration, School of Business Administration

Dale R. Bergdahl, Professor of Natural Resources, Rubenstein School of Environment and Natural Resources

Chigee J. Cloninger, Research Associate Professor of Education, College of Education and Social Services

Connell Bernard Gallagher, Library Professor of Libraries, University Libraries

Nicholas J. Hardin, Professor of Pathology, College of Medicine

Larry D. Haugh, Professor of Statistics, College of Engineering and Mathematical Sciences

Jean M. Held, Associate Professor of Physical Therapy, College of Nursing and Health Sciences

Marc Kessler, Associate Professor of Psychology, College of Arts and Sciences

George L. Long, Professor of Biochemistry, College of Medicine

Robert B. Low, Professor of Molecular Physiology and Biophysics, College of Medicine

Richard E. Musty, Professor of Psychology, College of Arts and Sciences

Craig A. Robertson, Library Associate Professor of Libraries, University Libraries

John Kimball Worden, Research Professor of Family Medicine, College of Medicine

**The following University of Vermont faculty members were granted emeriti status in 2005:**

Christopher W. Allen, Professor of Chemistry, College of Arts and Sciences

Daniel W. Bousquet, Extension Associate Professor of Extension Services, University Extension

Lydia Harvey, Extension Assistant Professor of Extension Services, University Extension

Robert J. Johnson, McClure Professor of Orthopaedic Surgery, College of Medicine

William E. Jokela, Professor of Plant and Soil Science, College of Agriculture and Life Sciences

Bruce R. MacPherson, Associate Professor of Pathology, College of Medicine

Gil McCann, Associate Professor of Sociology, College of Arts and Sciences

Willard M. Miller, Assistant Professor of Philosophy, College of Arts and Sciences

Mildred A. Reardon, Clinical Professor of Medicine, College of Medicine

Marga Susas Sproul, Associate Professor of Family Medicine, College of Medicine

Alan Wertheimer, John G. McCullough Professor of Political Science, College of Arts and Sciences

Robert K. Wright, Professor of Mathematics, College of Engineering and Mathematical Sciences

**The following University of Vermont faculty members were granted emeriti status in 2004:**

Phyllis Bronstein, Professor of Psychology, College of Arts and Sciences

Beth A. Hart, Professor of Biochemistry, College of Medicine

Elizabeth Low, Lecturer of Statistics, College of Engineering and Mathematics/College of Medicine

Bill Murphy, Professor of Plant and Soil Science, College of Agriculture and Life Sciences

Lawrence B. Myott, Extension Associate Professor of Extension Services, University Extension

Neil H. Pelsue, Jr., Extension Associate Professor of Extension Services, University Extension

Nancy B. Portnow, Library Professor of Bailey-Howe, University Libraries

Diane R. Sande, Lecturer of Nursing, College of Nursing and Health Sciences

William C. Snow, Extension Associate Professor of Extension Services, University Extension

Barbara H. Tindle, Associate Professor of Pathology, College of Medicine

**The following University of Vermont faculty members were granted emeriti status in 2003:**

Richard G. Absher, Professor of Electrical and Computer Engineering, College of Engineering and Mathematics

Linda Diane Aines, Associate Professor of Extension Services, University Extension

Rosalind E. Andreas, Assistant Professor of Education, College of Education and Social Services

Mary C. Carlson, Assistant Professor of Extension Services, University Extension

Roger L. Cooke, Professor of Mathematics, College of Engineering and Mathematics

Grant Crichfield, Associate Professor of Romance Languages, College of Arts and Sciences

William E. Davison, Professor of Art, College of Arts and Sciences

Barry Lee Doolan, Associate Professor of Geology, College of Arts and Sciences

John C. Drake, Associate Professor of Geology, College of Arts and Sciences

Carolyn M. Elliott, Professor of Political Science, College of Arts and Sciences

Paul Anderson Eschholz, Professor of English, College of Arts and Sciences

Alfred P. Fengler, Associate Professor of Sociology, College of Arts and Sciences

Christie Fengler-Stephany, Associate Professor of Art, College of Arts and Sciences

Paula M. Fives-Taylor, Professor of Microbiology and Molecular Genetics, College of Agriculture and Life Sciences/College of Medicine

Ted B. Flanagan, Professor of Chemistry, College of Arts and Sciences

Lois M. Frey, Associate Professor of Extension Services, University Extension

Larry R. Gordon, Professor of Psychology, College of Arts and Sciences

Alan B. Gotlieb, Extension Professor of Plant and Soil Science, College of Agriculture and Life Sciences

Bernd Heinrich, Professor of Biology, College of Arts and Sciences

Patrick H. Hutton, Professor of History, College of Arts and Sciences

Edward Stanley Emery III, Professor of Neurology and Pediatrics, College of Medicine

Jan E. H. Johansson, Lecturer of Mathematics, College of Engineering and Mathematics

Herbert L. Leff, Associate Professor of Psychology, College of Arts and Sciences/College of Medicine

John H. McCormack, Professor of Surgery, College of Medicine

James P. Olson, Associate Professor of Civil and Environmental Engineering, College of Engineering and Mathematics

Edwin M. Owre, Professor of Art, College of Arts and Sciences

David Bogart Pilcher, Professor of Surgery, College of Medicine

David L. Rogers, Lecturer of Animal Sciences, College of Agriculture and Life Sciences

Alfred F. Rosa, Professor of English, College of Arts and Sciences

James C. Rosen, Professor of Psychology, College of Arts and Sciences

Ronald Savitt, Professor of Business Administration, School of Business Administration

Warren I. Schaeffer, Professor of Microbiology and Molecular Genetics, College of Agriculture and Life Sciences/College of Medicine

William Murrell Schenk, Professor of Theatre, College of Arts and Sciences

Henry J. Steffens, Professor of History, College of Arts and Sciences

William A. Stephany, Professor of English, College of Arts and Sciences

Michael J. Strauss, Professor of Chemistry, College of Arts and Sciences

Richard Carl Sweterlitsch, Associate Professor of English, College of Arts and Sciences

Lee Briscoe Thompson, Professor of English, College of Arts and Sciences

Elizabeth Scannell Trent, Extension Associate Professor of Community Development and Applied Economics, College of Agriculture and Life Sciences

Branimir F. von Turkovich, Professor of Mechanical Engineering,  
College of Engineering and Mathematics

Edward S. Twardy, Associate Professor of Public Administration,  
College of Arts and Sciences

**The following University of Vermont faculty members  
were granted emeriti status in 2002:**

Abbas Alnaswari, Professor of Economics, College of Arts and  
Sciences

Howard Ball, Professor of Political Science, College of Arts and  
Sciences

Richard G. Brandenburg, Professor of Business Administration,  
School of Business Administration

David Edward Capen, Research Professor of Natural Resources,  
School of Natural Resources

Phillippe Carrard, Professor of Romance Languages, College of Arts  
and Sciences

Jen-fu Chiu, Professor of Biochemistry, College of Medicine

Clinton A. Erb, Associate Professor of Education, College of  
Education and Social Services

Toby E. Fulwiler, Professor of English, College of Arts and Sciences

D. Jacques Grinnell, Professor of Business Administration, School of  
Business Administration

Robert W. Hall, James Marsh Professor of Intellectual and Moral  
Philosophy, College of Arts and Sciences

Daniel W Higgins, Professor of Art, College of Arts and Sciences

H. Charles Hill, Associate Professor of Dental Hygiene, School of  
Allied Health Sciences

David C. Howell, Professor of Psychology, College of Arts and  
Sciences/College of Medicine

John Ives, Associate Professor of Psychiatry, College of Medicine

Lynville W. Jarvis, Extension Professor of Extension Services,  
University Extension

Martin E. Kuehne, Professor of Chemistry, College of Arts and  
Sciences

Diane Meyer, Research Assistant Professor of Microbiology and  
Molecular Genetics, College of Agriculture and Life Sciences/College  
of Medicine

Louis Mulieri, Research Associate Professor of Molecular Physiology  
and Biophysics, College of Medicine

Ghita Orth, Lecturer of English, College of Arts and Sciences

Anne Sullivan, Associate Professor of Biomedical Technologies,  
School of Allied Health Sciences

Leonard J. Tashman, Associate Professor of Business Administration,  
School of Business Administration

Eugen E. Weltin, Associate Professor of Chemistry, College of Arts  
and Sciences

Nancy B. Wessinger, Associate Professor of Education, College of  
Education and Social Services

A. Peter Woolfson, Professor of Anthropology, College of Arts and  
Sciences

**The following University of Vermont faculty members  
were granted emeriti status in 2001:**

Richard Albertini, Professor of Medicine, College of Medicine

Jane P. Ambrose, Professor of Music, College of Arts and Sciences

Alfred J. Andrea, Professor of History, College of Arts and Sciences

Robert G. Arns, Professor of Physics, College of Arts and Sciences

James R. Barbour, Associate Professor of Integrated Professional  
Studies, College of Education and Social Services

H. Gardiner Barnum, Associate Professor of Geography, College of  
Arts and Sciences

Ross T. Bell, Professor of Biology, College of Arts and Sciences

Charles "Chuck" W. Bigalow, Extension Professor of Community  
Development and Applied Economics, College of Agriculture and  
Life Sciences

T. Alan Broughton, Professor of English, College of Arts and Sciences

Angela Marie Capone, Associate Professor of Integrated Professional  
Studies, College of Education and Social Services

E. Alan Cassell, Professor of Natural Resources, School of Natural  
Resources

Valerie M. Chamberlain, Professor of Nutrition and Food Sciences,  
College of Agriculture and Life Sciences

John H. Clarke, Associate Professor of Education, College of  
Education and Social Services

Richard N. Downer, Associate Professor of Civil and Environmental  
Engineering, College of Engineering and Mathematics

Margaret F. Edwards, Associate Professor of English, College of Arts  
and Sciences

Martha D. Fitzgerald, Professor of Education, College of Education  
and Social Services

Donald C. Foss, Professor of Animal Sciences, College of Agriculture  
and Life Sciences

Alphonse H. Gilbert, Associate Professor of Natural Resources,  
School of Natural Resources

Joseph E. Hasazi, Associate Professor of Psychology, College of Arts  
and Sciences/College of Medicine

Mahendra S. Hundal, Professor of Mechanical Engineering, College  
of Engineering and Mathematics

Barent W. Stryker III, Extension Professor of Extension Services,  
University Extension

Bruce S. Kapp, Professor of Psychology, College of Arts and Sciences

Helene W. Lang, Associate Professor of Education, College of  
Education and Social Services

Harold Leitenberg, Professor of Psychology, College of Arts and  
Sciences/College of Medicine

Carroll Lewin, Associate Professor of Anthropology, College of Arts  
and Sciences

William Charles Lipke, Professor of Art, College of Arts and Sciences

Frank Manchel, Professor of English, College of Arts and Sciences

Philip Bartlett Mead, Clinical Professor of Obstetrics and  
Gynecology, College of Medicine

Raymond Lee Milhous, Professor of Orthopaedics and  
Rehabilitation, College of Medicine

David C. Morency, Lecturer of Mathematics and Statistics, College of  
Engineering and Mathematics

Charles P. Novotny, Professor of Microbiology and Molecular  
Genetics, College of Agriculture and Life Sciences/College of  
Medicine

Monica B. Porter, Extension Associate Professor of Extension  
Services, University Extension

Jean Richardson, Professor of Natural Resources, School of Natural  
Resources

Peter Jordan Seybolt, Professor of History, College of Arts and  
Sciences

Allen G. Shepherd, Professor of English, College of Arts and Sciences

David Young Smith, Professor of Physics, College of Arts and  
Sciences

Robert E. Stanfield, Professor of Sociology, College of Arts and  
Sciences

Michael Neill Stanton, Associate Professor of English, College of Arts  
and Sciences

S. Christopher Stevenson, Professor of Education, College of  
Education and Social Services

Neil R. Stout, Professor of History, College of Arts and Sciences

Robert C. Ullrich, Professor of Botany, College of Agriculture and  
Life Sciences

Sheldon Weiner, Professor of Psychiatry, College of Medicine

Lorraine M. Welch, Associate Professor of Nursing, School of  
Nursing

David L. Weller, Professor of Botany and Agricultural Biochemistry,  
College of Agriculture and Life Sciences

Susan M. Whitebook, Assistant Professor of Romance Languages,  
College of Arts and Sciences

Lewis R. Willmuth, Associate Professor of Psychiatry, College of  
Medicine

Patricia Winstead-Fry, Professor of Nursing, School of Nursing

Barbara M. Zucker, Professor of Art, College of Arts and Sciences

**The following University of Vermont faculty members  
were granted emeriti status in 2000:**

P. Marlene Absher, Research Associate Professor of Medicine,  
College of Medicine

Elizabeth Fleming Allen, Assistant Professor of Pathology, College of  
Medicine

Kathleen Kirk Bishop, Associate Professor of Social Work, College of  
Education and Social Services

Thomas K. Bloom, Associate Professor of Community Development  
and Applied Economics, College of Agriculture and Life Sciences

Carol A. Burdett, Assistant Professor of Education, College of  
Education and Social Services

David Van Buskirk, Associate Professor of Psychiatry, College of  
Medicine

David Conrad, Professor of Education, College of Education and  
Social Services

Milton H. Crouch, Library Professor of Libraries, University Libraries

Mary J. Dickerson, Associate Professor of English, College of Arts and  
Sciences

John R. Donnelly, Professor of Natural Resources, School of Natural  
Resources

Gerald P. Francis, Professor of Mechanical Engineering, College of  
Engineering and Mathematics

John W. Frymoyer, Professor of Orthopaedics and Rehabilitation,  
College of Medicine

Everett W. Harris, Associate Professor of Community Development  
and Applied Economics, College of Agriculture and Life Sciences

Clarke E. Hermance, Professor of Mechanical Engineering, College of Engineering and Mathematics

A. Paul Krapchow, Professor of Chemistry, College of Arts and Sciences

Mary Elizabeth Laferriere, Lecturer of Nursing, School of Nursing

Richard H. Landesman, Associate Professor of Biology, College of Arts and Sciences

Beverly A. Nichols, Associate Professor of Education, College of Education and Social Services

Sidney B. Poger, Professor of English, College of Arts and Sciences

Patricia Powers, Associate Professor of Anatomy and Neurobiology, College of Medicine

Carl H. Reidel, Daniel Clarke Sanders Professor of Environmental Studies, School of Natural Resources

Samuel F. Sampson, Professor of Sociology, College of Arts and Sciences

Dolores Sandoval, Associate Professor of Education, College of Education and Social Services

Robin R. Schlunk, Professor of Classics, College of Arts and Sciences

Tamotsu Shinozaki, Professor of Anesthesiology, College of Medicine

Robert L. Townsend, Extension Professor of Extension Service, College of Agriculture and Life Sciences

Marshal M. True, Associate Professor of History, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1999:**

John H. Davis, Professor of Surgery, College of Medicine

Bud Etherton, Professor of Botany and Agricultural Biochemistry, College of Agriculture and Life Sciences

Daniel W. Gade, Professor of Geography, College of Arts and Sciences

Peter R. Hannah, Professor of Forestry, School of Natural Resources

William A. Haviland, Professor of Anthropology, College of Arts and Sciences

David Bucke Jr., Associate Professor of Geology, College of Arts and Sciences

Walter L. Brenneman Jr., Professor of Religion, College of Arts and Sciences

Robert L. Larson, Professor of Education, College of Education and Social Services

