100A: Abstract Algebra 1 (Fall 2010)

1 Administrivia

INSTRUCTOR: Prof. M. Minnes
Office: AP&M 5121  Office hours: Mondays 4pm-5pm and Wednesdays 2pm to 3pm.
Email: minnes@math.ucsd.edu

DISCUSSION SECTION LEADERS:
Brandon Meredith  Office: AP&M 6343  Office hours: Wednesdays 4pm-5pm.
Email: mmeredit@math.ucsd.edu
Peter Overholser  Office: AP&M 6446  Office hours: Tuesdays 1pm-2pm.
Email: doverhol@math.ucsd.edu

Course website: http://www.math.ucsd.edu/~minnes/100A

2 Course description

From the Catalog:

First course in a rigorous three-quarter introduction to the methods and basic structures of higher algebra. Topics include: groups, subgroups and factor groups, homomorphisms, rings, fields. Students may not receive credit for both Math. 100A and Math. 103A. Prerequisite: Math. 31CH or Math. 109 or consent of instructor.

This course is theoretical; students will be expected to be comfortable working with abstract concepts and proofs. The courses Math. 100ABC and Math. 140ABC are intended to prepare students who have a strong interest in pure mathematics and may be considering graduate study in the field.

3 Course format

Lectures: MWF 11:00AM - 11:50AM, Peterson 102

At the beginning of each Monday lecture there will be a short quiz to help you keep on top of definitions. These quizzes will not count towards your final grade; rather their intent is to reinforce the importance of knowing definitions and full theorem statements.

Discussion sections: Tuesdays, Warren Lecture Hall 2208
(see Triton Link for the meeting time for your section).

You are strongly encouraged to attend all lectures and discussion sections, and to raise any additional questions at office hours. The material in this course is challenging but rewarding. Make sure you give yourself every opportunity to learn it well.


I highly recommend reading the textbook in addition to attending lectures. Seeing abstract concepts presented in several different ways is one of the best ways to help yourself understand them. Also, reading proofs written out formally will help develop your own proof-writing skills.
Schedule:

This quarter, we will cover Chapters 1, 2, 3 and some of 7 in the book. You may notice that some of the sections in Chapters 1 and 2 are familiar from Math. 109. We will review this material and see how it applies to the main theme of this course: group theory.

A preliminary calendar of lectures and associated readings is posted on the course website. It will be updated as necessary.

Homework:

Weekly homework will be assigned based on the lectures and readings. Homework is due by the beginning of class on Friday. The first homework set is due Friday October 1, 2010. You may hand your homework papers in during class or in the HW box for this class on the 6th floor of AP&M.

You are allowed and encouraged to work on the homework problems together. However, you must write up the solutions individually. Homework must be neatly written or typed up and stapled together. I encourage you to first work out the solutions to problems on scrap paper (do not hand this scrap paper in); once you know how to work the problem and have a good way to present your solution, write up the final draft of your homework.

The lowest homework grade will be dropped. No late homework will be accepted.

Exams:

There will be two in-class exams during the quarter and a final exam. The in-class exams will be on October 18 and November 8 during lecture. The final exam will be on December 7 from 11:30AM to 2:30PM.

You may not use any notes, books, or calculators during the exams. To prevent distraction and any appearance of cheating, all cell phones and similar electronic devices must be put away during exams.

Grading: Final grades in the course will be assigned according to the following approximate weighting.

Homework: 20 %
Each in-class exam: 20 %
Final exam: 40%

Grades will be posted on webCT (https://webctweb.ucsd.edu) throughout the quarter.

4 Important Dates

Friday, 9/24 First lecture.
Monday, 9/27 First quick-check quiz.
Tuesday, 9/28 First discussion section.
Friday, 10/1 First homework set due.
Monday, 10/18 First exam.
Friday, 10/22 Deadline to drop course without a W.
Monday, 11/8 Second exam.
Friday, 11/26 Thanksgiving holiday - no lecture.
Tuesday, 12/7 Final exam.

Note: always check the course website for the most up-to-date information on scheduling.