

**Abstract algebra II (Math 128B), Spring 2021, San José State University**  
**Zoom, MW 10:30–11:45am (Sec. 01, code 21957)**

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

**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](mailto:tim.hsu@sjsu.edu). I can be reached by e-mail at many times of the day, and will try to respond within 48 hours.

**Course web page:** <http://www.timhsu.net/courses/128b/>

**Required texts:** *Contemporary Abstract Algebra*, 9th ed., Joseph A. Gallian. (Cover is black with a blue-petaled “flower” on it; if you took Math 128A in Fall 2020, it’s the same book.)

**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.** Building on the study of *groups* from Math 128A, in this course, we study *rings*, *fields*, and special topics to be determined. As in Math 128A, this study leads to satisfying theory, especially the theory of factorization in rings and the use of field theory to study solutions of algebraic equations. It also leads to numerous mathematical and natural applications, including computer communications, number theory, and a deeper understanding of what’s really going on in high school algebra.

**Prerequisite:** Math 128A. Specifically, Chapters 0–11 of Gallian (or equivalent) will be assumed as background.

**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 **Mon Feb 08**. 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. For each exam, you will be allowed one page of notes (both sides).

**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 May 25**, 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 24).

**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 Feb 08** (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 (**Mon Feb 15**). 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 Feb 08**, you can drop at [my.sjsu.edu](http://my.sjsu.edu). Nothing will appear on your transcript, but please let me know if you drop.

To drop after Mon Feb 08, 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](http://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	Activity	Date	Activity
Wed Jan 27	Review, Ch. 12	Mon Mar 29	<b>SPRING BREAK</b>
Mon Feb 01	Ch. 12–13	Wed Mar 31	<b>NO CLASSES</b>
Wed Feb 03	Ch. 13	Mon Apr 05	Ch. 21
Mon Feb 08	Ch. 14	Wed Apr 07	Ch. 21
Wed Feb 10	Ch. 14	Mon Apr 12	Ch. 22
Mon Feb 15	Ch. 15	Wed Apr 14	Ch. 23
Wed Feb 17	Ch. 15	Mon Apr 19	Ch. 24
Mon Feb 22	<b>Exam 1</b>	Wed Apr 21	Ch. 24
Wed Feb 24	Ch. 16	Mon Apr 26	Ch. 25
Mon Mar 01	Ch. 16–17	Wed Apr 28	Ch. 25
Wed Mar 03	Ch. 17	Mon May 03	<b>Exam 3</b>
Mon Mar 08	Ch. 17–18	Wed May 05	Ch. 32
Wed Mar 10	Ch. 18	Mon May 10	Ch. 32
Mon Mar 15	Ch. 18–19	Wed May 12	Ch. 33
Wed Mar 17	Ch. 19–20	Mon May 17	Ch. 33
Mon Mar 22	Ch. 20	<b>Tue May 25</b>	<b>Final exam,</b>
Wed Mar 24	<b>Exam 2</b>		<b>9:45am–noon</b>