Marion E. Metcalfe, Lecturer of Music, College of Arts and Sciences

Molly Moore, Lecturer of English, College of Arts and Sciences

Barbara L. Murray, Associate Professor of Nursing, School of Nursing

Roger Secker-Walker, Professor of Medicine, College of Medicine

Robert J. Sekerak, Library Associate Professor of Dana Library, University Libraries

William S. Stirewalt, Associate Professor of Obstetrics and Gynecology and Molecular Physiology and Biophysics, College of Medicine

John W. Thanassi, Professor of Biochemistry, College of Medicine

C. Robert Wigness, Professor of Music, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1998:**

Arthur W. Biddle, Professor of English, College of Arts and Sciences

Bertie R. Boyce, Professor of Plant and Soil Science, College of Agriculture and Life Sciences

John Farnham, Clinical Professor of Surgery, College of Medicine

C. Lynn Fife, Associate Professor of Community Development and Applied Economics, College of Agriculture and Life Sciences

Antonio J. Gomez, Associate Professor of Neurology, College of Medicine

Frederick C. Evering Jr., Professor of Electrical and Computer Engineering, College of Engineering and Mathematics

William Metcalfe, Professor of History, College of Arts and Sciences

William L. Meyer, Professor of Biochemistry, College of Medicine

Joseph C. Oppenlander, Professor of Civil and Environmental Engineering, College of Engineering and Mathematics

Mary Ellen Palmer, Associate Professor of Nursing, School of Nursing

Marlene P. Thibault, Extension Associate Professor of Extension Services, University Extension

John G. Weiger, Professor of Romance Languages, College of Arts and Sciences

Peter Wesseling, Associate Professor of Romance Languages, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1997:**

Richmond J. Bartlett, Professor of Plant and Soil Science, College of Agriculture and Life Sciences

Rosemary D. Bevan, Professor of Pharmacology, College of Medicine

Joanne C. Brown, Lecturer of Mathematics and Statistics, College of Engineering and Mathematics

John S. Brown, Professor of Physics, College of Arts and Sciences

Ardith M. Fenton, Extension Instructor of Extension Services, College of Agriculture and Life Sciences

Kenneth N. Fishell, Professor of Education, College of Education and Social Services

K. Steward Gibson, Professor of Animal and Food Sciences, College of Agriculture and Life Sciences

Theodore E. Braun Jr., Associate Professor of Obstetrics and Gynecology, College of Medicine

Karin B. Larson, Lecturer of Mathematics and Statistics, College of Engineering and Mathematics

Aulis Lind, Associate Professor of Geography, College of Arts and Sciences

John J. Lindsay, Professor of Natural Resources, School of Natural Resources

James W. Loewen, Professor of Sociology, College of Arts and Sciences

Donald J. McFeeters, Extension Professor of Extension Services, College of Agriculture and Life Sciences

H. Marie McGrath, Professor of Nursing, School of Nursing

Thomas J. Moehring, Professor of Microbiology and Molecular Genetics, College of Medicine

Veronica C. Richel, Associate Professor of German and Russian, College of Arts and Sciences

Robert E. Sjogren, Associate Professor of Microbiology and Molecular Genetics, College of Medicine

Vernon Tuxbury, Extension Associate Professor of Extension Services, University Extension

George D. Webb, Associate Professor of Molecular Physiology and Biophysics, College of Medicine

James G. Welch, Professor of Animal and Food Sciences, College of Agriculture and Life Sciences

Joseph Wells, Professor of Anatomy and Neurobiology, College of Medicine

Robert C. Woodworth, Professor of Biochemistry, College of Medicine

Dorothy Jean Wooton, Associate Professor of Allied Health Sciences, School of Allied Health Sciences

**The following University of Vermont faculty members were granted emeriti status in 1996:**

Janet P. Brown, Associate Professor of Nursing, School of Nursing

Leon F. Burrell, Professor of Social Work, College of Education and Social Services

Anthony S. Campagna, Professor of Economics, College of Arts and Sciences

Richard X. Chase, Professor of Economics, College of Arts and Sciences

Virginia P. Clark, Professor of English, College of Arts and Sciences

Joseph Costante, Extension Professor of Plant and Soil Science, College of Agriculture and Life Sciences

John E. Craighead, Professor of Pathology, College of Medicine

Robert S. Deane, Professor of Anesthesiology, College of Medicine

Alan M. Elkins, Professor of Psychiatry, College of Medicine

Samuel B. Feitelberg, Professor of Physical Therapy, School of Allied Health Sciences

Jeremy Felt, Professor of History, College of Arts and Sciences

Martin E. Flanagan, Professor of Surgery, College of Medicine

Steven L. Freedman, Associate Professor of Anatomy and Neurobiology, College of Medicine

William G. B. Graham, Professor of Medicine, College of Medicine

Robert E. Gussner, Professor of Religion, College of Arts and Sciences

Burt B. Hamrell, Associate Professor of Molecular Physiology and Biophysics, College of Medicine

George Happ, Professor of Biology, College of Arts and Sciences

Kenneth W. Hood, Assistant Professor of Education, College of Education and Social Services

Allen S. Hunt, Professor of Geology, College of Arts and Sciences

Martin E. Koplewitz, Associate Professor of Surgery, College of Medicine

John R. Kunkel, Extension Associate Professor of Animal and Food Sciences, College of Agriculture and Life Sciences

Gene Laber, Professor of Business Administration, School of Business Administration

Chester H. Liebs, Professor of History, College of Arts and Sciences

Peter C. Linton, Professor of Surgery, College of Medicine

James Lubker, Professor of Communication Sciences, College of Arts and Sciences

William E. Mitchell, Professor of Anthropology, College of Arts and Sciences

Joan M. Moehring, Research Professor of Microbiology and Molecular Genetics, College of Medicine

Roger W. Murray, Research Associate Professor of Animal and Food Sciences, College of Agriculture and Life Sciences

Donald R. Parks, Assistant Professor of Education, College of Education and Social Services

Norman E. Pellett, Professor of Plant and Soil Science, College of Agriculture and Life Sciences

James Allan Peterson, Professor of Integrated Professional Studies, College of Education and Social Services

Marjory W. Power, Associate Professor of Anthropology, College of Arts and Sciences

Johanna M. Ruess, Associate Professor of Orthopaedic Rehabilitation, College of Medicine

Henry M. Tufo, Professor of Medicine, College of Medicine

Frank John Watson, Lecturer of Education, College of Education and Social Services

Armando Zarate, Professor of Romance Languages, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1995:**

Richard L. Anderson, Professor of Electrical Engineering and Materials Science, College of Engineering and Mathematics

William E. Bright, Assistant Professor of Education, College of Education and Social Services

Peter M. Brown, Associate Professor of Music, College of Arts and Sciences

Robert V. Carlson, Professor of Education, College of Education and Social Services

Robert W. Detenbeck, Professor of Physics, College of Arts and Sciences

Dieter Walter Gump, Professor of Medicine, College of Medicine

Philip Lloyd Howard, Professor of Pathology, College of Medicine

William H. Kelly, Associate Professor of Community Development and Applied Economics, College of Agriculture and Life Sciences

Charles A. Letteri, Associate Professor of Education, College of Education and Social Services

John E. Mazuzan Jr., Professor of Anesthesiology, College of Medicine

Harold A. Meeks, Professor of Geography, College of Arts and Sciences

Mary S. Moffroid, Professor of Physical Therapy, School of Allied Health Sciences

Ralph H. Orth, Professor of English, College of Arts and Sciences

Carol Fenton Phillips, Professor of Pediatrics, College of Medicine

Ernest M. I. Reit, Associate Professor of Pharmacology, College of Medicine

Margaret Roland, Associate Professor of Art, College of Arts and Sciences

Canute Vander Meer, Professor of Geography, College of Arts and Sciences

William N. White, Professor of Chemistry, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1994:**

E. William Chamberlain, Professor of Mathematics, College of Engineering and Mathematics

C. Sam Dietzel, Clinical Associate Professor of Psychology, College of Arts and Sciences

Henry C. Finney, Associate Professor of Sociology, College of Arts and Sciences

Gerald R. Fuller, Professor of Vocational Education and Technology, College of Agriculture and Life Sciences

Mary S. Hall, Associate Professor of English, College of Arts and Sciences

Samuel B. Hand, Professor of History, College of Arts and Sciences

Edith D. Hendley, Professor of Molecular Physiology and Biophysics, College of Medicine

Louis I. Hochheiser, Professor of Family Practice, College of Medicine

E. Douglas McSweeney Jr., Assistant Professor of Surgery, College of Medicine

Elliot Danforth Jr., Professor of Medicine, College of Medicine

John D. Lewis, Associate Professor of Obstetrics and Gynecology, College of Medicine

George B. MacCollom, Professor of Plant and Soil Science, College of Agriculture and Life Sciences

H. Lawrence McCrorey, Professor of Molecular Physiology and Biophysics, College of Medicine

Donald L. McLean, Professor of Plant and Soil Science, College of Agriculture and Life Sciences

Carlene A. Raper, Research Associate Professor of Microbiology and Molecular Genetics, College of Medicine

Dolores M. Reagin, Assistant Professor of Organizational Counseling, College of Education and Social Services

Carl F. Runge, Associate Professor of Medicine, College of Medicine

Thomas D. Sachs, Associate Professor of Physics, College of Arts and Sciences

Alfred L. Thimm, Professor of Business Administration, School of Business Administration

Harry L. Thompson, Associate Professor of Social Work, College of Education and Social Services

W. Allan Tisdale, Professor of Medicine, College of Medicine

Thomas D. Trainer, Professor of Pathology, College of Medicine

Julian A. Waller, Professor of Medicine, College of Medicine

Mary S. Wilson, Professor of Communication Science and Disorders, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1993:**

Norman R. Alpert, Professor of Physiology and Biophysics, College of Medicine

Paul W. Aschenbach, Lecturer of Art, College of Arts and Sciences

David Babbott, Professor of Medicine, College of Medicine

Warren L. Beeken, Professor of Medicine, College of Medicine

Malcom I. Bevins, Extension Professor of Outdoor Recreation, College of Agriculture and Life Sciences

Betty M. Bolognani, Extension Instructor of Extension Services, College of Agriculture and Life Sciences

Munro Spaulding Brook, Extension Professor of Extension Services, College of Agriculture and Life Sciences

James G. Chapman, Professor of Music, College of Arts and Sciences

Marilyn Chase, Assistant Professor of Human Development, College of Education and Social Services

Lu Smalley Christie, Lecturer of Special Education, College of Education and Social Services

Laurence H. Coffin, Professor of Surgery, College of Medicine

Edith F. (Schulze) Deck, Associate Professor of Nursing, School of Nursing

Norris A. Elliott, Extension Associate Professor of Extension Services, College of Agriculture and Life Sciences

Edward J. Feidner, Professor of Theatre, College of Arts and Sciences

Marie Gontier Geno, Lecturer of Romance Languages, College of Arts and Sciences

Thomas H. Geno, Associate Professor of Romance Languages, College of Arts and Sciences

Brady Blackford Gilleland, Professor of Classics, College of Arts and Sciences

Jackie M. Gribbons, Assistant Professor of Organizational, Counseling and Foundational Studies, College of Education and Social Services

Edward M. Hanley, Professor of Education and Curriculum Development, College of Education and Social Services

Edward S. Horton, Professor of Medicine, College of Medicine

Richard H. Janson, Professor of Art History, College of Arts and Sciences

John O. Outwater Jr., Professor of Mechanical Engineering, College of Engineering and Mathematics

Denis E. Lambert, Assistant Professor of Human Development Studies, College of Education and Social Services

Christopher Patrick McAree, Associate Professor of Psychiatry, College of Medicine

James S. Pacy, Professor of Political Science, College of Arts and Sciences

S. Alexander Rippa, Professor of Organizational, Counseling and Foundational Studies, College of Education and Social Services

Leonard M. Scarfone, Professor of Physics, College of Arts and Sciences

Albert M. Smith, Professor of Animal Sciences, College of Agriculture and Life Sciences

Roy A. Whitmore, Professor of Forestry and Natural Resources, School of Natural Resources

**The following University of Vermont faculty members were granted emeriti status in 1992:**

George W. Albee, Professor of Psychology, College of Arts and Sciences

Philip W. Cook, Associate Professor of Botany, College of Agriculture and Life Sciences



Jean Margaret Davison, Professor of Classics, College of Arts and Sciences

Edward R. DuCharme, Professor of Organizational, Counseling and Foundational Studies, College of Education and Social Services

Faith G. Emerson, Associate Dean/Associate Professor of Nursing, School of Nursing

Barbara T. Gay, Library Associate Professor of Libraries, University Libraries

Robert J. Gobin, Professor of Human Development Studies, College of Education and Social Services

Harold A. Greig, Assistant Professor of Human Development Studies, College of Education and Social Services

James Robinson Howe IV, Professor of English, College of Arts and Sciences

Richard M. Klein, Professor of Botany, College of Agriculture and Life Sciences

Roy Korson, Professor of Pathology, College of Medicine

Arthur S. Kunin, Professor of Medicine, College of Medicine

Herbert L. Martin, Professor of Medicine, College of Medicine

Gordon Roy Nielsen, Extension Assistant Professor of Plant and Soil Science, College of Agriculture and Life Sciences

David W. Racusen, Professor of Agricultural Biochemistry, College of Agriculture and Life Sciences

Dorothy C. Senghas, Library Assistant Professor of Libraries, University Libraries

**The following University of Vermont faculty members were granted emeriti status in 1991:**

Richard Emile Bouchard, Professor of Medicine, College of Medicine

R. Nolan Cain, Associate Professor of Surgery, College of Medicine

Jackson J. W. Clemmons, Professor of Pathology, College of Medicine

Robert Willard Cochran, Professor of English, College of Arts and Sciences

Julius G. Cohen, Professor of Psychiatry, College of Medicine

Ben R. Forsyth, Professor of Medicine, College of Medicine

E. Bennette Henson, Professor of Zoology, College of Arts and Sciences

Raul Hilberg, Professor of Political Science, College of Arts and Sciences

William Johnson Young II, Professor of Anatomy and Neurology, College of Medicine

Deedee M. Jameson, Assistant Professor of Human Development Studies, College of Education and Social Services

Stanley Burns Jr., Professor of Medicine, College of Medicine

Lloyd M. Lambert, Professor of Physics, College of Arts and Sciences

William H. Luginbuhl, Dean/Professor of Pathology, College of Medicine

Suzanne Massonneau, Library Professor of Libraries, University Libraries

Edward J. Miles, Professor of Geography, College of Arts and Sciences

Kenneth Sprague Rothwell, Professor of English, College of Arts and Sciences

Burton S. Tabakin, Professor of Medicine, College of Medicine

David M. Tormey, Associate Professor of Family Practice, College of Medicine

Hubert W. Vogelmann, Professor of Botany, College of Agriculture and Life Sciences

**The following University of Vermont faculty members were granted emeriti status in 1990:**

Alexander Harry Duthie, Professor of Animal Sciences, College of Agriculture and Life Sciences

Armin E. Grams, Professor of Human Development Studies, College of Education and Social Services

William Halpern, Professor of Physiology and Biophysics, College of Medicine

Robert E. Honnold, Extension Professor of Extension Service, College of Agriculture and Life Sciences

Herbert A. Durfee Jr., Professor of Obstetrics and Gynecology, College of Medicine

Lyman Curtis Hunt Jr., Professor of Education and Curriculum Development, College of Education and Social Services

Leslie R. Leggett, Professor of Human Development Studies, College of Education and Social Services

Joyce Kenyon Livak, Associate Professor of Nutritional Science, College of Agriculture and Life Sciences

