**Math 395: Algebra III**
**Fall 2021**

The course website is `https://www.uvm.edu/~cvincen1/math395.html`.

**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:** I 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.