

**Abstract algebra I (Math 128A), Spring 2009, San José State University
MacQuarrie Hall 235, MW 10:30–11:45am (Sec. 01, code 21004)**

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

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

Office hours: MW 9:30–10:30am, M 1:30–3:30pm, or by appointment. For a current schedule, see: <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*, 6th ed., Joseph A. Gallian.

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

Grading: Your semester grade consists of:

Homework:	20%
Exam 1:	14%
Exams 2–3:	18% 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 **Wed Jan 28**, and the final version due **Mon Feb 02**. For more details on homework content and the process of doing homework (including 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 **Wed Jan 28**, I will also hold problem sessions for this class every **Wed, 1:30–2:30pm**, 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 **Fri May 15**, 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 May 14).

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 Feb 03**, 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 Feb 10**). 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 Feb 03**, 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 Feb 03, 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
Mon Jan 26	Ch. 0	Mon Mar 30	Ch. 9
Wed Jan 28	Ch. 1	Wed Apr 01	Ch. 9
Mon Feb 02	Ch. 2	Mon Apr 06	Ch. 10
Wed Feb 04	Ch. 2-3	Wed Apr 08	Ch. 10
Mon Feb 09	Ch. 3	Mon Apr 13	Ch. 11
Wed Feb 11	Ch. 3-4	Wed Apr 15	Ch. 11-12
Mon Feb 16	Ch. 4	Mon Apr 20	Ch. 12
Wed Feb 18	Exam 1	Wed Apr 22	Exam 3
Mon Feb 23	Ch. 5	Mon Apr 27	Ch. 12
Wed Feb 25	Ch. 5	Wed Apr 29	Ch. 13
Mon Mar 02	Ch. 6	Mon May 04	Ch. 13
Wed Mar 04	Ch. 6-7	Wed May 06	Ch. 14
Mon Mar 09	Ch. 7	Mon May 11	Ch. 14
Wed Mar 11	Ch. 7-8	Wed May 13	Review
Mon Mar 16	Ch. 8	Fri May 15	Final exam,
Wed Mar 18	Exam 2		9:45am-noon
Mon Mar 23	NO CLASSES		
Wed Mar 25	SPRING BREAK		