J. Bishop McGill, Associate Professor of Surgery, College of Medicine

Milton Potash, Professor of Zoology, College of Arts and Sciences

John Edward Reinhardt, Professor of Political Science, College of Arts and Sciences

Stanley Rush, Professor of Electrical Engineering, College of Engineering and Mathematics

Roberta A. Schwalb, Associate Professor of Nursing, School of Nursing

Donald R. Whaples, Extension Professor of Extension Service, College of Agriculture and Life Sciences

**The following University of Vermont faculty members were granted emeriti status in 1989:**

Henry V. Atherton, Professor of Animal Sciences, College of Agriculture and Life Sciences

Edward L. Bouton, Extension Professor of Plant and Soil Science, College of Agriculture and Life Sciences

John L. Buechler, Library Professor of Libraries, University Libraries

Rose J. Forgione, Associate Professor of Nursing, School of Nursing

Robert W. Fuller, Assistant Professor of Natural Resources, School of Natural Resources

Carleton R. Haines, Associate Professor of Surgery, College of Medicine

Julian J. Jaffe, Professor of Pharmacology, College of Medicine

William J. Lewis, Professor of Sociology, College of Arts and Sciences

Donald E. Moser, Professor of Mathematics and Statistics, College of Engineering and Mathematics

H. Gordon Page, Professor of Surgery, College of Medicine

Wolfe W. Schmokel, Professor of History, College of Arts and Sciences

Phyllis M. Soule, Assistant Professor of Nutritional Science, College of Agriculture and Life Sciences

Thomas J. Spinner, Professor of History, College of Arts and Sciences

Dean F. Stevens, Associate Professor of Zoology, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1988:**

Elizabeth F. Atwood, Associate Professor of Merchandising, Consumer Studies and Design, College of Agriculture and Life Sciences

Dallas R. Boushey, Assistant Professor of Anatomy and Neurobiology, College of Medicine

Arthur H. Cheney, Director of Office of Student and Field Services, College of Education and Social Services

Robert V. Daniels, Professor of History, College of Arts and Sciences

Beal B. Hyde, Professor of Botany, College of Agriculture and Life Sciences

George William Welsh III, Associate Professor of Medicine, College of Medicine

Leonidas M. Jones, Frederick and Fanny Corse Professor of English Language and Literature, College of Arts and Sciences

Gordon F. Lewis, Professor of Sociology, College of Arts and Sciences

Maria Franca Morselli, Research Professor of Botany, College of Agriculture and Life Sciences

K. Rogers Simmons, Associate Professor of Animal Sciences, College of Agriculture and Life Sciences

Ronald A. Steffenhagen, Professor of Sociology, College of Arts and Sciences

Fred C. Webster, Professor of Agricultural and Resource Economics, College of Agriculture and Life Sciences

**The following University of Vermont faculty members were granted emeriti status in 1987:**

John H. Bland, Professor of Medicine, College of Medicine

Howard J. Carpenter, Professor of Mechanical Engineering, College of Engineering and Mathematics

Joseph H. Gans, Professor of Pharmacology, College of Medicine

Thomas C. Gibson, Professor of Medicine, College of Medicine

Irene T. Gora, Lecturer of Merchandising, Consumer Studies and Design, College of Agriculture and Life Sciences

John S. Hanson, Professor of Medicine, College of Medicine

Robert James McKay Jr., Professor of Pediatrics, College of Medicine

A. Rosemary Lamoray, Lecturer of Dental Hygiene, School of Allied Health Sciences

Jean B. Milligan, Dean of Nursing, School of Nursing

Robert O. Sinclair, Dean of Agriculture, Natural Resources, Life Science, College of Agriculture and Life Sciences

Raymond H. Tremblay, Professor of Agricultural and Resource Economics, College of Agriculture and Life Sciences

Louis Maldonado Ugalde, Professor of Romance Languages, College of Arts and Sciences

H. Carmer VanBuren, Associate Professor of Medicine, College of Medicine

Lelon A. Weaver, Assistant Professor of Psychiatry, College of Medicine

**The following University of Vermont faculty members were granted emeriti status in 1986:**

Wesson D. Bolton, Professor of Animal Pathology, College of Agriculture and Life Sciences

L. Aline Demers, Associate Professor of Nursing, School of Nursing

Thomas C. Dunkley, Assistant Professor of Human Development Studies, College of Education and Social Services

James A. Edgerton, Extension Professor of Extension Service, College of Agriculture and Life Sciences

Milton J. Nadworny, Professor of Economics, College of Arts and Sciences

David P. Newton, Extension Professor of Extension Service, College of Agriculture and Life Sciences

Wesley Lemars Nyborg, Professor of Physics, College of Arts and Sciences

John C. Page, Extension Professor of Extension Service, College of Agriculture and Life Sciences

Wilfred Roth, Professor of Electrical Engineering, College of Engineering and Mathematics

Janet R. Sawyer, Professor of Nursing, School of Nursing

Herbert L. Schultz, Associate Professor of Music, College of Arts and Sciences

Malcolm F. Severance, Professor of Business Administration, School of Business Administration

Warren R. Stinebring, Professor of Microbiology, College of Medicine

Winston A. Way, Extension Professor of Plant and Soil Science, College of Agriculture and Life Sciences

**The following University of Vermont faculty members were granted emeriti status in 1985:**

Donald J. Balch, Professor of Animal Sciences, College of Agriculture

Betty M. Boller, Professor of Organizational, Counseling and Foundational Studies, College of Education and Social Services

Mary E. Breen, Associate Professor of Medical Technology, School of Allied Health Sciences

Mary Julia Cronin, Associate Professor of Nursing, School of Nursing

Verle R. Houghaboom, Extension Professor of Agricultural and Resource Economics, College of Agriculture

Hans Rosenstock Huessy, Professor of Psychiatry, College of Medicine

Frederick M. Laing, Research Associate Professor of Botany, College of Agriculture

Merton P. Lamden, Professor of Biochemistry, College of Medicine

Littleton Long, Professor of English, College of Arts and Sciences

Gilbert A. Marshall, Professor of Mechanical Engineering, College of Engineering and Mathematics

Harry J. McEntee, Assistant Professor of Education, College of Education and Social Services

John R. Price, Extension Assistant Professor of Extension Service, College of Agriculture

Frederic O. Sargent, Professor of Agricultural and Resource Economics, College of Agriculture

Glen M. Wood, Professor of Plant and Soil Science, College of Agriculture

Hazen F. Wood, Coordinator of Professional Laboratory Experiences, College of Education and Social Services

**The following University of Vermont faculty members were granted emeriti status in 1984:**

Evaline I. Barrett, Associate Professor of Nursing, School of Nursing

William M. Corey, Extension Professor of Extension Service, College of Agriculture

Edward W. Goodhouse, Extension Associate Professor of Extension Service, College of Agriculture

Philip K. Grime, Extension Professor of Extension Service, College of Agriculture

Joseph N. Russo II, Clinical Assistant Professor of Obstetrics and Gynecology, College of Medicine

Edward Suter Irwin, Clinical Professor of Surgery, College of Medicine

Donald B. Johnstone, Professor of Microbiology and Biochemistry, College of Medicine

Frank Lusk Babbott Jr., Clinical Associate Professor of Medicine, College of Medicine

Douglas Kinnard, Professor of Political Science, College of Arts and Sciences

George T. Little, Professor of Political Science, College of Arts and Sciences

Thomas J. McCormick, Extension Professor of Extension Service, College of Agriculture

Bethia N. Munger, Extension Associate Professor of Extension Service, College of Agriculture

Mary M. Petrusich, Professor of Human Development Studies,  
College of Education and Social Services

Heath K. Riggs, Professor of Mathematics, College of Engineering  
and Mathematics

Blanche E. Royce, Lecturer of Education, College of Education and  
Social Services

Stanislaw J. Staron, Professor of Political Science, College of Arts and  
Sciences

Noah C. Thompson, Extension Professor of Extension Service,  
College of Agriculture

Kenneth E. Varney, Assistant Professor of Plant and Soil Science,  
College of Agriculture

Francis A. Weinrich, Assistant Professor of Music, College of Arts and  
Sciences

Samuel C. Wiggins, Professor of Plant and Soil Science, College of  
Agriculture

**The following University of Vermont faculty members  
were granted emeriti status in 1983:**

Martha Marie Caldwell, Associate Professor of Textiles,  
Merchandising and Consumer Studies, College of Agriculture

Thomas Whitfield Dowe, Professor of Animal Science, College of  
Agriculture

Dwight K. Eddy, Extension Professor of Agricultural and Resource  
Economics, College of Agriculture

Edward E. Friedman, Professor of Family Practice, College of  
Medicine

Susan M. Hopp, Research Associate Professor of Agriculture, College  
of Agriculture

Roy G. Julow, Professor of Romance Languages, College of Arts and  
Sciences

David L. Kinsey, Associate Professor of Music, College of Arts and  
Sciences

Karin Kristiansson, Extension Professor of Extension Services,  
College of Agriculture

Dorothy Page, Associate Professor of Physical Therapy, School of  
Allied Health Sciences

Lucien D. Paquette, Extension Professor of Extension Services,  
College of Agriculture

William I. Shea, Associate Professor of Surgery, College of Medicine

Kathleen Strassburg, Extension Professor of Textiles, Merchandising  
and Consumer Studies, College of Agriculture

William A. Woodruff, Associate Professor of Psychiatry, College of  
Medicine

**The following University of Vermont faculty members  
were granted emeriti status in 1982:**

Samuel N. Bogorad, Professor of English, College of Arts and  
Sciences

Robert Whitney Dumville, Extension Assistant Professor of Extension  
Services, College of Agriculture

Gordon V. Farr, Extension Associate Professor of Extension Services,  
College of Agriculture

Theodore Ross Flanagan, Extension Associate Professor of Extension  
Services, College of Agriculture

Ellen M. Gillies, Library Professor of Medical Laboratory, University  
Libraries

Morris Handelsman, Professor of Electrical Engineering, College of  
Engineering and Mathematics

Joseph A. Izzo, Professor of Mathematics, College of Engineering and  
Mathematics

Paul B. Kebakian, Library Professor of Libraries, University Libraries

Frank Wayne Lidral, Professor of Music, College of Arts and Sciences

Frances E. Magee, Assistant Professor of Nursing, School of Nursing

Bruce E. Meserve, Professor of Mathematics, College of Engineering  
and Mathematics

N. James Schoonmaker, Professor of Mathematics, College of  
Engineering and Mathematics

Horace H. Squire, Associate Professor of Business Administration,  
School of Business Administration

Margaret B. Whittlesey, Associate Professor of Special Education,  
Social Work and Social Services, College of Education and Social  
Services

**The following University of Vermont faculty members  
were granted emeriti status in 1981:**

Beatrice Buxton, Extension Associate Professor of Extension Services,  
College of Agriculture

Julius S. Dwork, Associate Professor of Mathematics, College of  
Engineering and Mathematics

Murray W. Foote, Associate Professor of Microbiology and  
Biochemistry, College of Agriculture

Chesley P. Horton, Extension Assistant Professor of Extension  
Services, College of Agriculture

William P. Leamy, Extension Associate Professor of Extension  
Services, College of Agriculture

Leonard S. Mercia, Extension Professor of Extension Services,  
College of Agriculture

Donald B. Miller, Associate Professor of Surgery, College of Medicine

Harold S. Schultz, Professor of History, College of Arts and Sciences

Ethan A. H. Sims, Professor of Medicine, College of Medicine

John F. Stephenson, Extension Professor of Extension Services,  
College of Agriculture

Arthur F. Tuthill, Professor of Mechanical Engineering, College of  
Engineering and Mathematics

Selina Williams Webster, Professor of Clothing, Textiles and Design,  
College of Agriculture

Robert E. White, Extension Assistant Professor of Extension Services,  
College of Agriculture

**The following University of Vermont faculty members  
were granted emeriti status in 1980:**

Alfred H. Chambers, Professor of Physiology and Biophysics, College  
of Medicine

Shirley A. Cushing, Extension Assistant Professor of Extension  
Services, College of Agriculture

Henry M. Doremus, Associate Professor of Pharmacology and  
Animal Pathology, College of Medicine

Raymond T. Foulds, Extension Professor of Extension Services,  
College of Agriculture

Edwin C. Greif, Professor of Marketing, College of Engineering,  
Mathematics and Business Administration

Sinclair T. Allen Jr., Professor of Medicine, College of Medicine

C. Alan Phillips, Professor of Medicine and Medical Microbiology,  
College of Medicine

Doris H. Steele, Extension Professor of Extension Services, College of  
Agriculture

**The following University of Vermont faculty members  
were granted emeriti status in 1979:**

Bernard B. Barney, Associate Professor of Surgery, College of  
Medicine

Alice J. Blair, Extension Associate Professor of Extension Services,  
College of Agriculture

Francis R. Bliss, Professor of Classics, College of Arts and Sciences

Raymond M. P. Donaghy, Professor of Neurosurgery, College of  
Medicine

Howard Duchacek, Professor of Mechanical Engineering, College of  
Engineering, Mathematics and Business Administration

Nathaniel Gould, Professor of Orthopaedic Surgery, College of  
Medicine

Charles S. Houston, Professor of Epidemiology and Environmental  
Health, College of Medicine

George A. Wolfe Jr., Professor of Medicine, College of Medicine

Raymond F. Kuhlmann, Clinical Professor of Orthopaedic Surgery,  
College of Medicine

Eugene Lepeschkin, Professor of Medicine, College of Medicine

John E. Little, Professor of Microbiology and Biochemistry, College  
of Agriculture

John Van S. Maeck, Professor of Obstetrics and Gynecology, College  
of Medicine

Frank Martinek, Professor of Mechanical Engineering, College of  
Engineering, Mathematics and Business Administration

Donald B. Melville, Professor of Biochemistry, College of Medicine

Elbert A. Nyquist, Professor of Business Administration, College of  
Engineering, Mathematics and Business Administration

Agnes T. Powell, Associate Professor of Human Nutrition and Food,  
School of Home Economics

William W. Stone, Extension Professor of Extension Services, College  
of Agriculture

Lester J. Wallman, Professor of Neurosurgery, College of Medicine

**The following University of Vermont faculty members  
were granted emeriti status in 1978:**

Robert P. Davison, Associate Dean/Director of Extension Service,  
College of Agriculture

Donald C. Gregg, Pomeroy Professor of Chemistry, College of Arts  
and Sciences

Silas H. Jewett, Extension Assistant Professor of Extension Services,  
University Extension

Esther L. Knowles, Associate Professor of Home Economics, School  
of Home Economics

Paul N. Paganuzzi, Professor of Russian, College of Arts and Sciences

Platt R. Powell, Professor of Surgery, College of Medicine

George A. Schumacher, Professor of Neurology, College of Medicine

Christopher M. Terrien Sr., Associate Professor of Medicine, College  
of Medicine

Helena A. Ure, Associate Professor of Nursing, School of Nursing

**The following University of Vermont faculty members were granted emeriti status in 1977:**

Rolf N. B. Haugen, Professor of Political Science, College of Arts and Sciences

Harry H. Kahn, Professor of German and Russian, College of Arts and Sciences

Ernest Stark, Professor of Pathology, College of Medicine

**The following University of Vermont faculty members were granted emeriti status in 1976:**

Blair Williams, Professor of Home Economics, School of Home Economics

**The following University of Vermont faculty members were granted emeriti status in 1975:**

Betty Bandel, Professor of English, College of Arts and Sciences

Marion Brown, Professor of Home Economics, School of Home Economics

John H. Lochhead, Professor of Zoology, College of Arts and Sciences

Ippocrates Pappoutsakis, Professor of Music, College of Arts and Sciences

Fred H. Taylor, Professor of Botany, College of Agriculture

Truman M. Webster, Professor of German, College of Arts and Sciences

Wendell Jennison Whitcher, Associate Professor of Chemistry, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1974:**

