

Math 395: Algebra III
Fall 2021

The course website is <https://www.uvm.edu/~cvincen1/math395.html>. All course information is on our course website.

Logistical Information: This course counts for 3 credit hours, and meets on MWF 10:50am-11:40am both in person in Lafayette L308 and on Teams. Please see your UVM email or Teams/Outlook calendar for meeting links if you wish to join remotely.

Instructor Information: Professor Christelle Vincent, available on Teams or in Innovation E445.

For content (i.e. mathematical) questions, please post your question to Yellowdig. For personal matters, please reach me by email at christelle.vincent@uvm.edu.

Textbook: Dummit and Foote's *Abstract Algebra* 3rd edition.

Course Description and Goals: In Math 395 we will study group theory (Chapters 1-6) and field theory (Chapters 13-14), as well as a little bit of ring theory, as needed to study field theory. Please see the learning resources page posted online for a list of sections covered. The goal of the course is to develop a learning community, give the student a strong foundation in abstract algebra, as well as to prepare for the qualifying exam in abstract algebra.

Office Hours: I am available to meet in person on Monday, Wednesday and Friday, from 11:40am to 1pm. Please let me know you will be stopping by. I am also available to meet on Teams on Thursday from 10am to 1pm. Please send me a Teams meeting request to meet during this time.

If you would like to meet at any other time, please send me an email or Teams chat to discuss, or send me a meeting request through Teams.

Attendance: You are expected to attend every lecture, whether in person or remotely. If for whatever reason you cannot attend lecture, you are responsible for watching the recording.

Religious accommodations: Students have the right to practice the religion of their choice. If you believe you might need accommodations to take part in religious celebrations, please submit in writing to me by the end of the second full week of classes your religious holiday schedule for the semester. Together we will work on arranging a way to make up any work you might miss. For all homework and quizzes, you will be expected to turn in your work on time, or in advance, as necessary, except in very special circumstances.

SAS: In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact SAS, the office of Student Accessibility Services (previously ACCESS). Once you have your accommodation letter from them, I will be available to meet with you privately to discuss the accommodations you plan to use in this course.

Grading: Your grade for this class will be entirely based on your participation on Yellowdig. Your

goal every week will be to accumulate 100 points (except Thanksgiving week). Here are the point values for different actions:

- Creating a new post (asking a question, making a comment): 20 points
- Commenting on another person's post (answering a question or comment): 25 points
- Receiving a comment on your post: 7 points
- Receiving a reaction/emoji on your post: 5 points
- I can also give "accolades" to particularly good posts, which are worth between 5 and 10 points.

Homework: will assign homework to help you engage with the material. All homework is optional, but if you turn in homework I will grade it to give you feedback. I will assign homework at different levels for students who are at different point in their learning journey. If you are "advanced" I highly recommend that you attempt to answer "basic" questions on Yellowdig; the process of verbalizing our understanding of mathematics and sharing it with others is known to create deeper and more solid understanding.

Quizzes: If you are planning to take an Algebra qualifying exam, I recommend that every week on Monday you give yourself one hour to solve two of the three assigned qual problems for the previous week without any notes. This will simulate qualifying exam conditions, and practice is the best way to conquer the exam.

Each quiz will be graded as follows:

- 10/10 for a complete problem
- 9/10 for substantial progress
- 8/10 for some progress
- 3/10 for some useful notions

Midterm: There will be an optional in-class midterm on Monday October 18. It will cover all of the material we will have covered in class until then (Chapters 1-6, group theory). You will not have access to any notes, and you will need to solve two qualifying exam problems.

The midterm will be graded as follows:

- 10/10 for two complete problems
- 9/10 for a complete problem and substantial progress on the other problem
- 8/10 for substantial progress on both problems
- 7/10 for some progress on both problems, or substantial progress on one problem
- 6/10 for some useful notions on both problems
- 3/10 for some useful notions on one problem

Exams: There will be an optional university-scheduled final exam. It will consist of six qualifying exam problems in group theory and field theory.

