

**Math 109: Mathematical Reasoning**  
**Winter 2014**  
**Syllabus**

**Instructor:** Brendon Rhoades  
**Instructor's Email:** bprhoades@math.ucsd.edu  
**Instructor's Office:** 7250 APM  
**Instructor's Office Hours:** 5:00-6:00 pm MWF or by appointment  
**Lecture Time:** MWF 2:00-2:50 am  
**Lecture Room:** 104 PETER  
**Textbook:** *An Introduction to Mathematical Reasoning* by Peter J. Eccles  
**TA:** Sinan Aksoy  
**TA's Email:** saksoy@ucsd.edu  
**TA's Office** 5412 APM  
**TA's Office Hours:** TBA  
**Discussion Time:** W 6:00-6:50 pm or W 7:00-7:50 pm  
**Discussion Room:** 217A CENTR  
**Final Exam Time:** 3:00pm-5:59pm, 3/17/2014  
**Final Exam Room:** TBA

**Course Description:** This course uses a variety of topics in mathematics to introduce students to rigorous mathematical proof, emphasizing quantifiers, induction, negation, proof by contradiction, naive set theory, equivalence relations, and epsilon-delta proofs. Required of all departmental majors.

**Prerequisites:** A grade of at least C- in Math 20F or Math 31AH or consent of the instructor. If you are unsure about whether your background is sufficient for this class, please talk with the instructor as soon as possible.

**Grading:** Grades will be calculated based on homework assignments given roughly once per week, two midterm exams held in class, and a final exam. The weighting scheme is as follows.

Homework: 25%  
Midterm 1: 20% (in lecture, 1/31/2014)  
Midterm 2: 20% (in lecture, 2/28/2014)  
Final Exam: 35%

**Homework Policies:** Homework may be submitted in class, in the basement of APM, or by email. *Homework turned in after 5:00 pm on the day that it is due will not be accepted for any reason.* Your lowest homework score will be dropped when calculating your final grade. Collaboration on homework assignments is both permitted and encouraged, but your submitted assignments must be written in your own words.

Your solutions must be written in English sentences (with subjects, verbs, punctuation, etc.) and your assignments must be clearly legible. If you are concerned about

your handwriting, it may be in your best interest to type up your assignments (it's never too early in your mathematical career to learn L<sup>A</sup>T<sub>E</sub>X!). This is a course in proof writing and, as such, your style in writing up proofs counts!

**Midterm Policies:** Electronic devices and collaboration are both strictly prohibited on midterm exams. The midterms are closed book and closed notes. Each midterm will contain an example from class and a problem from the homework. If your performance on the final exam is better than your performance on one of the midterms (including the case where a midterm is not taken), the percentage score on the final will replace the percentage score for that midterm. No make-up midterms will be given. If you want to request a regrade for a midterm (or any portion thereof), you must make this request by the end of the class period in which that midterm was handed back.

**Final Exam Policies:** Electronic devices and collaboration are both strictly prohibited on the final exam. The final is closed book and closed notes. The final will contain an example from class and a problem from the homework. If you need to miss the final exam because of an emergency of the direst sort (death in the family, severe illness, etc.), inform the instructor before the final. If your reason is deemed sufficiently dire, you will get an incomplete in the course and will have to take the final exam the following quarter (Spring 2014). *If you do not take the final exam on 3/17/2014 at 3:00am-5:59pm for any other reason, you will get an F in the course.*