Arthur A. Gladstone, Professor of Surgery, College of Medicine

Robert Bruce Huber, Professor of Communications and Theatre, College of Arts and Sciences

James Wallace Marvin, Professor of Botany, College of Agriculture

Ellen Hastings Morse, Professor of Home Economics, School of Home Economics

Thomas Sproston, Jr., Professor of Botany, College of Agriculture

Marion Brown Thorpe, Professor of Home Economics, School of Home Economics

**The following University of Vermont faculty members were granted emeriti status in 1973:**

Malcome Daniel Daggett, Professor of Romance Languages, College of Arts and Sciences

J. Edward Donnelly, Director of Athletics, College of Education

John C. Evans, Professor of Physical Education, College of Education

Albert George Mackag, Professor of Surgery, College of Medicine

Malcolm Skeels Parker, Associate Professor of Romance Languages, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1972:**

Earl Lee Arnold, Professor of Agricultural Engineering, College of Agriculture

Stuart Lynde Johnston, Professor of Romance Languages, College of Arts and Sciences

Isabel Clark Mills, Associate Professor of Art, College of Arts and Sciences

James Fellows White, Professor of German, College of Arts and Sciences

Albert Wilhelm Wurthmann, Assistant Professor of German, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1971:**

Ellsworth L. Amidon, Professor of Medicine, College of Medicine

Fred W. Dunihue, Professor of Anatomy, College of Medicine

Frank D. Lathrop, Associate Professor of Otolaryngology, College of Medicine

Andrew E. Nuquist, Professor of Political Science, College of Arts and Sciences

William J. Slavin, Professor of Obstetrics and Gynecology, College of Medicine

**The following University of Vermont faculty members were granted emeriti status in 1970:**

Heinz Ansbacher, Professor of Psychology, College of Arts and Sciences

George Crooks, Professor of Chemistry, College of Technology

Richard Hopp, Professor of Plant and Soil Science, College of Agriculture and Life Sciences

Eleanor Luse, Professor of Speech, College of Arts and Sciences

Karl Treial, Clinical Instructor of Psychiatry, College of Medicine

Keith Truax, Associate Professor of Surgery, College of Medicine

**The following University of Vermont faculty members were granted emeriti status in 1969:**

Arthur Bradley Soule Jr., Professor of Radiology, College of Medicine

Reginald Venn Milbank, Professor of Civil Engineering, College of Technology

Archibald Thomson Post, Associate Professor of Physical Education for Men, College of Education

Phyllis Melville Quinby, Associate Professor of Dental Hygiene, School of Dental Hygiene

Walter Alva Stultz, Professor of Anatomy, College of Medicine

Elizabeth K. Zimmerli, Associate Professor of Physical Education for Women, College of Education

**The following University of Vermont faculty members were granted emeriti status in 1968:**

Fred William Gallagher, Professor of Medical Microbiology, College of Medicine

Donald Cedric Henderson, Associate Professor of Poultry Science, College of Agriculture and Home Economics

Muriel Joy Hughes, Professor of English, College of Arts and Sciences

Paul Amos Moody, Professor of Natural History and Zoology, College of Arts and Sciences

Willard Bissell Pope, Fred Corse Professor of English Language and Literature, College of Arts and Sciences

Louise Adele Raynor, Associate Professor of Botany, College of Agriculture and Home Economics

Laurence Forrest Shorey, Associate Professor of Electrical Engineering, College of Technology

William Greenhill Young, Associate Professor of Clinical Psychology, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1967:**

Nelle Alexander Adams, Assistant Professor of Education, College of Education and Nursing

William Ritchie Adams, Professor of Forestry, College of Agriculture and Home Economics

Constance Lorraine Brown, Associate Professor of Chemistry, College of Technology

Paul Dennison Cark, Associate Professor of Clinical Pediatrics, College of Medicine

Rupert Addison Chittick, Professor of Psychology, College of Arts and Sciences

Charles William Hoilman, Associate Professor of Electrical Engineering, College of Technology

George Vincent Kidder, Professor of Classical Languages and Literature, College of Arts and Sciences

Chester Albert Newhall, Professor of Anatomy, College of Medicine

Nelson Lee Walbridge, Professor of Physics, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1966:**

Alec Bradfield, Professor of Animal and Dairy Science, College of Agriculture and Home Economics

James Eugene Pooley, Associate Professor of Classical Languages and History, College of Arts and Sciences

Florence May Woodard, Professor of Commerce and Economics, College of Technology/College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in 1965:**

Sally Berry Maybury, Associate Professor of Commerce and Economics, College of Technology/College of Arts and Sciences

Alvin Rees Midgley, Professor of Agronomy, College of Agriculture and Home Economics

Paul Robert Miller, Professor of Agronomy, College of Agriculture and Home Economics

Richard S. Woodruff, Assistant Professor of Pathology, College of Medicine

**The following University of Vermont faculty members were granted emeriti status in 1964:**

Charles George Doll, Professor of Geology, College of Arts and Sciences

George Dykhuizen, James Marsh Professor of Moral Philosophy and Religion, College of Arts and Sciences

Herbert Everett Putnam, Associate Professor of History, College of Arts and Sciences

Alban Bennett Rooney, Associate Professor of Physics, College of Arts and Sciences

**The following University of Vermont faculty members were granted emeriti status in Pre-1964:**

Oliver Newell Eastman, Professor of Gynecology, College of Medicine

Jay E. Keller, Associate Professor of Surgery, College of Medicine

Elizabeth Kundert, Assistant Professor of Clinical Psychiatry, College of Medicine

George H. Nicholson, Associate Professor of Mathematics, College of Engineering, Mathematics and Business Administration

Morris L. Simon, Associate Professor of Political Science, College of Arts and Sciences

J. William Sumner, Extension Assistant Professor of Extension Services, University Extension

Lawrence L. Weed, Professor of Medicine, College of Medicine

## FACULTY LIST

Effective November 2022

Abaied, Jamie L.; Associate Professor, Department of Psychological Science; PHD, Univ of IL Urbana-Champaign

Abajian, Michael John; Lecturer, Department of Nursing; MD, St. George's Univ

Abdul-Karim, Yasmeen ; Assistant Professor (COM), Department of Psychiatry; MD, New Jersey Medical Sch Rutgers

Abnet, Kevin R; Associate Professor (COM), Department of Anesthesiology; MD, Harvard Medical School

Aboushousha, Reem M; Faculty Scientist (COM), Department of Pathology&Laboratory Medicine; PHD, Maastricht Univ

Abu Alfa, Amer K; Assistant Professor (COM), Department of PathLabMed - Anatomic; MD, American Univ of Beirut

Abualadas, Hana Mohammad; Assistant Professor (COM), Department of Neurological Sciences; MD, University of Jordan

Abujaish, Wasef ; Associate Professor (COM), Department of Surg-General; MD, Univ of Craiova

Achenbach, Thomas Max; Professor, Department of Psychiatry; PHD, Univ of Minnesota

Ackerman, Adam M; Assistant Professor (COM), Department of Surg-Trauma; MD, University of Vermont

Ackil, Daniel J.; Assistant Professor (COM), Department of Emergency Medicine;

Acostamadedo, Jose Maria; Clinical Prac Phys-CVPH (COM), Department of Med-Hematology Oncology; MD, Universidad del Norte

Acquisto, Joseph T.; Professor, Department of Romance Languages; PHD, Yale Univ

Adair, Elizabeth Carol; Associate Professor, Department of Rubenstein Sch Env & Nat Res; PHD, Colorado State Univ

Adams, Elizabeth Jean; Clinical Professor, Department of Communication Sci & Disorders; AUD, A. T. Still Univ of Health Sci

Adams, Karen ; Lecturer, Department of Romance Languages;

Adeniyi, Aderonke Oluponle; Assistant Professor (COM), Department of Med-Cardiology; MD, Wake Forest Univ

Ades, Philip A.; Professor, Department of Med-Cardiology; MD, Univ of Maryland Coll Park

Ades, Steven ; Professor (COM), Department of Med-Hematology Oncology; MD, McGill Univ

Adler, Abigail Rhodes; Assistant Professor (COM), Department of Pediatrics; MD, University of Vermont

Adrianzen Herrera, Diego ; Assistant Professor (COM), Department of Med-Hematology Oncology; MD, Alberto Hurtado School of Med

Afshar, Saba ; Assistant Professor (COM), Department of Psychiatry;

Agrawal, Varun ; Associate Professor (COM), Department of Med-Nephrology;

Ahern, Thomas Patrick; Associate Professor, Department of Surgery; PHD, Boston Univ

Ahmadi, Afshin ; Lecturer I, Department of Grossman School of Business; JD, Boston Univ

Ahmed, Shahid Sattar; Assistant Professor (COM), Department of Med-Hematology Oncology;

Aitken, Margaret S.; Clinical Assistant Prof., Department of Nursing; DNP, University of Vermont

Ajamie, Patricia ; Professor, Department of School of Arts; DMA, Shenandoah Univ

Akerley, Theresa L.; Lecturer (Part-Time), Department of Education; ED M, University of Vermont

Akintola, Oluwatosin Oluwafunso; Assistant Professor (COM), Department of Neurological Sciences;

Akselrod, Dmitriy G; Associate Professor (COM), Department of Radiology; MD, State Univ of NY Upstate

Albaugh, Matthew D.; Assistant Professor (COM), Department of Psychiatry; PHD, University of Vermont

Alef, Matthew J; Associate Professor (COM), Department of Surg-Vascular; MD, Rush Medical Coll

Alexander, Lisa Pippa; Assistant Professor (COM), Department of Surg-Ophthalmology; MD, State Univ of NY Downstate

Alexander, Sarah C.; Associate Professor, Department of English; PHD, Rutgers Univ

Alexandra, Eve M.; Senior Lecturer, Department of English; MFA, University of Pittsburgh

Alexeeva, Vlada A.; Clinical Prac Phys-CVPH (COM), Department of Pathology&Laboratory Medicine;

Alger, Samantha Ann; Lecturer I, Department of Plant & Soil Science;

Ali, M Yusuf ; Assistant Professor (COM), Department of Molecular Physlgy & Biophysics; PHD, Toyohashi Univ of Tech



Ali, Naim Salim; Assistant Professor (COM), Department of Radiology; MD, Rutgers Univ

Allen, Kenneth D.; Senior Lecturer, Department of Biomedical and Health Sci; MBA, Belmont Univ

Allen III, Gilman B.; Professor (COM), Department of Med-Pulmonary; MD, University of Florida

Allgaier, Nicholas A; Assistant Professor (COM), Department of Psychiatry; PHD, University of Vermont

Almassalkhi, Mads R; Associate Professor, Department of Elec & Biomed Engineering; PD, Univ of Michigan Ann Arbor

Almstead, Laura L; Senior Lecturer, Department of Plant Biology; PHD, Stanford Univ

Alston, Wallace Kemper; Professor (COM), Department of Med-Infectious Disease; MD, New York Med Coll

Althoff, Robert ; Associate Professor, Department of Psychiatry; PHD, Univ of IL Urbana-Champaign

Alvez, Juan Pablo; Research Associate, Department of Ext - Programming & Fac Sup; PHD, University of Vermont

Ambaye, Abiy B.; Professor (COM), Department of PathLabMed - Anatomic; MD, Charles Univ

Ament, Joseph Allen; Lecturer, Department of Com Dev & Applied Economics;

Ames, Suzanne Elizabeth; Professor (COM), Department of Orthopaedics & Rehabilitation; MD, University of Vermont

Amiel, Eyal ; Associate Professor, Department of Biomedical and Health Sci; PHD, Dartmouth Med Sch

An, Gary C; Professor (COM), Department of Surg-Trauma; MD, University of Miami

Anathy, Vikas ; Associate Professor, Department of Pathology&Laboratory Medicine; PHD, Madurai Kamaraj Univ

Andersen, Ellen A.; Associate Professor, Department of Political Science; PHD, Univ of Michigan Ann Arbor

Anderson, Colin R.A.; Research Associate Prof, Department of Plant & Soil Science;

Anderson, Erik P; Associate Professor (COM), Department of Anesthesiology; MD, Tulane Univ

Anderson, Hillary ; Assistant Professor (COM), Department of Pediatrics; MD, University of Vermont

Anderson, Katherine J; Assistant Professor (COM), Department of Peds-Genetics; MD, University of Vermont

Anderson, Ryan ; Associate Professor (COM), Department of Anesthesiology; PHD, Duke Univ

Anderson, Scott R; Professor (COM), Department of PathLabMed - Anatomic; MD, Loma Linda Univ

Andronaco Ahrens, Sarah ; Lecturer (Part-Time), Department of Education;

Andrus, Erica Ruth Hurwitz; Senior Lecturer, Department of Religion; PHD, Univ of Calif Santa Barbara

Angelopoulos, Theodore J; Professor, Department of Rehab & Movement Sci; PHD, University of Pittsburgh

Anker, Christopher James; Associate Professor (COM), Department of Radiation-Oncology; MD, State Univ of NY Upstate

Antkowiak, MaryEllen Cleary; Associate Professor (COM), Department of Med-Pulmonary; MD, University of Vermont

Arel, Barbara M.; Associate Professor, Department of Grossman School of Business; PHD, Arizona State Univ

Arend, Katharine M; Lecturer (Part-Time), Department of Education;

Ashley, Charles W; Assistant Professor (COM), Department of ObGyn-Gynecologic Oncology; MD, University of Vermont

Ashooh, Michael X.; Senior Lecturer, Department of Philosophy;

Aslakson, Rebecca A; Professor, Department of Anesthesiology;

Atwood, Gary Scott; Library Associate Prof, Department of Dana Medical Library; MLIS, Simmons Coll

Aunchman, Alia F; Assistant Professor (COM), Department of Surg-Trauma; MD, University of Vermont

Aunchman, Nicholas A.; Assistant Professor (COM), Department of Emergency Medicine; MD, University of Vermont

Avila, Maria Mercedes; Professor (COM), Department of Pediatrics; PHD, University of Vermont

Baalachandran, Ramasubramanian ; Assistant Professor (COM), Department of Med-Pulmonary;

Backman, Spencer ; Assistant Professor, Department of Mathematics & Statistics; PHD, Georgia Inst of Tech

Badireddy, Appala Raju ; Associate Professor, Department of Civil & Env Engineering; PHD, Univ of Houston

Badlam, Jessica Beatrice; Assistant Professor (COM), Department of Med-Pulmonary; MD, University at Buffalo

Bagley, Anjuli R; Assistant Professor (COM), Department of Radiology; MD, State Univ of NY Upstate

Bagrow, James P; Associate Professor, Department of Mathematics & Statistics; PHD, Clarkson Univ

Bailey, Alexis ; Assistant Professor (COM), Department of Psychiatry;

Bailey, Kathryn E; Lecturer, Department of Anthropology;

Bailly, Jacques A.; Associate Professor, Department of Classics; PHD, Cornell Univ

Baker, Daniel H.; Associate Prof Emeritus, Department of Com Dev & Applied Economics; PHD, University of Vermont

Baker, William E; Associate Professor (COM), Department of Emergency Medicine; MD, University of Vermont

