Abstract algebra I (Math 128A), Fall 2020, San José State University
Zoom, MW 9:00–10:15am (Sec. 01, code 48166)

Instructor: Dr. Tim Hsu (pronounced "shoe").

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

Office hours: M 2–3pm, W 1–2pm. Current schedule available at:
   http://www.timhsu.net/courses/generic/sched.pdf

E-mail: tim.hsu@sjsu.edu. I can be reached by e-mail at many times of the day, and will
   try to respond within 24 hours.

Course web page: http://www.timhsu.net/courses/128a/

Required texts: Textbook available free online at web page.

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

Grading: Your semester grade consists of: Homework 25%; Exam 1 14%; Exams 2 and 3
   18% each; final exam 25%.

    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 never-
theless 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 39/129A (linear algebra I) or instructor permis-
sion. 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-free zone. Please turn off all cellphones before you get to class.

    Problem sessions. We will also hold a weekly problem session where you can work
together and get help from me, **Fri 10am–noon**, Zoom info provided separately.

    Homework. Homework will be due roughly once a week, with problem set 01 due
Wed Aug 26. 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.

    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 **Tue Dec 15**, from **7:15–
9:30am**. 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 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 **Mon Aug 31** (or possibly earlier),
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 08**). Note, however, that graduating seniors have the highest priority, and that Open University students have the lowest priority.

How to drop this course. Until **Mon Aug 31**, you can drop at `my.sjsu.edu`. Nothing will appear on your transcript, but please let me know if you drop.

To drop after Mon Aug 31, 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: `www.sjsu.edu/studentconduct`

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 Accessible Education Center (formerly the Disability Resources Center) to establish a record of their disability.

Tentative Syllabus

Date	Reading		Date	Reading
			Mon Oct 19	**Exam 2**
Wed Aug 19	Ch. 0		Wed Oct 21	Ch. 9
Mon Aug 24	Ch. 1		Mon Oct 26	Ch. 10
Wed Aug 26	Ch. 2		Wed Oct 28	Ch. 10
Mon Aug 30	Ch. 2–3		Mon Nov 02	Ch. 11
Wed Sep 02	Ch. 3		Wed Nov 04	Ch. 11–12
Mon Sep 07	**Labor Day**		Mon Nov 09	Ch. 12
Wed Sep 09	Ch. 3–4		Wed Nov 11	**Veteran's Day**
Mon Sep 14	Ch. 4		Mon Nov 16	Ch. 12
Wed Sep 16	**Exam 1**		Wed Nov 18	Ch. 13
Mon Sep 21	Ch. 5		Mon Nov 23	**Exam 3**
Wed Sep 23	Ch. 5		Wed Nov 25	**Thanksgiving Break**
Mon Sep 28	Ch. 6		Mon Nov 30	Ch. 13
Wed Sep 30	Ch. 6–7		Wed Dec 02	Ch. 14
Mon Oct 05	Ch. 7		Mon Dec 07	Ch. 14
Wed Oct 07	Ch. 7–8			
Mon Oct 12	Ch. 8		**Tue Dec 15**	**FINAL EXAM**
Wed Oct 14	Ch. 9			**7:15–9:30am**