The Final Exam will be graded as follows:

- 10/10 for six complete problems
- 9.5/10 for four complete problems and substantial progress on the other two problems
- 8.5/10 for nine complete lettered parts
- 6/10 for six complete lettered parts
- 3/10 for three complete lettered parts

The final exam is on December 17, from 10:30am to 1:15pm, in Lafayette L308 or remotely. Please let me know if you plan to attend in person.

Statement on diversity: Mathematics can be learned and enjoyed by everyone, regardless of gender, age, race, sexual orientation, or other personal characteristics. As a group we will work to create a space where we all feel welcomed and encouraged, and any actions or speech that detract from this atmosphere will not be tolerated.

In particular, we will be mindful of encouraging others to let us know if they do not already know something and do everything to support them in their learning. We will not say that things are “trivial.” We will offer corrections gently and with the intention of helping the other, as opposed to making ourselves feel good.

Recording of class time: Our class sessions will be audiovisually recorded for students in the class to refer back to, and for enrolled students who are unable to attend live. Students who participate remotely with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and use a profile image which you are comfortable with having on a recording. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the “chat” feature, which allows students to type questions and comments live. The recordings will only be available to the instructor and other students via Teams. Students attending in person will not have their image recorded, though their voice may be recorded if they ask questions. You are welcome to have your phone out to submit questions via Teams chat if you do not wish to have your voice recorded.

Course evaluations: All students are expected to complete an evaluation of the course at its conclusion. These will be anonymous and confidential, and the constructive criticism offered will be used to improve subsequent versions of the course.

Intellectual property statement: Students are prohibited from publicly sharing or selling academic materials that they did not author (for example: class syllabus, outlines or class presentations authored by the professor, practice questions, text from the textbook or other copyrighted class materials, etc.); and students are prohibited from sharing assessments (for example homework or a take-home examination). Violations will be handled under UVM’s Intellectual Property policy and Code of Academic Integrity.

COVID-19 policies: 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.

The Green and Gold Promise clearly articulates the expectations that UVM has for students, faculty, and staff to remain compliant with all COVID-19 recommendations from the federal CDC, the State of Vermont, and the City of Burlington. The Code of Student Conduct outlines policies related to violations of the Green and Gold Promise. Sanctions for violations include fines, educa-

tional sanctions, parent notification, probation, and suspension.

Statement about academic integrity: The University strives to provide an environment that encourages all students (undergraduate, medical, graduate, and continuing education) to learn, create, and share knowledge responsibly. As society entrusts our students and faculty to pursue knowledge and report their discoveries truthfully, any deliberate falsehood or misrepresentation undermines the stature of the University. The following standards of academic integrity are deemed necessary for fulfilling the University's mission, as well as its motto: *Studiis et Rebus Honestis* ("For honorable studies and pursuits"). These standards are also necessary for evaluating the quality of student work in a fair manner. For further information, please visit <https://www.uvm.edu/sites/default/files/UVM-Policies/policies/acadintegrity.pdf>.

Statement on alcohol and cannabis in the academic environment: As a faculty member, I want you to get the most you can out of this course. You play a crucial role in your education and in your readiness to learn and fully engage with the course material. It is important to note that alcohol and cannabis have no place in an academic environment. They can seriously impair your ability to learn and retain information not only in the moment you may be using, but up to 48 hours or more afterwards. In addition, alcohol and cannabis can:

- Cause issues with attention, memory and concentration
- Negatively impact the quality of how information is processed and ultimately stored
- Affect sleep patterns, which interferes with long-term memory formation

It is my expectation that you will do everything you can to optimize your learning and to fully participate in this course.

Statement on Student Athletes: In order to be excused from classes, student athletes should submit appropriate documentation to the Professor in advance of all scheduling conflicts within the first two weeks of class. Those missing class are expected to submit make-up assignments within a reasonable time period.