Abstract algebra II (Math 128B), Spring 2011, San José State University
Duncan Hall 243, MW noon–1:15pm (Sec. 01, code 23471)

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

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

Office hours: MW 9:30–noon, or by appointment. Current schedule available at:
    `http://www.math.sjsu.edu/~hsu/courses/generic/sched.pdf`

E-mail: `hsu@math.sjsu.edu`. 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/128b/`

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. Building on the study of *groups* from Math 128A, in this course, we study *rings*, *fields*, and special topics to be chosen by the class. 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/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 Feb 02**, and the final version due **Mon Feb 07**. 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, I will also hold problem sessions for this class every **Wed**, location and time 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 20**, 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 19).

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 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 (**Mon Feb 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 **Mon Feb 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 Mon Feb 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.

(Very) tentative syllabus

Date	Reading		Date	Reading
			Mon Mar 28	**NO CLASSES**
Wed Jan 26	Review, Ch. 12		Wed Mar 30	**SPRING BREAK**
Mon Jan 31	Ch. 12–13		Mon Apr 04	Ch. 21
Wed Feb 02	Ch. 13		Wed Apr 06	**Exam 2**
Mon Feb 07	Ch. 14		Mon Apr 11	Ch. 21
Wed Feb 09	Ch. 14		Wed Apr 13	Ch. 22
Mon Feb 14	Ch. 15		Mon Apr 18	Ch. 23
Wed Feb 16	Ch. 15		Wed Apr 20	TBD
Mon Feb 21	Ch. 16		Mon Apr 25	TBD
Wed Feb 23	**Exam 1**		Wed Apr 27	TBD
Mon Feb 28	Ch. 16–17		Mon May 02	TBD
Wed Mar 02	Ch. 17		Wed May 04	**Exam 3**
Mon Mar 07	Ch. 17–18		Mon May 09	TBD
Wed Mar 13	Ch. 18		Wed May 11	TBD
Mon Mar 14	Ch. 18–19		Mon May 16	TBD
Wed Mar 16	Ch. 19–20			
Mon Mar 21	Ch. 20		**Fri May 20**	**Final exam,**
Wed Mar 23	Ch. 20			**9:45am–noon**

Note: If all goes well, in the TBD sections, we will cover around 4 chapters, taken from Chs. 24–33, of material chosen by the class. The chapters are mostly independent, but chapter sequences that are more satisfying when studied together include Chs. 24–25, Chs. 26–28, and Chs. 32–33. (Also, Ch. 30 is closely related to Chs. 26–28.) Please keep looking ahead and thinking about which material seems most interesting as the semester progresses.