Balla, Agnes ; Assistant Professor (COM), Department of PathLabMed - Anatomic; MD, University of Vermont

Ballard, Catherine Stuart; Extension Assistant Prof., Department of Animal and Veterinary Sciences; MS

Ballard, Zachary Caperton; Senior Lecturer, Department of Mechanical Engineering;

Ballif, Bryan A.; Professor, Department of Biology; PHD, Harvard Univ

Ballysingh, Tracy Arambula; Associate Professor, Department of Education; PD, Univ of Texas Austin

Bamford, Benjamin R; Clinical Practice Phys (COM), Department of Radiology; MDPHD, Univ of Connecticut

Bamford, Jennifer B.; Assistant Professor (COM), Department of Family Medicine; MD, Univ of Maryland

Bang, Elisa Misoo; Lecturer (Part-Time), Department of School of Arts;

Banu, Dragos ; Assistant Professor (COM), Department of Med-Gen Internal Med; MD, Saba Univ Sch of Med

Baran, Caitlin N; Assistant Professor (COM), Department of Family Medicine; MD, University of Vermont

Barclay-Derman, Noah David; Lecturer, Department of Biomedical and Health Sci; MPH, Univ of Washington Seattle

Barker, Julia H; Assistant Professor (COM), Department of Med-Dermatology; MD, University of Vermont

Barkhuff, Daniel A.; Assistant Professor (COM), Department of Surg-Emergency Med; MD, Harvard Medical School

Barkhuff, Whitney D.; Assistant Professor (COM), Department of Peds-Neonatology; PHD, University of Vermont

Barlow, John W.; Associate Professor, Department of Animal and Veterinary Sciences; PHD, University of Vermont

Barlow, Raiel Dawn; Assistant Professor (COM), Department of Orthopaedics & Rehabilitation; MD, University of Vermont

Barna, Jacquelyn Lee; Senior Lecturer, Department of Social Work; MSW, Calif State Univ Long Beach

Barnaby, Andrew Thomas; Professor, Department of English; PHD, Princeton Univ

Barnard, Diana L; Associate Professor (COM), Department of Family Medicine; MD, University of Vermont

Barnett, Julian Junpei; Assistant Professor, Department of School of Arts; MFA, University of the Arts

Barrett, Kaitlyn V; Assistant Professor (COM), Department of Med-Endocrinology;

Barrett, Trace ; Assistant Professor (COM), Department of Med-Cardiology; MD, Albany Medical Coll

Barringer, Hoyt P.; Senior Lecturer, Department of School of Arts; BA, University of Vermont

Barrington, David Stanley; Professor, Department of Plant Biology; PHD, Harvard Univ

Barrios Garcia Moar, Maria Noelia ; Lecturer, Department of Rubenstein Sch Env & Nat Res;

Barry, Jeremy M; Assistant Professor (COM), Department of Neurological Sciences; PHD, State Univ of NY Downstate

Barry, Maura Meredith; Assistant Professor (COM), Department of Med-Hematology Oncology; MD, Rutgers Univ

Bartels, Amelia G; Associate Professor (COM), Department of Med-Geriatrics; MD, Univ of Virginia

Bartlett, Craig S.; Professor (COM), Department of Orthopaedics & Rehabilitation; MD, Albany Medical Coll

Bartsch, Jason C; Assistant Professor (COM), Department of Med-Gen Internal Med; MD, George Washington Univ

Baruth, Philip Edward; Professor, Department of English; PHD, Univ of Calif Irvine

Bates, Jason H. T.; Professor, Department of Med-Pulmonary; PHD, University of Otago

Bauerly, Bradley Alan; Lecturer, Department of Political Science;

Bauerly, Kimberly R; Assistant Professor, Department of Communication Sci & Disorders; PHD, University of Toronto

Bavly, Gideon ; Lecturer III, Department of German & Russian; MS, Saint Michael's Coll

Bazarsky, Allyson Beth; Assistant Professor (COM), Department of Neurological Sciences;

Bazylewicz, Michael Peter; Assistant Professor (COM), Department of Radiology; MD, Dartmouth Med Sch

Beam, Emily A; Associate Professor, Department of Economics; PHD, Univ of Michigan Ann Arbor

Beard, Kevin D; Senior Lecturer, Department of Mathematics & Statistics; MBA, Univ of Connecticut

Beasley, Lionel M.; Lecturer, Department of English;

Beatty, Dennis R.; Associate Professor (COM), Department of Med-Gen Internal Med; MD, Thomas Jefferson Univ

Beckage, Brian ; Professor, Department of Plant Biology; PHD, Duke Univ

Beer, Caroline Charlotte; Professor, Department of Political Science; PHD, Univ of New Mexico

Belarmino, Emily Huneycutt Morgan; Assistant Professor, Department of Nutrition & Food Sciences; PHD, London Sch Hygiene/Trop'l Med

Bell, Rebecca Cunningham; Associate Professor (COM), Department of Pediatrics; MD, University of Mass

Beltre, Mildred G.; Associate Professor, Department of School of Arts; MFA, University of Iowa

Bender, Stephen P.; Associate Professor (COM), Department of Anesthesiology; MD, Ohio State Univ

Benoit, Michel Yves; Associate Professor (COM), Department of Orthopaedics & Rehabilitation; MD, University of Montreal

Bensimhon, Ariel D; Assistant Professor (COM), Department of Anesthesiology; MD, Temple Univ

Benson, Daisy S.; Library Associate Prof, Department of Howe-Info & Instruction; MLIS, Univ of Texas Austin

Bentil, Daniel E.; Associate Professor, Department of Mathematics & Statistics; DPHIL, University of Oxford

Benway, Karen ; Senior Lecturer, Department of Mathematics & Statistics; SCM, Harvard Sch of Public Health

Berg, Karin ; Assistant Professor (COM), Department of PathLabMed - Anatomic;

Berger, Christopher Lewis; Professor, Department of Molecular Physlgy & Biophysics; PHD, Univ of Minnesota

Berger, Claudia A.; Assistant Professor (COM), Department of Med-Gen Internal Med; MD, Albert Einstein Coll of Med

Berger, Jennifer ; Lecturer, Department of School of Arts;

Bernard, Emily E.; Professor, Department of English; PHD, Yale Univ

Berns, Stephen H; Associate Professor (COM), Department of Family Medicine; MD, Mount Sinai Sch of Med

Bernstein, Ira Mark; Professor, Department of Obstetrics Gynecology&Reprod; MD, University of Vermont

Bertges, Daniel J; Professor (COM), Department of Surg-Vascular; MD, University of Pittsburgh

Bertmann, Farryl MW; Clinical Assistant Prof., Department of Nutrition & Food Sciences; PHD, Arizona State Univ

Besaw Jr, Paul Henry; Professor, Department of School of Arts; MFA, Univ of NC Greensboro

Besette, Jean M; Associate Professor, Department of English; PHD, University of Pittsburgh

Bethina, Narandra Kiran; Associate Professor (COM), Department of Med-Rheumatology; MD, Saint Joseph Hospital

Beynnon, Bruce David; Professor, Department of Orthopaedics & Rehabilitation; PHD, University of Vermont

Bhave, Anant D.; Associate Professor (COM), Department of Radiology; MD, Univ of IL Urbana-Champaign

Bierman, Paul Robert; Professor, Department of Rubenstein Sch Env & Nat Res; PHD, Univ of Washington

Bingham, Peter M.; Professor (COM), Department of Neurological Sciences; MD, Columbia Univ

Bisanzo, Mark C; Associate Professor (COM), Department of Surg-Emergency Med; MD, Harvard Medical School

Bishop-von Wettberg, Eric J; Associate Professor, Department of Plant & Soil Science; PHD, Brown Univ

Bishop-von Wettberg, Kristin L; Lecturer, Department of Biology; PHD, Brown Univ

Black, Ellen E; Assistant Professor (COM), Department of Neurological Sciences; PHD, University of Vermont

Blair, Sarah A; Clinical Prac Phys-CVMC (COM), Department of Anesthesiology; MD, University of Vermont

Blake, Bethany N; Lecturer I, Department of School of Arts; DPHIL, State Univ of NY Stony Brook

Blake, Kimberly D.; Assistant Professor (COM), Department of ObGyn-General; MD, State Univ of NY Buffalo

Blanchette Porter, Misty M; Associate Professor (COM), Department of ObGyn-General; MD, Dartmouth Med Sch

Blankstein, Michael ; Associate Professor (COM), Department of Orthopaedics & Rehabilitation; MD, University of Toronto

Blindow, Kyle ; Lecturer I, Department of Education;

Bliss, Dani ; Assistant Professor (COM), Department of Anesthesiology; MD, Temple Univ Sch of Med

Blom, Deborah Eileen; Associate Professor, Department of Anthropology; PHD, Univ of Chicago

Blouin, Michael R; Senior Lecturer, Department of Rubenstein Sch Env & Nat Res; MS, University of Vermont

Bock, Dravida D; Associate Professor (COM), Department of Neurological Sciences; PHD, Harvard Univ

Boland Chira, Sheila ; Senior Lecturer, Department of English; MA, New York Univ

Bolduc, Damian ; Clinical Assistant Prof., Department of Biomedical and Health Sci;

Bolh, Nathalie G.; Professor, Department of Economics; PHD, Univ de Paris

Bomblies, Arne ; Associate Professor, Department of Civil & Env Engineering; PHD, Mass Inst of Tech

Bongard, Joshua C.; Professor, Department of Computer Science; PHD, Univ of Zurich

Bonifield, Carolyn Marie; Associate Professor, Department of Grossman School of Business; PHD, University of Iowa

Bonney, Elizabeth Ann; Professor, Department of ObGyn-General; MD, Stanford Univ

Borchert, Thomas A.; Professor, Department of Religion; PHD, Univ of Chicago

Borra, Adriana E.; Senior Lecturer, Department of Romance Languages; MA, Univ of Freiburg

Borra, Antonello ; Professor, Department of Romance Languages; PHD, Brown Univ

Borrazzo, Edward C.; Professor (COM), Department of Surg-General; MD, State Univ of NY Stony Brook

Boscia, Carolyn AM; Assistant Professor (COM), Department of Family Medicine; MD, Harvard Medical School

Bose, Pablo Shiladitya; Professor, Department of Geography & Geosciences; PHD, York Univ

Botten, Jason W.; Professor, Department of Med-Immunobiology; PHD, Univ of New Mexico

Bottoms, Gregory Todd; Professor, Department of English; MFA, Univ of Virginia

Bouchard, Beth Ann; Assistant Professor (COM), Department of Biochemistry; PHD, University of Vermont

Bounds, Richard B; Associate Professor (COM), Department of Surg-Emergency Med; MD, Univ of Maryland

Bouras, Mary ; Assistant Professor (COM), Department of Family Medicine; MD, Univ of Cincinnati

Bouton, Mark Earhart; Professor, Department of Psychological Science; PHD, Univ of Washington

Bovee, Alison ; Lecturer I, Department of Nursing;

Bowden, William Breck; Professor Emeritus, Department of Rubenstein Sch Env & Nat Res; PHD, North Carolina State Univ

Boyd, James T.; Professor (COM), Department of Neurological Sciences; MD, University of Newfoundland

Boyer, Edward G; Assistant Professor (COM), Department of Neurological Sciences; MD, Ross Univ Sch of Med Dominica

Boyson, Jonathan E.; Associate Professor, Department of Surgery; PHD, Univ of Wisconsin Madison

Bradeen, Heather A.; Associate Professor (COM), Department of Peds-Hematology Oncology; MD, Univ of New Mexico

Bradley, Jonathan David; Lecturer, Department of Political Science;

Bradshaw, Julian Ann; Lecturer II, Department of School of Arts; AM, University of Vermont

Bradshaw, Terence Lee; Assistant Professor, Department of Plant & Soil Science; PHD, University of Vermont

Brady, Christopher J; Associate Professor (COM), Department of Surg-Ophthalmology; MD, Johns Hopkins Univ

Brasdefer, Thomas ; Lecturer, Department of Anthropology;

Bravo, Maria Cristina; Faculty Scientist (COM), Department of Biochemistry; PHD, University of Vermont

Brazelton, Jason D; Clinical Prac Phys-CVMC (COM), Department of PathLabMed - Anatomic; MD, University of South Alabama

Brena, Anne Elizabeth ; Assistant Professor (COM), Department of Med-Gen Internal Med; MD, University of Vermont

Brennan, Julia ; Lecturer I, Department of Nursing;

Brennan, Vicki L.; Associate Professor, Department of Religion; PHD, Univ of Chicago

Breslend, Nicole Lafko; Lecturer, Department of Psychological Science; PHD, University of Vermont

Bress, William Charles; Instructor (COM), Department of Med - LCOM Edupreneurship; PHD, St. John's Univ

Brevik, Kristian A; Lecturer I, Department of Rubenstein Sch Env & Nat Res;

Brewer, Matthias ; Professor, Department of Chemistry; PHD, Univ of Wisconsin Madison

Briggs, Charles F.; Senior Lecturer, Department of History; PHD, Univ of N Carolina

Brinegar, Kathleen Distasio; Senior Lecturer, Department of Education; EDD, University of Vermont

Brody, Alison Kay; Professor, Department of Biology; PHD, Univ of Calif Davis

Bronner, Corey ; Lecturer (Part-Time), Department of Grossman School of Business; BBA, University of Vermont

Bronz, Caleb J; Lecturer (Part-Time), Department of School of Arts;

Brooks, Alexandra P; Lecturer (Part-Time), Department of Com Dev & Applied Economics;

Brooks, Christopher C; Lecturer, Department of Rubenstein Sch Env & Nat Res;

Brouwer Burg, Marieka ; Assistant Professor, Department of Anthropology; PHD, Michigan State Univ

Brown, Andrew Patrick; Lecturer, Department of Com Dev & Applied Economics;

Brown, Bradley W; Lecturer, Department of Education; MSED, Rochester Inst of Tech

Brown, Brandon Blaine; Clinical Assistant Prof., Department of Nursing; MSN, Norwich Univ

Brown, Dona L.; Professor, Department of History; PHD, University of Mass Amherst

Brown, Jeffrey M; Assistant Professor (COM), Department of Psychiatry;

Brown, Patrick Nathaniel; Lecturer I, Department of Com Dev & Applied Economics; MED, Saint Michael's Coll

Brown, Stephen A.; Associate Professor, Department of ObGyn-General; MD, Univ of Chicago

Brown, Tricia Marie; Senior Lecturer, Department of Education; SM, Johns Hopkins Univ

Bruce, Emily A; Assistant Professor (COM), Department of COM Microbio & Molec Genetics; PHD, University of Cambridge

Brundage, William John; Associate Professor (COM), Department of Surg-Otolaryngology; MD, Thomas Jefferson Univ

Bryant, Bronwyn H.; Assistant Professor (COM), Department of PathLabMed - Anatomic; MD, University of Rochester

Buchanan, Andrew N.; Senior Lecturer, Department of History; PHD, Rutgers Univ

Bucini, Gabriela ; Research Associate, Department of Plant & Soil Science; DPHIL, Colorado State Univ

Buckley, Krista ; Assistant Professor (COM), Department of Psychiatry;

Budd, Ralph Charles; Professor Emeritus, Department of Med-Immunobiology; MD, Weill Med Coll Cornell Univ

Budington, Steve W.; Associate Professor, Department of School of Arts; MFA, Yale Univ

Bui, Melanie Rae; Associate Professor (COM), Department of Med-Dermatology; PHD, University of Colorado

Bullis, Sean S; Assistant Professor (COM), Department of Med-Infectious Disease; MD, University of Vermont

