

Higher Algebra II (Math 221B), Spring 2019
San José State University
MacQuarrie Hall 233, MW 10:30–11:45am (Sec. 01, code 23265)

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

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

Office hours: MW 9:00–10:30; M 2:00–3:00; W 1:30–2:30. 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/221b/>

Text: *Algebra*, Michael Artin, 2nd ed. (2018). Other reading may be assigned later in the semester, but that reading will all be available for free.

Grading: Your semester grade consists of: Homework 20%; Exam 1 14%; Exams 2 and 3 18% each; Final exam 30%.

Goals of this course. The primary goal of this class is for you to learn selected topics from graduate-level algebra, starting with the fundamentals of ring theory. Specific topics will probably include ring theory, factorization, number fields, and modules; we will then probably go back to group theory, with representation theory and infinite group theory.

The secondary goal of this class is that each of you will learn the algebraic background needed to work on a thesis with an SJSU faculty member. Consequently, each unit in the course will be modeled around a thesis topic that you might work on.

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

Homework. Homework will be due roughly once a week, with problem set 01 due **Mon Feb 04**. 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 Feb 01**, I will also hold problem sessions for this class every **Fri**, from **10:30am–12:30pm**, in **MacQuarrie Hall 425**. 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. You will not be allowed to use calculators for any in-class exams.

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 **Wed May 15**, from **9:45am–noon**. Please make sure that you are still on campus at that time.

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 05** (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 Feb 12**). 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 05**, 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 05, 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.

(Very) tentative syllabus

All reading is from Artin; x.y denotes Chapter x, Section y.

Date	Reading	Date	Reading
Mon Jan 28	11.1–11.2	Mon Apr 01	SPRING BREAK
Wed Jan 30	11.3	Wed Apr 03	NO CLASSES
Mon Feb 04	11.4	Mon Apr 08	10.3–10.4
Wed Feb 06	11.5–11.6, 11.8	Wed Apr 10	10.5–10.6
Mon Feb 11	12.1–12.2	Mon Apr 15	10.7–10.8
Wed Feb 13	12.2–12.3	Wed Apr 17	Free group
Mon Feb 18	12.4, review	Mon Apr 22	Coverings
Wed Feb 20	13.1–13.2	Wed Apr 24	Subgroup theory
Mon Feb 25	Exam 1	Mon Apr 29	M. Hall
Wed Feb 27	13.3–13.4	Wed May 01	Exam 3
Mon Mar 04	13.5–13.6	Mon May 06	7.10
Wed Mar 06	13.7–13.8	Wed May 08	Schreier
Mon Mar 11	14.1–14.2	Mon May 13	Kurosh
Wed Mar 13	14.3–14.4		
Mon Mar 18	14.5–14.6	Wed May 15	Final exam,
Wed Mar 20	14.7–14.8		9:45am–noon
Mon Mar 25	10.1–10.2		
Wed Mar 27	Exam 2		