

Abstract algebra I (Math 128A), Fall 2010, San José State University
MacQuarrie Hall 235, MW 10:30–11:45am (Sec. 01, code 40847)

Instructor: Dr. Tim Hsu (pronounced “shoe”).

Office and phone: MacQuarrie Hall 419, (408)924-5071.

Office hours: MWF 9:30–10:30am, MW 1:30–2:30pm, or by appointment. Current schedule: <http://www.math.sjsu.edu/~hsu/courses/generic/sched.pdf>

E-mail: hsu@math.sjsu.edu or hsu.math.sjsu@gmail.com. I can be reached by e-mail at most times of the day, and will often answer within a few hours.

Course web page: <http://www.math.sjsu.edu/~hsu/courses/128a/>

Required text: *Contemporary Abstract Algebra*, 7th ed., Joseph A. Gallian.

Optional text: *Writing Proofs*, Hsu, downloadable from course web page.

Grading: Your semester grade consists of:

Homework:	20%
Exam 1:	16%
Exams 2–3:	17% each
Final exam:	30%

Goals of the course. The main objects of study in this course are *groups* and *rings*. These objects are concisely defined (groups can be described by just 3 axioms!), but nevertheless have both a remarkably satisfying theory and also describe numerous mathematical and natural phenomena, including numbers, card shuffling, computer communications, the drawings of M.C. Escher, mattress rotation, regular polyhedra, and the shape of the universe. Moreover, in studying groups and rings, we will both learn how to deal with *abstraction* and also see how useful abstraction can be.

Prerequisites. Math 108 (proofs) and 129A (linear algebra I) or instructor permission. If you are taking proof-intensive classes (Math 128A/128B, 129B, 131A/131B) for the first time this semester, and you have not taken Math 108, **please schedule a meeting with me as soon as possible**.

Class is a cell/beeper-free zone. Please turn off all cellphones and beepers before you get to class.

Homework. Homework will be due roughly once a week, with an outline of problem set 01 due **Mon Aug 30**, and the final version due **Wed Sep 01**. For more details on homework content and the process of doing homework (including outlines and revisions), see the handout on homework.

Specific homework assignments will be determined as the term progresses. For a complete list of all homework assigned to date, and downloadable versions of almost all handouts from class, you can always check the course web page.

Problem sessions. In addition to my regular office hours, starting on **Fri Sep 03**, I will also hold problem sessions for this class every **Fri, 10:30am–noon**, in a room to be announced. These sessions are completely optional, and you should be fine without them, but the time is available for those who can make it.

Exams. We will discuss this topic in more detail before the first exam, but briefly, the material on exams will mostly resemble the material from the homework. All exams are closed-book.

Calculators. You will *not* be allowed to use calculators for *any* in-class exams. The numerical work on exams will be simple enough that a calculator shouldn't be necessary, and even if you make numerical mistakes, you won't lose a lot of points on them.

Exam dates. The dates of our three in-class exams and final exam are found on the syllabus below. In particular, the final exam will be held on **Thu Dec 16**, from **9:45am–noon**. Please make sure that you are still on campus at that time (e.g., don't buy a plane ticket that leaves town on Dec 15).

How to add this course. If you are not registered for this course, and you would like to add it, you must first put a full effort into completing all of the work in the course. Second, if you are a graduating senior, you need to produce documentation to verify that.

I'll make a waiting list, which you get on by filling out and turning in the information form for the course. I'll give out add codes starting **Tue Sep 07**, mainly based on completeness of homework, and as long as there is room, I will continue to give out add codes until add date (**Tue Sep 14**). Note, however, that graduating seniors have the highest priority, and that Open University students have the lowest priority.

How to drop this course. Until **Tue Sep 07**, you can drop at my.sjsu.edu. Nothing will appear on your transcript, but please let me know if you drop.

To drop after Tue Sep 07, you must go to the student services center and submit a Course Drop form to the Director of Academic Services. Dropping under these circumstances is only allowed for “serious and compelling reasons” (course catalog). A low grade is not a serious and compelling reason.

Academic integrity. Your commitment to learning (as shown by your enrollment at SJSU) and SJSU’s Academic Integrity Policy require you to be honest in all of your academic course work. Faculty are required to report all infractions to the Office of Student Conduct and Ethical Development. See: http://sa.sjsu.edu/student_conduct

Disabilities. If you need course adaptations or accommodations due to a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities register with the Disability Resources Center to establish a record of their disability.

Tentative syllabus

Date	Reading	Date	Reading
Wed Aug 25	Ch. 0	Mon Oct 25 Wed Oct 27	Ch. 9 Ch. 9
Mon Aug 30 Wed Sep 01	Ch. 1 Ch. 2	Mon Nov 01 Wed Nov 03	Ch. 10 Ch. 10
Mon Sep 06 Wed Sep 08	LABOR DAY Ch. 2–3	Mon Nov 08 Wed Nov 10	Ch. 11 Ch. 11–12
Mon Sep 13 Wed Sep 15	Ch. 3 Ch. 3–4	Mon Nov 15 Wed Nov 17	Ch. 12 Exam 3
Mon Sep 20 Wed Sep 22	Ch. 4 Exam 1	Mon Nov 22 Wed Nov 24	Ch. 12 Ch. 13
Mon Sep 27 Wed Sep 29	Ch. 5 Ch. 5	Mon Nov 29 Wed Dec 01	Ch. 13 Ch. 14
Mon Oct 04 Wed Oct 06	Ch. 6 Ch. 6–7	Mon Dec 06 Wed Dec 08	Ch. 14 Review
Mon Oct 11 Wed Oct 13	Ch. 7 Ch. 7–8	Thu Dec 16	Final exam, 9:45am–noon
Mon Oct 18 Wed Oct 20	Ch. 8 Exam 2		