Bumpas, Mary H; Clinical Assistant Prof., Department of Communication Sci & Disorders;

Burgess, Lee-Anna ; Assistant Professor (COM), Department of Med-Gen Internal Med;

Burgin, Eileen Kay; Professor, Department of Political Science; PHD, Harvard Univ

Burke, Mary Clare; Senior Lecturer, Department of Sociology; PHD, Univ of Connecticut

Burke, Matthew Jeremy; Research Associate, Department of Com Dev & Applied Economics; PHD, McGill Univ

Burkman, Kenneth W; Senior Lecturer, Department of Mechanical Engineering; MS, Missouri Univ of Sci & Tech

Burnett, Maria ; Assistant Professor (COM), Department of Med-Gen Internal Med; MD, University of Vermont

Burnham, Tara J.L; Clinical Assistant Prof., Department of Nursing; MS

Burns, Catherine E.; Lecturer (Part-Time), Department of Psychological Science;

Burns, Dylan C.; Lecturer I, Department of Mechanical Engineering;

Burstein, Danielle ; Assistant Professor (COM), Department of Peds-Cardiology;

Burt, Keith B.; Associate Professor, Department of Psychological Science; PHD, Univ of Minnesota

Butnor, Kelly J.; Professor (COM), Department of PathLabMed - Anatomic; MD, Duke Univ

Buzas, Jeff Sandor; Professor, Department of Mathematics & Statistics; PHD, North Carolina State Univ

Cafiero, Clayton B; Senior Lecturer, Department of Computer Science;

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Stewart, Alexander ; Professor, Department of School of Arts; PHD, City Univ of NY Grad Ctr

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Stilwell, Sean Arnold; Professor, Department of History; PHD, York Univ

Stockwell, Jason Dana; Professor, Department of Rubenstein Sch Env & Nat Res; PHD, University of Toronto

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Stratz, Daniel F; Assistant Professor (COM), Department of Surg-Emergency Med; MD, University of Vermont

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Strickler, Jennifer Anne; Associate Professor, Department of Sociology; PHD, Princeton Univ

Strolin, Jessica S; Professor, Department of Education; PHD, State Univ of NY Albany

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Toolin, Regina ; Associate Professor, Department of Education; PHD, Univ of Wisconsin Madison

Torncello, Susan Ann; Lecturer Emeritus, Department of Education; MED, University of Vermont

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Tourville, Timothy W.; Associate Professor, Department of Rehab & Movement Sci; PHD, University of Vermont

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Tracy, Russell P.; Professor, Department of Pathology&Laboratory Medicine; PHD, Syracuse Univ

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Waterman, Rory ; Professor, Department of Chemistry; PHD, Univ of Chicago

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White, Erika Romig; Lecturer, Department of School of Arts; MED, Saint Michael's Coll

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White, Sheryl Lynne; Assistant Professor (COM), Department of Neurological Sciences; PHD, University of Vermont

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## CATALOGUE ARCHIVES

### PRIOR YEAR ADDENDUM INFORMATION

A summary of prior year addendum information is located here (p. 586).

### ARCHIVED CATALOGUES

#### Catalogue Year    Web Version    Print Version Addenda

2022-23                    HTML                    PDF  
UGRAD; PDF GRAD    Published May 10, 2022;  
revised May 23, 2022 (UGRAD); Published May 6,

2022; revised June 8, 2022 (GRAD)

2021-22                    HTML                    PDF UGRAD; PDF  
GRAD    Published June 17, 2021 (UGRAD); revised June 25,  
2021; revised July 9, 2021

2020-21                    HTML                    PDF UGRAD; PDF  
GRAD    Published June 9, 2020; revised March 17, 2021

2019-20                    HTML                    PDF UGRAD; PDF  
GRAD    Published June 17, 2019; revised March 27, 2020

2018-19                    HTML                    PDF UGRAD; PDF  
GRAD    Published June 18, 2018 in the web version; revised July  
12, 2018

2017-18                    HTML                    PDF UGRAD; PDF  
GRAD    Published July 7, 2017 in the web version

2016-17                    HTML                    PDF UGRAD; PDF  
GRAD    Published June 21, 2016 in the web version; revised  
September 12, 2016;

revised March 1, 2017

2015-16                    HTML                    PDF UGRAD; PDF  
GRAD    Published July 22, 2015 in the web version; revised  
December 9, 2015

2014-15                    HTML                    PDF UGRAD; PDF  
GRAD    Published June 25, 2014 in the web version

#### PRIOR YEARS

## PRIOR YEAR ADDENDUM

In order to retain prior year addenda information in a print or PDF version of the catalogue, the prior year information is recorded here annually.

### 2022-23 UNDERGRADUATE CATALOGUE ADDENDUM

#### May 10, 2022

The name of the Natural Resources B.S. was changed to Sustainability, Ecology and Policy B.S. on April 27, 2022.

#### May 23, 2022

Minors in Integrative Health and Integrative Health and Wellness Coaching in the College of Nursing and Health Sciences were approved on May 21, 2022.

### 2022-23 GRADUATE CATALOGUE ADDENDUM

#### May 6, 2022

The Attendance Policy for graduate students is the same as that for undergraduate students and may be found here.

#### June 8, 2022

A Ph.D. in Transdisciplinary Leadership and Creativity for Sustainability in the Rubenstein School of Environment and Natural Resources was approved by the Board of Trustees on May 21, 2022.

A Ph.D. in Counselor Education and Supervision in the Department of Leadership and Developmental Sciences in the College of Education and Social Services was approved by the Board of Trustees on May 21, 2022.

### 2021-22 UNDERGRADUATE CATALOGUE ADDENDUM

#### JUNE 17, 2021

Effective Fall 2021, the Department of Nutrition and Food Sciences has a single umbrella major, Nutrition and Food Sciences, with three available concentrations: Dietetics; Nutrition, Society and Sustainability; and Food Sciences. Further information can be found on the Department of Nutrition and Food Sciences website.

The termination of the stand-alone Dietetics, Nutrition, and Food Sciences major was approved by the Board of Trustees on June 4, 2021.

#### JUNE 25, 2021

Effective Fall 2021, the Department of Plant and Soil Science has a single umbrella major, Agroecology and Landscape Design, with two available concentrations: Agroecology and Landscape Design. Further information can be found on the Department of Plant and Soil Science website.

The termination of the stand-alone Sustainable Landscape Horticulture major was approved by the Board of Trustees on June 4, 2021.

**JULY 9, 2021**

Effective Fall 2021, non-degree students may enroll in up to 19 credit hours per semester while completing admission requirements for an undergraduate program. Non-degree students completing a Continuing and Distance Education academic certificate, pursuing professional development, and/or completing admissions requirements for a graduate degree program may enroll in up to 15 credit hours per semester.

**2021-22 GRADUATE CATALOGUE ADDENDUM****JUNE 25, 2021**

A Certificate of Graduate Study in Resiliency Based Approaches with Families, Schools, and Communities in the Department of Education in the College of Education and Social Services was approved by the Board of Trustees on June 4, 2021.

A Micro-Certificate of Graduate Study in Agroecology in the Department of Plant and Soil Science in the College of Agriculture and Life Sciences was approved by the Board of Trustees on June 4, 2021.

**JULY 9, 2021**

Effective Fall 2021, non-degree students may enroll in up to 19 credit hours per semester while completing admission requirements for an undergraduate program. Non-degree students completing a Continuing and Distance Education academic certificate, pursuing professional development, and/or completing admissions requirements for a graduate degree program may enroll in up to 15 credit hours per semester.

**2020-21 UNDERGRADUATE CATALOGUE ADDENDUM****November 16, 2020**

Admissions information has been revised in response to COVID-19. First year applicants have the option of submitting their standardized test scores (it is not required).

**August 17, 2020**

The academic year 2020-21 calendar was revised in response to COVID-19. The calendar in this Catalogue has been edited to reflect the revisions as recorded on the Registrar's Office website.

**June 9, 2020**

The following program was approved by the board of Trustees on May 15, 2020 and will be available to students in Fall 2020:

- A certificate in Place-Based Education in the College of Education and Social Services

The following Articulation Agreements have been revised:

- Community College of Vermont (CCV) to the University of Vermont College of Engineering and Mathematical Sciences Guaranteed Admission Pathway
- University of Vermont – Vermont Law School 3+2 Program

- University of Vermont to Vermont Law School Guaranteed Admission Agreement

**2020-21 GRADUATE CATALOGUE ADDENDUM****June 9, 2020**

A Ph.D. in Sustainable Development Policy, Economics and Governance in the Department of Community Development and Applied Economics in the College of Agriculture and Life Sciences was approved by the University of Vermont Board of Trustees on May 15, 2020.

The Master of Science in Athletic Training is not accepting applications.

The post-professional Doctorate in Occupational Therapy is not accepting applications.

**2019-20 UNDERGRADUATE CATALOGUE ADDENDUM****MARCH 27, 2020**

In response to COVID-19, the University of Vermont shifted to remote instruction on March 18, 2020 for the duration of the semester. In response to this shift, the following academic accommodations were extended to students for the Spring 2020 semester only.

- Letter grades will be recorded for the semester. Students will have the option to elect Pass/No Pass (S/U for graduate students) by **May 14 at noon**.
- Courses in which students earned a “Pass” (P) will count towards major, minor, and degree requirements, **with the exception of** courses in which a specific grade is required for progression or licensure requirements (see next bullet).
- Students are responsible for understanding the **implications of their decision** to move to Pass/No Pass for courses related to their program's major requirements, progression standards, and accreditation and licensing requirements.
- Once a student has elected a Pass/No Pass option, that decision **cannot be reversed**.
- For grades earned in Spring 2020, UVM will accept Pass grades as sufficient for **transfer credit**.
- Colleges will waive **academic dismissal** decisions based on performance this semester.
- **Academic Probation policies** are college/school specific. The Provost's Office is encouraging colleges to be thoughtful in their use of academic probation this semester.
- For **scholarships** impacted by GPA, a one-time allowance will be made as follows. The cumulative GPA (calculated based on Pass/No Pass decisions) will be evaluated for each student at the end of the Spring 2020 term. For students who fall below a 3.0 cumulative GPA at that time, the Spring 2020 term GPA will be removed and the cumulative GPA recalculated without it. If the recalculated cumulative GPA is a 3.0 or higher, the student will maintain scholarship eligibility. For all future reviews, the Spring 2020 GPA will be included.

- Students are able to **withdraw** from any course through April 3. Please note that a student who chooses to, or must, withdraw from all coursework for the Spring 2020 semester, will still maintain scholarship eligibility for the next year as long as they meet the other criteria for renewal and have not exhausted their scholarship length. Check the Student Financial Services website for details regarding the other renewal criteria and scholarship length.
- Students granted incompletes will have the full academic year (until May 7, 2021) to submit the work necessary to convert their incomplete to a final grade.

Students are being given an important responsibility for carefully weighing the potential impacts of these options (Pass/No Pass in particular). **Students are advised to consult with their academic advisors and Student Financial Services to understand the full consequences of their decisions for their particular academic major, graduate school candidacy, financial aid standing, and career path.** Students should begin to explore the implications of these decisions in early April so they are prepared to make informed decisions in May.

#### JUNE 17, 2019

The Integrative Health and Wellness Coaching Undergraduate Certificate was erroneously approved as the Integrated Health and Wellness Coaching Undergraduate Certificate by the Board of Trustees on February 1, 2019. The Board action has been revised to reflect the correct name, which will appear in the next edition of the Catalogue.

### 2019-20 GRADUATE CATALOGUE ADDENDUM

#### MARCH 27, 2020

In response to COVID-19, the University of Vermont shifted to remote instruction on March 18, 2020 for the duration of the semester. In response to this shift, the following academic accommodations were extended to students for the Spring 2020 semester only.

- Letter grades will be recorded for the semester. Students will have the option to elect Pass/No Pass (S/U for graduate students) by **May 14 at noon.**
- Courses in which students earned a “Pass” (P) will count towards major, minor, and degree requirements, **with the exception of** courses in which a specific grade is required for progression or licensure requirements (see next bullet).
- Students are responsible for understanding the **implications of their decision** to move to Pass/No Pass for courses related to their program’s major requirements, progression standards, and accreditation and licensing requirements.
- Once a student has elected a Pass/No Pass option, that decision **cannot be reversed.**
- For grades earned in Spring 2020, UVM will accept Pass grades as sufficient for **transfer credit.**
- Colleges will waive **academic dismissal** decisions based on performance this semester.

- **Academic Probation policies** are college/school specific. The Provost’s Office is encouraging colleges to be thoughtful in their use of academic probation this semester.
- For **scholarships** impacted by GPA, a one-time allowance will be made as follows. The cumulative GPA (calculated based on Pass/No Pass decisions) will be evaluated for each student at the end of the Spring 2020 term. For students who fall below a 3.0 cumulative GPA at that time, the Spring 2020 term GPA will be removed and the cumulative GPA recalculated without it. If the recalculated cumulative GPA is a 3.0 or higher, the student will maintain scholarship eligibility. For all future reviews, the Spring 2020 GPA will be included.
- Students are able to **withdraw** from any course through April 3. Please note that a student who chooses to, or must, withdraw from all coursework for the Spring 2020 semester, will still maintain scholarship eligibility for the next year as long as they meet the other criteria for renewal and have not exhausted their scholarship length. Check the Student Financial Services website for details regarding the other renewal criteria and scholarship length.
- Students granted incompletes will have the full academic year (until May 7, 2021) to submit the work necessary to convert their incomplete to a final grade.

Students are being given an important responsibility for carefully weighing the potential impacts of these options (Pass/No Pass in particular). **Students are advised to consult with their academic advisors and Student Financial Services to understand the full consequences of their decisions for their particular academic major, graduate school candidacy, financial aid standing, and career path.** Students should begin to explore the implications of these decisions in early April so they are prepared to make informed decisions in May.

### 2018-19 UNDERGRADUATE CATALOGUE ADDENDUM

#### JULY 12, 2018

The following program was approved by the Board of Trustees on May 19, 2018 and will be available to students in Fall 2018:

- a major in Plant Biology leading to the Bachelor of Science in the College of Arts and Sciences.

#### JUNE 18, 2018

The following program was approved by the Board of Trustees on May 19, 2018 and will be available to students in Fall 2018:

- a minor in American Sign Language in the College of Education and Social Services; further information can be found on the American Sign Language website.

The following correction has been made to the Computer Science and Computer Science and Information Systems majors in the College of Engineering and Mathematical Sciences:

- The Computer Science core requirements have been corrected as follows: Twenty-one additional credits in CS, including three

at the 0XX-level (or above), six at the 1XX-level (or above), and twelve credits at the 2XX-level (or above).

- The Computer Science and Information Systems core requirements have been corrected as follows: Fifteen additional CS credits: Six credits at the 100-level or above (CS 125 recommended for students who wish to pursue graduate study in CS); nine credits at THE 3700-level or above.

## 2018-19 GRADUATE CATALOGUE ADDENDUM

JUNE 18, 2018

The following programs were approved by the Board of Trustees on May 19, 2018:

- a PhD in Physics. For further information, visit the Physics Graduate Programs website.
- an M.S. in Athletic Training. For further information, visit the Athletic Training website.
- a Certificate of Graduate Study in Community Resilience and Planning. For further information, visit the Community Resilience and Planning website.
- a Certificate of Graduate Study in Sustainable Enterprise. For further information, visit the Sustainable Enterprise website.

The Graduate Executive Committee has approved an Accelerated Masters Program for the M.S. in Special Education.

