

Math 200b Winter 2015: Graduate Algebra II.

MWF 1-1:50pm, 5402 AP&M
Professor D. Rogalski

1. CONTACT INFORMATION

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2. BASIC COURSE INFORMATION

- **Course description** This is the second quarter of our graduate level abstract algebra sequence. We will study module theory and field theory, and will cover selected sections from Chapters 10-14 of Dummit and Foote's text. Math 200a is a prerequisite. Please come see me if you feel you are prepared for this course but have not taken Math 200a.

- **Office hours** Please take advantage of office hours to ask questions about the course material or if you need advice on how to approach the homework problems. If you cannot make either Professor Rogalski's or your TA's scheduled office hours, please make an appointment to talk to one of us at a different time.

- **Qualifying exam** The three quarter sequence 200a-c is preparation for the qualifying exam in algebra which will be given in May 2015, and again in September 2015. These exams will be tailored to the topics we cover in the course this year. The May exam will take place in the middle of Math 200c, and will cover roughly the material in 200a-b plus the first part of 200c. However, students are not be required to take the qualifying exam, and the grade in Math 200c will be independent of the qualifying exam.

Copies of some recent qualifying exams in algebra can be found on the math department's website as part of the mathematics department graduate student handbook, see

<https://www.math.ucsd.edu/handbook/graduate/academics/qualifying-exams/>

- **Textbook** The main textbook is *Abstract Algebra* by Dummit and Foote, 3rd edition. Most of what is covered in 200a-b will be found in there. I will not always follow the presentation in Dummit and Foote closely and may order some topics differently, but I will try to give references to which sections correspond

to what we are covering at the moment, and will try not to conflict with Dummit and Foote's notation. Other good textbooks you could consult for reference include *Algebra* by Hungerford and *Algebra* by Isaacs. For 200c, we will follow the text *Introduction to Commutative Algebra* by Atiyah and MacDonald.

- **Homework** Homework will be assigned weekly and due on Fridays at 3pm. To facilitate the process of getting the HW to your TA, there will be a HW box in the basement of AP&M marked with the name of our class, where you should hand in your assignments. The assigned problems will be posted on the class website. Only selected problems will be scored, but you are responsible for completing and understanding all problems, and exam problems are often modeled on homework problems. You are free to discuss the homework problems with the professor, the TA, or each other, but your final write-up of the problems must be your work alone. Submitting solutions that are not your own work, for example copying from an online solution bank, is academically dishonest.

- **Exams** There will be one in-class midterm, scheduled for Friday, February 13 (Week 6). The final exam will be Friday, March 20, 2015 from 11:30am-2:30pm. No notes, books, or other aids can be used during exams.

- **Grading** Your grade will be based on the following percentages: Homework 25%, Midterm 25%, Final Exam 50%. Your grade in this class is meant to suggest roughly how your current performance corresponds to your likely result on the qualifying exam to be held next year: A = PhD Pass, A- = Provisional PhD Pass, B+/B = Master's Pass, C or less = not likely to pass the qual.