



Syllabus MTH 762R: Abstract Algebra II

Textbook: For the first topic, Atiyah-Macdonald. For the last part, I'll use Dummit-Foote, *Abstract Algebra*.

Content: The tentative outline is:

- Tensor products and introduction to homological algebra: three weeks.
- Fields extensions and Introduction to Galois Theory: four weeks.
- Group Algebras, Introduction to Group Representations: remaining time.

Rules:

- Grading policy: Midterms may be replaced by seminars.
- Qual at the end. The qual traditionally is more centered on the 761 material, but expect some topic of 762 as well (certainly field extensions are part of the qual, for example).

Tips:

- Questions and feedback during class are always very welcome. I also have office hours. Emails may go unanswered, since I receive hundreds of them, so I would prefer that you ask in class or in office hours.
- Attendance to office hours is not compulsory, but recommended.
- You are expected to keep track of the topics presented. Whatever I cover in class can be asked in a test (even if not in the book). Whatever I do not cover in class, cannot be on the test (even if it is in the book).
- I would prefer if you do not use the computer in class, because typically those of you who take handwritten notes tend to perform better. Sometimes computers distracts both the student using it and the one sitting behind. That said, if this is your 'work mode', I do not really mind if you use a tablet or a computer; please sit in the last rows though, so that we are all sure that you are not distracting any other student behind you.
- Zoom policy: I don't really have one. If you wish to keep your camera off, that is fine by me. The class is in person; we will only use zoom in exceptional cases, e.g. in case of storms, or if I am away for a conference.
- If you find mistakes in my notes or in what I write on the blackboard: please say it loud! I am happy when this happens and I value corrections a lot!, that's the best way to let me know that you are on top of the subject.
- The book has many exercises. Feel free to do them on your own if you spot a weakness in your preparation.
- Cell phones and ipads are allowed in class, but must be on silent mode. Same policy for pets, kids, and lovers.

With this, I wish you a lovely Spring semester here at The U!


Bruno Benedetti
Associate Professor