## 2017-18 UNDERGRADUATE CATALOGUE ADDENDUM

JULY 7, 2017

NEW PROGRAMS: The following programs were approved by the Board of Trustees on May 20, 2017 and will be available to students in Fall 2017:

- a minor in Cultural and Linguistic Diversity in the College of Education and Social Services; further information can be found on the Education for Cultural and Linguistic Diversity website.
- a certificate in Computer-Aided Engineering Technology in the College of Engineering and Mathematical Sciences; for further information contact the Office of Student Services in the Dean's Office of the College of Engineering and Mathematical Sciences.
- a certificate in Physical Activity Promotion in Children and Youth in the Department of Psychological Science.
- a minor in Public Policy Analysis in the Department of Political Science.
- the Quantitative Reasoning Requirement as part of the University's program of General Education.

### COLLEGE OF ARTS AND SCIENCES

The Environmental Sciences: Biology and Environmental Sciences: Geology minors were approved for termination by the Board of Trustees on May 20, 2017.

The Minor in Art requirements originally published have been corrected as follows (changes in bold):

Eighteen credits from the disciplines of Studio Art and Art History, including:

**Three credits from the following Studio Art courses:**

ARTS 1100 Drawing

ARTS 1400 Perspectives on Art Making

The Major in Studio Art requirements originally published have been corrected as follows (changes in bold):

Category B: Studio Art 100-level (18 credits)

Choose **three** of the following (**9** credits)

### COLLEGE OF ENGINEERING AND MATHEMATICAL SCIENCES

On May 4, 2017 the Curricular Affairs Committee of the Faculty Senate approved a proposal for significant revisions to the curriculum for the Bachelor of Science in Engineering Management in the College of Engineering and Mathematical Sciences. For further information contact the Office of Student Services in the Dean's Office of the College of Engineering and Mathematical Sciences.

## 2017-18 GRADUATE CATALOGUE ADDENDUM

JULY 7, 2017

NEW PROGRAMS: The following programs were approved by the Board of Trustees on May 20, 2017:

- a Certificate of Graduate Study in Agroecology in the Department of Plant and Soil Science; further information can be found on the Agroecology website.
- The Department of Nutrition and Food Sciences has added an Accelerated master's option to its Master of Science in Nutrition and Food Sciences program; further information can be found on the Department of Nutrition and Food Sciences website.

On April 24, 2017, the Faculty Senate approved the name change of the Sustainable Entrepreneurship MBA to the Sustainable Innovation MBA.

On April 24, 2017, the Faculty Senate approved the name change of the Certificate of Graduate Study in Environmental Public Health to the Certificate of Graduate Study in Global and Environmental Public Health.

## 2016-17 UNDERGRADUATE CATALOGUE ADDENDUM

MARCH 1, 2017

On February 27, 2017, the Faculty Senate approved the following grades:

AF – Administrative Failure due to a missing grade. The AF grade is equivalent to the grade of F in the determination of grade-point averages and academic standing. Effective Spring 2017.

ANP – Administrative No Pass due to a missing grade. The ANP is the equivalent of No Pass. It is not used in the grade-point calculation. Effective Spring 2017.

AUP – Administrative Unsatisfactory Progress. The AUP is the equivalent of Unsatisfactory Progress. It is not used in the grade-point calculation. Effective Spring 2017.

### SEPTEMBER 12, 2016

**ACADEMIC CALENDAR:** The academic year 2016-17 final exam and reading day components of the academic calendar have been revised. The most current academic calendar can be found on the Registrar's website.

**COMPUTER SCIENCE:** In the Computer Science B.A. description found in this Catalogue, footnote 2, the current requirements incorrectly specify that (MATH019 and MATH020) is an acceptable substitute for (MATH021 and MATH022). This should rather be that (MATH019 and MATH023) is an acceptable substitute for (MATH021 and MATH022).

### COLLEGE OF EDUCATION AND SOCIAL SERVICES:

As a result of changes from the Vermont Agency of Education, the following section has been updated:

Approved Alternatives to PRAXIS Core Academic Skills Test for Educators (PRAXIS Core)

As of July 1, 2016, CESS will accept PRAXIS I, SAT, GRE, or ACT scores as approved by the Vermont Agency of Education. If the student has one of the aforementioned test scores, the student may submit those scores to the CESS Student Services office for review in accordance with Vermont Agency of Education standards. Post-Baccalaureate Teacher Preparation programs and Graduate Teacher Preparation programs: Applicants will provide passing scores on PRAXIS Core (or approved alternatives) before being admitted to the program. Students who receive conditional acceptance must provide passing scores for PRAXIS Core before being eligible for a teaching internship placement.

On September 12, 2016 the Board of Trustees approved the inclusion of the Early Childhood Special Education and Early Childhood PreK-3 Programs in the Bachelor of Science in Education degree in the College of Education and Social Services, as approved and advanced by the Provost on August 12, 2016, and President on August 21, 2016.

### JUNE 21, 2016

**NEW PROGRAMS:** The following programs were approved by the Board of Trustees on May 21, 2016 and will be available to students in Fall 2016:

Bachelor of Science in Food Systems in the College of Agriculture and Life Sciences; further information may be found on the Food Systems Major website.

Bachelor of Science in Economics in the Department of Economics; further information may be found on the Bachelor of Science in Economics website.

Minor in Writing in the Department of English; further information may be found on the Minor in Writing website.

Minor in Jewish Studies in the College of Arts and Sciences.

## 2016-17 GRADUATE CATALOGUE ADDENDUM

### JUNE 21, 2016

An Accelerated Master's Program has been approved for the Master of Science in Nursing.

The following programs were approved by the Board of Trustees on May 21, 2016 and will be available to students in Fall 2016:

Master of Science in Medical Laboratory Science; further information may be found on the Medical Laboratory and Radiation Sciences website.

Certificate of Graduate Study in Epidemiology; further information may be found on the College of Medicine Graduate and Professional Programs website.

## 2015-16 UNDERGRADUATE CATALOGUE ADDENDUM

### JULY 22, 2015

HLTH 051: Wilderness First Responder is a three credit course.

### DECEMBER 9, 2015

At its October 3, 2015 meeting, the Board of Trustees approved a minor in Sports Management in the Rubenstein School of Environment and Natural Resources.

## 2015-16 GRADUATE CATALOGUE ADDENDUM

### JULY 22, 2015

On May 16, 2015, the Board of Trustees approved a Ph.D. in Food Systems. For further information, visit the Food Systems Program website.

On May 16, 2015, the Board of Trustees approved an M.S. in Complex Systems and Data Science. For further information, visit the Complex Systems website.

## 2014-15 UNDERGRADUATE CATALOGUE ADDENDUM

### JUNE 25, 2014

Bachelor of Science in Business Administration

The requirements for the Basic General Education Core of the Bachelor of Science in Business Administration include one three-credit course in Global and Regional Studies.

Bachelor of Science in Computer Science

There is an error in the stated requirements for the Bachelor of Science in Computer Science (B.S.CS) in the 2014-2015 catalogue.

The CS core reads: "Eighteen additional credits, including three at the 0XX-level (or above), three at the 1XX-level (or above), and twelve credits at the 2XX-level." The 2014-2015 requirement should read as follows: "Eighteen additional credits, including three at the 0XX-level (or above), six at the 1XX-level (or above), and nine credits at the 2XX-level." More information is available through the Department of Computer Science and the College of Engineering & Mathematical Sciences Office of Student Services and on their respective websites.

#### Bachelor of Science in Electrical Engineering

An additional provision has been added to the requirement for technical electives within the Bachelor of Science in Electrical Engineering program. At least three of the twelve required technical elective credits must be from the following subject areas: MATH, STAT, CHEM or PHYS. Please contact CEMS Student Services for additional information.

#### Pre-Engineering Technical Requirement

At its meeting on May 22, 2014, the faculty of the School of Engineering revised the Pre-Engineering Technical (PET) requirement that will be in place for the 2014-2015 academic year. The revised requirement provides students additional flexibility, and is available through the College of Engineering & Mathematical Sciences Office of Student Services and on college website.

#### Writing and Information Literacy Requirement

Beginning with the entering first-year class in fall 2014 all undergraduates will complete a three-credit course addressing foundational writing and information literacy goals. In response to this university-wide requirement, colleges and schools may have updated their individual requirements after this catalogue was published. Please consult the appropriate Dean's Office for the most current information on writing requirements.

## 2014-15 GRADUATE CATALOGUE ADDENDUM

### JUNE 25, 2014

At its June 16, 2014 meeting, the Executive Committee of the Board of Trustees approved the Certificate of Graduate Study in Environmental Public Health. The requirements for this certificate may be found on the Graduate College website and will be included in the next published Graduate Catalogue. The program will be available to students in the spring 2015 semester.

## INDEX

## A

About the University .....	506
Academic Calendar .....	484
Academic Honors .....	470
Academic Information .....	470
Academic Internships .....	470
Academic Minors .....	472
Academic Standing .....	472
Accelerated Master's Degree Programs .....	503
Acceptable Proof of Graduation .....	486
Accounting Minor .....	370
Accreditations .....	515
Admission Information .....	485
Admission to the Honors College .....	489
Admissions Programs for Undergraduate Students .....	488
Admissions Requirements and Recommendations by College/School .....	485
African Studies Minor .....	322
Agriculture & Life Science (CALS) .....	10
Agroecology and Landscape Design B.S. ....	261
Agroecology Minor .....	262
Alternative Methods for Earning Academic Credit .....	473
American Sign Language (ASL) .....	11
American Sign Language Minor .....	393
Anatomy & Neurobiology (ANNB) .....	12
Anatomy (ANAT) .....	12
Anatomy/Physiology (ANPS) .....	13
Anesthesiology (ANES) .....	13
Animal Biosciences (ABIO) .....	13
Animal Science (ASCI) .....	14
Animal Science B.S. ....	230
Animal Sciences Minor .....	235
Anthropology (ANTH) .....	17
Anthropology B.A. ....	271
Anthropology B.S. ....	272
Anthropology Minor .....	274
Application and Supporting Materials for Undergraduates .....	486
Application Deadlines and Notification Dates for Undergraduates .....	489
Applied Design Minor .....	246
Arabic (ARBC) .....	20
Art and Art History Program .....	275
Art History (ARTH) .....	20

Art History B.A. ....	275
Art History Minor .....	277
Art Minor .....	276
Art Studio (ARTS) .....	22
Art: Studio Art B.A. ....	276
Articulation Agreements .....	490
Arts (AH1) .....	202
Arts and Sciences Interdisciplinary (CAS) .....	25
Asian Languages and Literatures Program .....	277
Asian Studies B.A. ....	318
Asian Studies Minor .....	322
Astronomy (ASTR) .....	26
Astronomy Minor .....	430
Athletic Training (AT) .....	26

## B

Behavioral Change Health Studies Minor .....	468
Biochemistry B.S. ....	236
Biochemistry B.S. ....	282
Biochemistry (BIOC) .....	27
Biochemistry in the College of Agriculture and Life Sciences .....	235
Biochemistry in the College of Arts and Sciences .....	281
Biochemistry Minor .....	237
Biochemistry Minor .....	283
BioCore (BCOR) .....	28
Bioinformatics Minor .....	257
Biological Science B.S. ....	238
Biological Science B.S. ....	286
Biological Science in the College of Agriculture and Life Sciences .....	237
Biology B.A. ....	284
Biology (BIOL) .....	29
Biology Minor .....	290
Biomedical and Health Sciences .....	432
Biomedical and Health Sciences (BHSC) .....	32
Biomedical Engineering B.S.BME. ....	407
Biomedical Engineering (BME) .....	33
Biosecurity Minor .....	246
Business Administration B.S.BA. ....	366
Business Administration (BUS) .....	35
Business Administration Minor .....	371

## C

Canadian Studies Minor .....	323
CAS College-wide Curriculum .....	291



Catalogue Archives .....	586	Computer Science in Arts and Sciences .....	299
Catamount Core Curriculum .....	201	Computer Science Minor .....	421
CCC: Common Ground Values .....	214	Computer-Aided Engineering Technology Undergraduate Certificate .....	415
CCC: Core Skills .....	209	Consumer and Advertising Minor .....	247
CCC: Liberal Arts .....	201	Counseling (CNSL) .....	61
Center for Research on Vermont .....	293	Course List .....	10
Chemistry B.A. ....	294	Courses .....	10
Chemistry B.S. ....	295	Critical Race and Ethnic Studies .....	301
Chemistry (CHEM) .....	40	Critical Race and Ethnic Studies (CRES) .....	61
Chemistry Minor .....	296	Critical Race and Ethnic Studies Minor .....	301
Chinese B.A. ....	278	Curriculum & Instruction (EDCI) .....	61
Chinese (CHIN) .....	43	<b>D</b>	
Chinese Minor .....	280	Dance B.A. ....	360
Civil and Environmental Engineering .....	403	Dance (DNCE) .....	62
Civil and Environmental Engineering (CEE) .....	44	Dance Minor .....	362
Civil Engineering B.S.CE. ....	403	Data Science B.S. ....	419
Classics B.A. ....	298	Data Science B.S. ....	419
Classics (CLAS) .....	47	Degree and University Requirements .....	473
Classics Minor .....	298	Department of Animal and Veterinary Sciences .....	230
Classics Program .....	297	Department of Anthropology .....	271
Clinical&Translational Science (CTS) .....	48	Department of Biology .....	283
Coaching Minor .....	393	Department of Chemistry .....	294
College Credit for High School Classes .....	490	Department of Communication Sciences and Disorders .....	442
College of Medicine Undergraduate (COMU) .....	48	Department of Community Development and Applied Economics .....	239
Comm Sciences & Disorders (CSD) .....	49	Department of Counseling, Human Development, and Family Science .....	374
Communication Sciences and Disorders B.S. ....	443	Department of Economics .....	301
Communication Sciences and Disorders Minor .....	445	Department of Education .....	376
Community and International Development B.S. ....	240	Department of English .....	304
Community and International Development Minor .....	247	Department of Geography and Geosciences .....	313
Community Development & Applied Economics (CDAE) .....	51	Department of History .....	330
Community Entrepreneurship B.S. ....	243	Department of Microbiology and Molecular Genetics .....	254
Community Entrepreneurship Minor .....	247	Department of Nursing .....	445
Community Music: Organ Undergraduate Certificate .....	339	Department of Nutrition and Food Sciences .....	258
Community-Centered Design B.S. ....	241	Department of Philosophy .....	344
Complex Systems (CSYS) .....	56	Department of Plant and Soil Science .....	260
Computer Information Systems (CIS) .....	57	Department of Political Science .....	348
Computer Science and Information Systems B.S. ....	418	Department of Psychological Science .....	351
Computer Science B.A. ....	300	Department of Rehabilitation and Movement Science .....	447
Computer Science B.S.CS. ....	417	Department of Religion .....	354
Computer Science (CS) .....	57	Department of Social Work .....	398
Computer Science Department .....	416	Department of Sociology .....	356
Computer Science Education Minor .....	394	Directory Information Exclusion .....	474

