Math 200b Winter 2022: Graduate Algebra II.

MWF 12-12:50pm, B402 AP&M
Professor D. Rogalski

1. Contact Information

Prof. Rogalski's Office: 5131 AP&M

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Web page www.math.uscd.edu/∼drogalsk/200b.html

Office hours: M 3-4pm, F 2-3pm in 5131 AP&M or on zoom (subject to change)

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E-mail: amathers@ucsd.edu

Office hours: MW 5-6pm in 5829 AP&M or on zoom

2. Basic Course Information

• **Course description**: 200B is the second quarter of graduate level abstract algebra. The prerequisite is Math 200A or the equivalent. If you have not taken Math 200A but think you are prepared for Math 200B, please explain your situation to me. The main aim of Math 200 is to give PhD and masters students in mathematics sufficient background for their further studies. The pace of the course is quite fast, and homework assignments are designed to be challenging. The topics for 200B are module theory and field theory.

• **Lectures**: The first four weeks of lectures were remote and I posted videos of zoom lectures from the winter 2021 remote version of 200b. Those videos can be found on Canvas. Starting January 31 lectures are in-person and recorded using the EVT.ai system. To access those videos, create an account with EVT if you don't have one already, and join the course using the PIN. Here is the info:

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 Signup: https://learn.evt.ai/n/signup
  Login: https://learn.evt.ai/n/login
  Term: Winter 2022
  Math 200B - Algebra PIN #: 521980
Please use the Support button on the EVT Platform or email hello@evt.ai
for any support related questions or feedback.
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• **Website** Now that instruction is back in-person we will also have a separate website, so you will only need to use Canvas to submit homework and if you want to review any of the posted remote lectures.

https://www.math.ucsd.edu/ drogalsk/200b.html

- **Qualifying exam** The three quarter sequence 200a-c is preparation for the qualifying exam in algebra which will be given in Spring 2022 near the end of the quarter and again in Fall 2022 before the quarter starts. The exam will be tailored to the topics covered in the course this year. Copies of some relatively 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/students/graduate/academics/qualifying-exams/

- **Textbook** We will not follow any textbook too closely in Math 200B, but rather my own course notes. For the first half of the course on module theory, the closest reference will be Dummit and Foote's book "Abstract Algebra", Chapters 10 and 12. For the second half of the course on field theory, the closest references will be Isaacs's book "Algebra: A Graduate Course", Chapters 17-22, or Dummit and Foote Chapters 13 and 14. The course notes will often contain additional details we omit from the lectures for reasons of time.

- **Homework** Homework will be assigned weekly and due on Fridays by midnight PST; the first assignment won't be due until January 14 (week 2). While we are remote, you will scan your homework and submit on Gradescope. As of january 31 we are back in-person and HW can either be submitted on Gradescope, or in person in class on Friday. I expect students will submit most assignments on time but if you need an occasional extension, just ask me in advance.

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. Sometimes homework problems are standard or are the same as exercises in one of the textbooks; if you find a solution to the problem online, you should refrain from using it as the basis for your answer. You also should not submit problems to any online "tutoring" websites. 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 reflect your understanding alone.

- **Exams** There will be one in-class midterm Monday Febuary 7 in class, 12pm-12:50pm. Most students have indicated their ability to take the midterm in-person; those who cannot should make alternate arrangements with the professor as soon as possible. The final exam will be Wednesday, March 16, 2021 from 11:30am-2:30pm PST. The plan is for the final to also be in-person, assuming the health situation permits. Students that cannot take the final exam in-person may be offered an incomplete and the ability to take it in-person at a later date. 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%.