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Calculus III (Math 32), Fall 2015, San José State University
MacQuarrie Hall 424, MW 10:30–11:45pm (Sec. 03, code 45183)

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

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

Office hours: MW 9:30–10:30; MW 1:30–2:30. Current schedule available at:
http://www.math.sjsu.edu/∼hsu/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.math.sjsu.edu/∼hsu/courses/32/

Text: *Calculus: Early Transcendentals*, James Stewart, 7th edition. Make sure you get the "Early Transcendentals" book, as Stewart has written several calculus textbooks, and make sure you get the 7th edition (**not** the most recent one), especially if you do not buy the book through the University bookstore.

Calculator: You will need a graphing calculator for this class. I can provide support for any TI calculator; if you have another kind of calculator, let me know, and we'll work something out. One important warning: You are *not* allowed to use the TI-89 or the TI-92 on exams. (On the other hand, the TI-82, 83, 85, 86, etc., are fine on exams.)

Primary goals of the course. In Calculus I and II, you've learned about differentiation, integration, and the relationship between them (the Fundamental Theorem of Calculus). However, all of that was essentially in one dimension, whereas real-life problems often take place in two, three, or even more dimensions. In Calculus III, we'll explore what happens to ordinary calculus and geometry in higher dimensions.

Secondary goals. We'll also discuss what mathematics is like beyond calculus. We'll talk about questions like: How can we use abstract algebra for efficient computational geometry? What is the correct definition of 0^0? How does calculus explain the Nobel Prize-winning work of John Nash (see: *A Beautiful Mind*)? Can you hear the shape of a drum? If you have a system of planets, can one of them suddenly fly off to infinity?

Class. Bring your textbook and calculator to class every day. Class will consist of a mixture of lecture, group activities, and question-and-answer sessions. Please turn off all cellphones and beepers before you get to class.

Time expectations. The standard expectation for a 3-unit class is that you will spend at least 9 hours per week working on this class (i.e., at least 6 hours outside the classroom).

Reading. In general, you should do the assigned reading before anything else, i.e., before the topics come up in class or in the homework. Read *all* of the text, and not just "the stuff in the red boxes." Throughout the semester, I'll always assume that you've done all of the reading. In particular, not every topic you have to know will be covered in class.

The course web page will always have a complete list of all reading assigned to date.

Homework. Homework will be due every class day, except for exam days; for more details, see the handout on homework. Specific assignments will be determined as the term progresses. For a complete list of all homework assigned to date, see the course web page.

Quizzes. Roughly once a week, except for exam weeks, we will have an in-class quiz. Quizzes are closed-book, no notes allowed, but calculators (though not the TI-89 and 92) are fine. Our first quiz will be on **Wed Aug 26**.

Exam policies. All exams will be closed-book. Calculators are allowed (though not the TI-89 and 92, etc.), and you are also allowed to bring one 3×5 card of notes. Exams are primarily based on the reading and the homework, so the best way to prepare for exams is to do all of the reading and the homework.

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 **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 Dec 14).

Grading. Your final course grade consists of: Homework 10%, Quizzes 5%, Exam 1 17%, Exams 2 and 3 19% each, and Final Exam 30%.

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 Sep 01** (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 (**Wed Sep 09**). 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 Sep 01**, 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 Sep 01, 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 Aug 24	Review, 12.1	Mon Oct 26	15.1–15.2
Wed Aug 26	12.1–12.2	Wed Oct 28	15.2–15.3
Mon Aug 31	12.2	Mon Nov 02	15.3
Wed Sep 02	12.3	Wed Nov 04	10.3, 15.4
Mon Sep 07	**Labor Day**	Mon Nov 09	15.5
Wed Sep 09	12.4	Wed Nov 11	**Veterans Day**
Mon Sep 14	12.5	Mon Nov 16	15.7
Wed Sep 16	12.6	Wed Nov 18	15.7–15.8
Mon Sep 21	**Exam 1**	Mon Nov 23	15.8–15.9
Wed Sep 23	14.1	Wed Nov 25	**Exam 3**
Mon Sep 28	14.1–14.2	Mon Nov 30	10.1, 13.1
Wed Sep 30	14.3	Wed Dec 02	13.2
Mon Oct 05	14.3–14.4	Mon Dec 07	13.4
Wed Oct 07	14.4		
Mon Oct 12	14.5	**Tue Dec 15**	**FINAL EXAM**
Wed Oct 14	14.6		**9:45am–noon**
Mon Oct 19	14.7		
Wed Oct 21	**Exam 2**		

Tutoring. Peer tutoring is available to all SJSU students, free of charge, through:

- The College of Science Advising Center (`www.sjsu.edu/cosac`)

- Peer Connections (`peerconnections.sjsu.edu`)