

Math 2144, Calculus I

Course Information

Section 016
Fall 2012

Instructor: Dr. Lisa Mantini, 410 Math Sciences, telephone 405-744-5777, email mantini@math.okstate.edu, home page <http://www.math.okstate.edu/~mantini/>, FAX 405-744-8275. Course materials may be found on our course site at OSU's online classroom, oc.okstate.edu, and our online homework system is WebAssign, webassign.net.

Course Times: MWF 8:00 – 9:15 AM in HSCI 330.

Office Hours: Tuesday through Friday from 1:00–3:00 PM and by appointment. I am also available every day after class.

Course Objectives: Calculus, invented more than 300 years ago by Isaac Newton and Gottfried Leibniz, is one of the greatest achievements of the human intellect. Calculus deals with functions that relate two varying quantities and the rules that govern the rates at which one of these quantities changes or accumulates with respect to the other. Understanding the calculus enables us to solve many problems in mathematics, science, and engineering. Our aim in this course is to ensure that you understand the concepts and tools of Calculus, that you master the skills required to use those tools, and that you will be able to apply those ideas to solve problems in many disciplines.

Prerequisites: A satisfactory score (minimum 70) on the ALEKS placement exam, or a grade of C or better in a college-level course in Trigonometry or Pre-Calculus.

Required Materials: (1) Textbook: *Calculus: Early Transcendentals*, 2nd edition, by Jon Rogawski, and (2) Online homework system WebAssign (<http://www.webassign.net>). Note that if you buy your book someplace other than one of our local bookstores, you may have to buy WebAssign access directly from WebAssign, which will cost at least \$38 per semester. Our bookstore sells the textbook bundled with life of the edition access to WebAssign for a reasonable combined price. You must go online and enroll yourself in WebAssign with access to our section as soon as possible:

- For Section 016 use WebAssign Class Key: **okstate 4399 1033**

Course content: This course covers most of chapters 1–6 in our text. Our presentation of Pre-Calculus review will be brief, and we will most likely skip sections 2.8, 4.8, 6.4, and 6.5. Calculus II will begin in Spring 2013 with Chapter 7 of the text.

Calculator usage: Graphing calculators can be a valuable tool for investigating, learning, and applying the ideas of calculus throughout the sciences and engineering. However, facility with calculator usage is not a substitute for your own conceptual understanding or procedural skill. In this course, graphing calculator usage will be permitted on exams as long as your calculator does not have wireless or internet capability, a QWERTY keyboard, or a camera. If you do not own an acceptable graphing calculator, you may borrow one from the Math Department office without charge, starting Tuesday, August 21. Free response exam questions will always require you to show all steps in calculations and to fully justify your answers. We strongly recommend that your

best exam preparation will be to write out homework solutions by hand, using your calculator for numerical steps and for checking your work. Quizzes may or may not allow calculator usage.

Course Requirements: Course requirements are distributed as follows.

- **Exams** worth 70% of your grade, consisting of 3 hourly exams and a comprehensive final exam. Your exam grade is determined in one of two ways, based on which produces a higher average:

Option 1: Hourly exams 15% each, Final exam 25%

Option 2: Hourly exams 10% each, Final exam 40%

Section 016 Exams: Midterms take place during class time in our classroom.

- Exam 1, Wednesday, September 19: covers up through section 3.2;
 - Exam 2, Wednesday, October 24: covers up through section 4.4;
 - Exam 3, Wednesday, November 28: covers up through chapter 5;
 - Final Exam: **Tuesday, December 11, 12:00–1:50 PM in MSCS 101.**
- **WebAssign Assignments**, worth 10% of your grade, are online homework assignments corresponding to all sections of the text, typically due a few days after each section is covered in class. You should download and print out each assignment, write solutions in a homework notebook (either loose leaf or spiral bound), and then enter solutions into the online system by the due date. I reserve the right to check your WebAssign Notebook for completion at various times.
 - **Quizzes and Team Homework**, worth 20% of your grade. Quizzes help to check your understanding and to prepare you for exams. Quizzes may or may not be announced in advance. Missed quizzes may not be made up. Team Homework assignments are designed to give each homework team experience in solving applied problems and presenting a well-written summary and justification of the solution. Team homework will be due about once a week, usually on Wednesdays. More details on the Team Homework are in an additional handout.

Grading: The course averages given below guarantee the stated grade. These cutoff scores may be lowered if circumstances warrant:

- 90% guarantees an A in the course,
- 80% guarantees a B,
- 70% guarantees a C,
- 60% guarantees a D.

MLSC: The Mathematics Learning Success Center, or MLSC, is on the fourth floor of the Classroom Building and on the first floor of the Edmon Low Library. The tutors who work with students from Calculus I can help you prepare for class by reading your text in advance; they can help you understand class notes, complete WebAssign homework problems, or they can help a Team prepare their Team Homework. Hours for Calculus I will take place in the Library during the following hours:

- Monday through Thursday from 1:00 PM until 9:00 PM;
- Friday from 1:00 PM until 5:00 PM;
- Sundays from 3:00 PM until 9:00 PM.

Makeup exams: Makeup exams will be given only for very serious and unavoidable extenuating circumstances and **only** if you notify me before or as soon as possible after the missed exam. Documentation must be provided.

Drop Policy: The last day to drop the course with no tuition or fees is Monday, August 27. The last day to drop with a partial fee refund is Friday, August 31. The last day to drop the course with an automatic grade of W is Friday, November 9. The W/F deadline is Friday, November 30.

Academic Integrity: Oklahoma State University is committed to the maintenance of the highest standards of integrity and ethical conduct of its members. This level of ethical behavior and integrity will be maintained in this course. Participating in a behavior that violates academic integrity (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information, helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, and fraudulently altering academic records) will result in your being sanctioned. Violations may subject you to disciplinary action including the following: receiving a failing grade on an assignment, examination or course, receiving a notation of a violation of academic integrity on your transcript (F!), and being suspended from the University. Carefully read the OSU policy at <http://academicintegrity.okstate.edu/>

Study Hints: Thousands of students in colleges across the country succeed in Calculus I every semester, and you can, too. But you should be aware that college Calculus differs from a high school course in several ways. Developing good college-level study habits will help you succeed.

- Come to class having read that section of the text before hand, so you are prepared to ask questions on difficult topics and to work on problems on that topic.
- Attend all meetings of your homework team and contribute in your assigned role.
- Keep up with your work and ask questions as needed: of your homework team member, the MLSC tutors, and your instructor.
- Be responsible for your own learning. The University's guideline for a 4 credit course is that students should be spending a *minimum* of 2 hours outside of class working on course topics for every hour in class. This means that you should be spending a minimum of 8 hours per week reading the text, doing assigned problems from WebAssign, working with your homework team, and so on.
- Exams in college occur less frequently than high school exams and are more comprehensive. As you prepare for exams, make sure to master the big picture as well as the details of the subject. Make sure to identify the concepts and skills you need to tackle a problem you are working on.