

**Introduction to analysis (Math 131A), Fall 2008, San José State University
MacQuarrie Hall 235, MWF 12:30–1:20pm (Sec. 01, code 41062)**

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

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

Office hours: MWF 9:30–10:30, MW 1:30-2:30, 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/131a/>

Required text: *Introduction to Real Analysis*, Bartle and Sherbert, 3rd ed.

Optional texts: *Writing Proofs*, Hsu, downloadable from course web page; *Calculus*, Spivak, 3rd ed.

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

Goals of the course. In this course, we will examine two questions: (1) How can we be *sure* that calculus works? (2) What are the key properties that make the real numbers work? In answering those questions, we will encounter some of the deepest ideas of mathematics, including *convergence*, *continuity*, and *topology*.

Prerequisites. Besides the formal prerequisites (Math 32 and 42), you need to realize that this course is one of the most difficult undergraduate courses we offer. If you have never taken a course in which you spent most of your time writing proofs, you must also take Math 108 (“Introduction to proof”) this semester.

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 problem set 01 due **Fri Aug 29** and problem set 02 due **Mon Sep 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.

Problem sessions. In addition to my regular office hours, I will also hold problem sessions for this class every **Fri, 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 **Wed Dec 17**, from **12:15–2:30pm**. Note that this is the **next to last day of finals**, so please make sure that you are on campus until the end of finals.

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 **Fri Sep 05**, mainly based on completeness

of homework, and as long as there is room, I will continue to give out add codes until add date (**Fri Sep 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 **Fri Sep 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 Fri Sep 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: 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.

Syllabus

Date	Reading	Date	Reading
Mon Aug 25	Intro, 1.2, 2.1	Mon Oct 20	4.1
Wed Aug 27		Wed Oct 22	Exam 2
Fri Aug 29		Fri Oct 24	4.1
Mon Sep 01	Labor Day	Mon Oct 27	4.1
Wed Sep 03	2.3	Wed Oct 29	4.2
Fri Sep 05	2.3	Fri Oct 31	4.2
Mon Sep 08	2.4	Mon Nov 03	5.1
Wed Sep 10	2.4	Wed Nov 05	5.1
Fri Sep 12	2.4–2.5	Fri Nov 07	5.2
Mon Sep 15	3.1	Mon Nov 10	5.2
Wed Sep 17	3.1	Wed Nov 12	5.3
Fri Sep 19	3.1	Fri Nov 14	5.3
Mon Sep 22	Exam 1	Mon Nov 17	5.4
Wed Sep 24	3.2	Wed Nov 19	5.4
Fri Sep 26	3.2	Fri Nov 21	Exam 3
Mon Sep 29	3.2–3.3	Mon Nov 24	6.1
Wed Oct 01	3.3–3.4	Wed Nov 26	6.1
Fri Oct 03	3.4	Fri Nov 28	Thanksgiving
Mon Oct 06	3.4	Mon Dec 01	6.1
Wed Oct 08	3.5	Wed Dec 03	6.2
Fri Oct 10	3.6–3.7	Fri Dec 05	6.2
Mon Oct 13	3.7	Mon Dec 08	6.2
Wed Oct 15	3.7	Wed Dec 10	The FTC
Fri Oct 17	3.7	Wed Dec 17	Final, 12:15pm