

# Math 109, Mathematical Reasoning, Fall 2022

**Instructor:** Jason Schweinsberg (jschweinsberg@ucsd.edu)

**Overview:** In Math 109, you will learn how to reason mathematically and write mathematical proofs, skills which are essential for most upper-division mathematics courses. We will cover most of chapters 2-18, 21-23, and 27 in the textbook.

**Textbook:** The required textbook is the second edition of *Reading, Writing, and Proving: A Closer Look at Mathematics* by Ulrich Daepf and Pamela Gorkin. It is available for free through the UC San Diego library's web site.

**Lectures:** Lectures are on Mondays, Wednesdays, and Fridays in Peterson Hall, Room 102. Lectures will be podcasted for the benefit of students who are unable to attend due to COVID-19 protocols. However, this will not be a hybrid course, and it is very important to attend lectures in-person to ensure that you do not fall behind.

**Discussion Sections:** Discussion sections will be held on Thursdays, beginning September 29. You will not discuss homework problems, but you will discuss problems which can be solved using similar techniques. To ensure that the sizes of the discussion sections remain balanced, please only attend the discussion section in which you are enrolled.

**Exams:** There will be two midterm exams and a final exam. The midterm exams will be held in class on Monday, October 24, and Monday, November 21. The final exam will be held from 3:00-6:00 PM on Friday, December 9.

**Homework:** Homework assignments will include Type A problems, and six of the ten assignments will also include Type B problems. Type A problems will usually be due at midnight, and Type B problems will usually be due at 2:30 PM on Mondays. Although some consultation with other students, the instructor, and the TAs is permitted on Type A problems, you must work alone on Type B problems. See the academic integrity policy below for details. You will upload your homework solutions to Gradescope. The key to success in Math 109 is working hard on the homework consistently each week.

**Grading:** Type A homework and Type B homework will each count for 20 percent of your grade. Each midterm exam will count for 15 percent, and the final exam will count for 30 percent. All homework and exam scores will count towards your grade; no scores will be dropped. After your numerical average is calculated, letter grades will be assigned based on your performance relative to the class. The numerical averages that correspond to particular letter grades are not determined in advance. In particular, you should not assume that the cutoff for an A will be 90 percent, or that the cutoff for a B will be 80 percent. This will ensure that your grade will be based on the quality of your performance, and not on how difficult the exams turn out to be.

**Lateness policy:** Late homework will not be accepted. If you complete the homework before the deadline but have problems submitting the work in Gradescope, you may email a copy of your completed homework to the instructor before the deadline to ensure that you receive credit. Other arrangements will be made only under unusual circumstances that are beyond the student's control, such as serious illness or a family emergency. Likewise, make-up exams will be given only under unusual circumstances that are beyond the student's control. In such cases, you must notify the instructor as soon as possible. Please understand that accepting late work in less extreme cases is unfair to other students.

**Regrade Requests:** Regrade requests will be handled through Gradescope. You should submit any regrade request within three days of the time when the work is graded. Regrade requests should be made only to point out errors in grading, not to dispute the number of points deducted.

**Office Hours:** The instructor and TAs will hold regular office hours. The times of the office hours will be listed on the course web page. You may ask about homework problems during office hours, in which case the instructor or TA will try to determine the source of your difficulties and guide you on the right path. However, please do not expect the instructor or TA to provide solutions to homework problems during office hours.

**Time commitment:** According to university policy, “The value of a course in units shall be reckoned at the rate of one unit for three hours’ work per week per quarter on the part of a student.” (See <http://www.ucsd.edu/catalog/front/UgrdDegReq.html>.) Math 109 is a four-unit course, so you should expect to spend about 12 hours per week on the course.

**Academic Integrity Policy:** It is essential that all students adhere to the UCSD Policy on Integrity of Scholarship. Cases of academic dishonesty will be reported to the Academic Integrity Office, and students found to be responsible for a policy violation will be subject to academic and administrative sanctions. Students are expected to obey the following rules:

- **Exams:** You will not be permitted to use your book, any notes, or a calculator during exams. All devices that could be used for communication or internet access, such as cell phones, must be put away and out of view during the exam.
- **Type A Homework:**
  - **Discussions with others:** You may consult other students in the class, the instructor, or the TAs (but no one else) while formulating ideas on homework problems. However, you must write your final homework solutions independently based on your own understanding. This means that you may not show another student your solution to a problem, and you may not copy or paraphrase the work of another student. Also, if you discuss homework problems with other students, you must acknowledge this help on your homework and indicate on which problems you received help.
  - **Online Sources:** Although you may search for general course topics on the internet, you may not seek help on homework problems online. In particular, you may not use web sites that help students with homework or provide online tutoring. Soliciting homework answers or solutions from such websites is a serious form of academic misconduct known as contract cheating, which, when discovered, typically results in suspension from the university.
  - **Social Media:** Discussing homework problems in any way over Discord or any other social media site or online message board, before the homework is due, is prohibited.
- **Type B Homework:** You must work completely alone on Type B Homework, just as you would on a take-home quiz. The instructor will clarify the meaning of questions, if necessary, but will not give hints. Of course, the prohibitions on getting help from online sources or social media apply also to Type B homework.
- **Course Materials:** You may not post your homework or exam solutions, or any solutions provided by your instructor, online or show such materials to future Math 109 students.
- **Academic Integrity Quiz:** You must complete an academic integrity quiz in Canvas by Wednesday, September 28. Your score on the quiz will not count towards your grade, but completion of the quiz is a course requirement.