Diversity of Human Experience (D2) ..... 215

## E

Early Childhood Pre K-3 (EDEC) ..... 64

Early Childhood Special Educ (ECSP) ..... 66

Economics B.A. .... 302

Economics B.S. .... 302

Economics (ECON) ..... 67

Economics Minor ..... 303

Education (EDSS) ..... 70

Education for Cultural and Linguistic Diversity (ECLD) ..... 71

Education for Cultural and Linguistic Diversity Minors ..... 394

Education Research Methods (EDRM) ..... 72

Electrical and Biomedical Engineering ..... 406

Electrical Engineering B.S.EE. .... 408

Electrical Engineering (EE) ..... 72

Electrical Engineering Minor ..... 409

Elementary Education (EDEL) ..... 75

Emergency Medical Services Minor ..... 449

Emergency Medicine (EMED) ..... 77

Emeriti Faculty ..... 517

Engineering B.S.E. .... 412

Engineering (ENGR) ..... 77

Engineering Management B.S.EM. .... 413

Engineering Management (EMGT) ..... 78

Engl for Spkr of Other Langs (ESOL) ..... 84

English B.A. .... 304

English (ENGL) ..... 79

English Minor ..... 305

Engr & Math Sciences (CEMS) ..... 85

Enrollment ..... 481

Enrollment and Registration ..... 481

Environmental Engineering B.S.EV. .... 405

Environmental Sciences B.S. .... 251

Environmental Sciences B.S. .... 307

Environmental Sciences B.S. .... 452

Environmental Sciences (ENSC) ..... 86

Environmental Sciences in the College of Agriculture and Life Sciences ..... 251

Environmental Sciences in the College of Arts and Sciences ..... 307

Environmental Sciences in the Rubenstein School of Environment and Natural Resources ..... 452

Environmental Studies B.A. .... 307

Environmental Studies B.S. .... 251

Environmental Studies B.S. .... 457

Environmental Studies (ENVS) ..... 87

Environmental Studies in the College of Agriculture and Life Sciences ..... 251

Environmental Studies in the College of Arts and Sciences ..... 307

Environmental Studies in the Rubenstein School of Environment and Natural Resources ..... 457

Environmental Studies Minor ..... 251

Environmental Studies Minor ..... 308

Environmental Studies Minor ..... 457

European Studies Minor ..... 323

Exams and Grading ..... 474

Exchange Programs with New England State Universities ..... 503

Exercise Science B.S. .... 447

Exercise Science (EXSC) ..... 88

## F

Faculty ..... 517

Faculty List ..... 544

Family Medicine (FM) ..... 89

FERPA Rights Disclosure ..... 477

Film & Television Studies (FTS) ..... 90

Film and Television Studies B.A. .... 305

Film and Television Studies Minor ..... 306

Financial Aid ..... 500

Financial Aid and Scholarships ..... 500

Financial Information ..... 498

Food Systems ..... 252

Food Systems B.S. .... 252

Food Systems (FS) ..... 92

Food Systems Minor ..... 248

Food Systems Minor ..... 248

Foreign Language (LANG) ..... 93

Forestry B.S. .... 457

Forestry (FOR) ..... 93

Forestry Minor ..... 458

Forestry Program ..... 457

Foundational Writing and Information Literacy (FW) ..... 223

Foundations (EDFS) ..... 94

French and Italian Program ..... 309

French B.A. .... 309

French (FREN) ..... 95

French Minor ..... 310

**G**

Gender, Sexuality, and Women’s Studies B.A. .... 312

Gender, Sexuality, and Women’s Studies Minor ..... 312

Gender, Sexuality, and Women’s Studies Program ..... 311

General Education Categories: Catalogue Edition 2022-23 or Earlier ..... 222

Geography B.A. .... 314

Geography (GEOG) ..... 97

Geography Minor ..... 314

Geology (GEOL) ..... 99

Geospatial Technologies Minor ..... 315

Geospatial Technologies Minor ..... 410

Geospatial Technologies Minor ..... 410

Geospatial Technologies Minor ..... 458

German B.A. .... 316

German (GERM) ..... 100

German Minor ..... 317

German, Russian, and Hebrew Program ..... 316

Gerontology Minor ..... 357

Global and Regional Studies (GRS) ..... 102

Global and Regional Studies Program ..... 318

Global Citizenship: Developing Global Citizens (GC2) ..... 218

Global Citizenship: Global Systems and Problems (GC1) ..... 218

Global Studies B.A. .... 319

Global Studies Minor ..... 324

Gndr, Sexuality, & Wms Stdies (GSWS) ..... 103

Graduate Course Enrollment for Undergraduate Students ..... 477

Greek (GRK) ..... 104

Green Building and Community Design Minor ..... 249

**H**

Health and Society ..... 327

Health and Society B.A. .... 327

Health and Society (HSOC) ..... 105

Health and Society Minor ..... 329

Health Education (EDHE) ..... 105

Health (HLTH) ..... 106

Health Sciences (HSCI) ..... 108

Hebrew (HEBR) ..... 110

Higher Education (EDHI) ..... 110

Historic Preservation (HP) ..... 111

History B.A. .... 330

History (HST) ..... 111

History Minor ..... 332

Holocaust Studies (HS) ..... 116

Holocaust Studies Minor ..... 333

Holocaust Studies Program ..... 332

Honorary and Recognition Societies ..... 515

Honors College (HCOL) ..... 116

Human Development & Family Science (HDF) ..... 117

Human Development and Family Science B.S. .... 374

Human Development and Family Science Minor ..... 375

Humanities (AH3) ..... 205

Humanities (HUMN) ..... 118

**I**

Independent Study Courses ..... 478

Individually Designed B.A. .... 292

Individually Designed B.S.Ed. .... 377

Individually Designed Minor ..... 292

Integrative Health and Wellness Coaching Minor ..... 450

Integrative Health Minor ..... 449

Interdisciplinary Engineering Programs ..... 412

International Politics Minor ..... 349

International Student Admissions ..... 496

Internship (SINT) ..... 119

Italian (ITAL) ..... 119

Italian Studies Minor ..... 311

**J**

Japanese B.A. .... 279

Japanese (JAPN) ..... 121

Japanese Minor ..... 281

Jewish Studies (JS) ..... 122

Jewish Studies Minor ..... 355

**L**

Larner College of Medicine ..... 468

Latin American and Caribbean Studies Minor ..... 325

Latin (LAT) ..... 123

Law and Society Minor ..... 357

Leadership and Policy Studies (EDLP) ..... 124

Learning Communities ..... 504

Learning Community (LC) ..... 124

Library Science (EDLI) ..... 125

Linguistics B.A. .... 334

Linguistics (LING) ..... 125

Linguistics Minor ..... 334

Linguistics Program ..... 333

Literacy (EDLT) ..... 127  
 Literature (AH2) ..... 204

**M**

Mathematics and Statistics Department ..... 421  
 Mathematics and Statistics in the College of Arts and Sciences ..... 334  
 Mathematics B.A. .... 335  
 Mathematics B.S.MSC. .... 423  
 Mathematics (MATH) ..... 127  
 Mathematics: Pure Minor ..... 428  
 Matriculation Status ..... 486  
 Mechanical Engineering ..... 410  
 Mechanical Engineering B.S.ME. .... 410  
 Mechanical Engineering (ME) ..... 130  
 Medical - Gen COM Course (MD) ..... 133  
 Medical Diagnostics Minor ..... 442  
 Medical Laboratory Science B.S. .... 433  
 Medical Laboratory Science (MLS) ..... 133  
 Medical Radiation Sciences B.S. .... 435  
 Micr & Molecular Genetics (MMG) ..... 134  
 Microbiology B.S. .... 255  
 Microbiology Minor ..... 257  
 Middle East Studies Minor ..... 325  
 Middle Level Teacher Education (EDML) ..... 136  
 Military Studies ..... 504  
 Military Studies (MS) ..... 137  
 Minimum Entrance Requirements ..... 486  
 Molecular Genetics B.S. .... 256  
 Molecular Genetics Minor ..... 257  
 Molecular Physiology & Biophys (MPBP) ..... 138  
 Music B.A. .... 336  
 Music Ensemble (MUE) ..... 139  
 Music Lessons (MUL) ..... 139  
 Music Minor ..... 340  
 Music (MU) ..... 141  
 Music Program ..... 336  
 Music Technology and Business Minor ..... 340  
 Musical Theatre Minor ..... 341  
 Musical Theatre Minor ..... 341

**N**

Natural Resources (NR) ..... 144  
 Natural Science with Lab (N2) ..... 207  
 Natural Science without Lab (N1) ..... 206

Neurology (NEUR) ..... 147  
 Neuroscience B.A. .... 342  
 Neuroscience B.S. .... 343  
 Neuroscience in the College of Arts and Sciences ..... 341  
 Neuroscience Minor ..... 344  
 Neuroscience (NSCI) ..... 148  
 Nontraditional Undergraduate Student Admissions ..... 497  
 Nursing & Health Sciences (NH) ..... 149  
 Nursing B.S. .... 445  
 Nursing (for Registered Nurses) B.S. .... 447  
 Nursing (NURS) ..... 150  
 Nutrition and Food Sciences B.S. .... 259  
 Nutrition and Food Sciences Minor ..... 260  
 Nutrition and Food Sciences (NFS) ..... 150

**O**

Obstetrics & Gynecology (OBYG) ..... 152  
 Oral Communication (OC) ..... 210  
 Orientation (ORNT) ..... 153  
 Orthopedic Surgery (ORTH) ..... 153  
 Overseas Study Program (OSSP) ..... 153

**P**

Parks, Recreation and Tourism B.S. .... 463  
 Parks, Recreation, and Tourism Minor ..... 464  
 Parks, Recreation and Tourism Program ..... 463  
 Parks, Recreation and Tourism (PRT) ..... 153  
 Pathology (PATH) ..... 154  
 Pediatrics (PED) ..... 155  
 Pharmacology Minor ..... 468  
 Pharmacology (PHRM) ..... 155  
 Philosophy B.A. .... 345  
 Philosophy Minor ..... 345  
 Philosophy (PHIL) ..... 156  
 Physical Activity Promotion in Children and Youth Undergraduate Certificate ..... 353  
 Physical Education (PEAC) ..... 158  
 Physical Education-Prof (EDPE) ..... 159  
 Physics B.A. .... 346  
 Physics B.S. .... 429  
 Physics Department ..... 429  
 Physics in the College of Arts and Sciences ..... 346  
 Physics Minor ..... 431  
 Physics (PHYS) ..... 160  
 Place-Based Education Undergraduate Certificate ..... 395

Plant & Soil Science (PSS) .....	164	Reporting and Documentary Storytelling Minor .....	293
Plant Biology B.S. ....	263	Research Opportunities for Undergraduate Students .....	505
Plant Biology B.S. ....	347	Residency Regulations, In-State Status Regulations .....	487
Plant Biology Department .....	263	Russian and East European Studies Minor .....	326
Plant Biology in the College of Arts and Sciences .....	347	Russian B.A. ....	316
Plant Biology Minor .....	264	Russian Minor .....	317
Plant Biology (PBIO) .....	162	Russian (RUSS) .....	180
Political Science B.A. ....	348	<b>S</b>	
Political Science Minor .....	350	Scholarships .....	501
Political Science (POLS) .....	167	School of the Arts .....	277
Post-Baccalaureate Teacher Preparation .....	395	School of World Languages and Cultures .....	363
Pre-Professional Options for Undergraduate Students .....	505	Secondary Education (EDSC) .....	181
Prior Year Addendum .....	586	Self-Designed B.S. ....	264
Professional and Continuing Education .....	505	Sexuality and Gender Identity Studies Minor .....	313
Professional Nursing (PRNU) .....	171	Social Sciences (S1) .....	208
Psychiatry (MDPS) .....	173	Social Work B.S.W. ....	398
Psychological Science B.A. ....	351	Social Work (SWSS) .....	182
Psychological Science B.S. ....	352	Sociology B.A. ....	356
Psychological Science Minor .....	353	Sociology Minor .....	357
Psychological Science (PSYS) .....	173	Sociology (SOC) .....	184
Public Administration (PA) .....	175	Soil Science Minor .....	262
Public Communication B.S. ....	244	Spanish B.A. ....	358
Public Communication Minor .....	250	Spanish Minor .....	359
Public Health (PH) .....	175	Spanish Program .....	358
Public Health Sciences B.S. ....	437	Spanish (SPAN) .....	187
Public Policy Analysis Minor .....	350	Special Education (EDSP) .....	190
Pure Mathematics (MA) .....	206	Special Education Minor .....	396
<b>Q</b>		Speech (SPCH) .....	191
Quantitative and Data Literacy (QD) .....	211	Sports Management Minor .....	251
Quantitative Reasoning (QR) .....	223	Sports Management Minor .....	372
<b>R</b>		Sports Management Minor .....	397
Race and Racism in the US (D1) .....	220	Sports Management Minor .....	464
Radiation Therapy (RADT) .....	176	Statistics B.S.MSC. ....	427
Radiology (RAD) .....	177	Statistics Minor .....	429
Reapplying to the University as an Undergraduate .....	497	Statistics (STAT) .....	192
Registration .....	483	Student Rights and Responsibilities .....	478
Rehabilitation & Movement Sci (RMS) .....	177	Study Abroad .....	506
Religion B.A. ....	354	Surgery (SURG) .....	193
Religion Minor .....	355	Sustainability, Ecology and Policy B.S. ....	459
Religion (REL) .....	178	Sustainability, Ecology and Policy Program .....	459
Religious Literacy in Professions Undergraduate Certificate .....	355	Sustainability (SU) .....	221
Repeated Courses .....	478	Sustainable Landscape Horticulture Minor .....	262

**T**

Teacher Education / Art Education (Grades PreK-12) B.S.AE. ....	378
Teacher Education / Early Childhood Education (Birth-Grade 3) B.S.Ed. ....	378
Teacher Education / Early Childhood Special Education (Birth-Age 6) B.S.Ed. ....	380
Teacher Education / Elementary Education (Grades K-6) B.S.Ed. ....	380
Teacher Education / Middle Level Education (Grades 5-9) B.S.Ed. ....	382
Teacher Education / Music Education (Grades PreK-12) B.S.MS. ....	383
Teacher Education / Secondary Education (Grades 7-12) B.S.Ed. ....	385
Teacher Education (EDTE) .....	194
Teacher Education: Physical Education (Grades PreK-12) B.S.Ed. ....	385
Teaching English to Speakers of Other Languages Undergraduate Certificate .....	334
Teaching English to Speakers of Other Languages Undergraduate Certificate .....	397
The College of Agriculture and Life Sciences .....	225
The College of Arts and Sciences .....	264
The College of Education and Social Services .....	372
The College of Engineering and Mathematical Sciences .....	399
The College of Nursing and Health Sciences .....	431
The Grossman School of Business .....	363
The Honors College .....	466
The Rubenstein School of Environment and Natural Resources .....	450
Theatre and Dance Program .....	359
Theatre B.A. ....	361
Theatre Minor .....	362
Theatre (THE) .....	195
Transcripts .....	479
Transfer Student Admissions .....	495

**U**

Undergraduate Catalogue .....	8
Undergraduate Certificates .....	480
Undergraduate Majors .....	8
Undergraduate Minors and Undergraduate Certificates .....	9
Unique Learning Opportunities .....	503
University Administration and Governance .....	507
University Policies and Responsibility .....	481
University Professorships .....	509
UVM Equal Opportunity Statements .....	516

**V**

Vermont Studies (VS) .....	197
----------------------------	-----

**W**

Wildlife & Fisheries Biology (WFB) .....	198
Wildlife and Fisheries Biology B.S. ....	465
Wildlife and Fisheries Biology Program .....	464

Wildlife Biology Minor .....	465
World Literature (WLIT) .....	199
Writing and Information Literacy Tier 2 (WIL2) .....	214
Writing and Information Literacy (WIL1) .....	212
Writing Minor .....	307

**Z**

Zoology B.A. ....	288
Zoology B.S. ....	289
Zoology Minor .....	290