

# Math 2144 Section 703: Honors Calculus I

MWF 11:30 - 12:20, OLDC 103

Instructor: Jeff Mermin

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Course web page: <http://www.math.okstate.edu/~mermin/2144/>

Desire2Learn: <https://oc.okstate.edu> (then log in and find our course).

WebAssign: <https://www.webassign.net/login.html>

**Office Hours** TBA or by appointment.

**Subject matter** This course is primarily focused on differential calculus: the study of how very small changes in one quantity affect related quantities.

We focus on limits and derivatives of functions, which are our method of quantifying this “infinitesimal” behavior. At the end of the course we introduce the integral, which connects the infinitesimal or “local” properties of an object back to its global properties by adding a very large number of very small things.

**Relationship to other courses** Math 2144 is the first course in the calculus sequence. The sequel is Math 2153, Calculus II. A solid grounding in college algebra and in precalculus, demonstrated by either a sufficiently high score on the ALEKS test or a grade of C or higher in a college trigonometry or precalculus class, is a prerequisite.

**Textbook** *Calculus: Early Transcendentals* (Second edition) by Jon Rogawski.

**Grading** Your course grade will be out of 1000 points, assigned as follows:

100 WebAssign Homework

700 Exams:

Midterm I: Wednesday, September 19

Midterm II: Wednesday, October 24

Midterm III: Wednesday, November 28

Final exam: Tuesday, December 11, 12:00-1:50 PM, AGH 002

100 Quizzes

100 Group work

A total score of 900 will guarantee you an A, an 800 will guarantee a B, etc.

**WebAssign Homework.** You should self-enroll for our class on WebAssign. You will need the class key:

okstate 5481 9730

There will be homework due on Webassign almost every class day. Typically these assignments will be due roughly a week after their material is introduced; however, you will find it much easier to succeed if you start them as early as possible.

Most problems will offer you five attempts, and will give you full credit for a correct answer on the first or second attempt, with increasing deductions for each subsequent error. There will be a small bonus for correct answers submitted six or more days before the posted due date.

WebAssign grades will be curved at the end of the year, in consultation with the other Math 2144 instructors. Historically, it has been rare for this curve to affect any student’s grade by more than ten points in either direction.

**Quizzes.** There will be a 15-minute quiz almost every Wednesday. Quizzes will be open-book and open-notes. I will count only your eight highest quiz scores.

**Group Work.** At the beginning of most classes I will pass out playing cards, from which you will determine your group for the day's exercises, and your role within the group. See the attached document on group work for details of these roles. I consider this document part of the course syllabus.

Each Monday's group assignments should be done out of class as group homework, and will be collected the following Monday.

Quiz and group homework grades will be subject to a curve at the end of the semester, in consultation with the other Math 2144 instructors.

**Exams.** The final exam will be worth 250 points, and each midterm will be worth 150 points. However, if you score better on the final than on the midterms, the final will instead be worth 400 points, and each midterm will be worth 100 points.

**Late policy.** Because the course builds on itself, it is important that you not fall behind. Thus late homework will in general not be accepted. However, I will allow you ten "grace days" on group work in case of illness or other unexpected circumstances.

**Collaboration.** Mathematics is a collaborative venture; you are encouraged to work together with friends and/or classmates on homework assignments. However, on written assignments, you must **write up your work yourselves** without reference to anything produced by anyone else, and **acknowledge anyone who helped you**. For your own protection, you should insist that both you and your collaborators truly understand everything you claim.

**Illness policy** If you cannot attend one of the exams due to illness, emergency, or another conflict of sufficient gravity, you must notify me as soon as possible and provide documentation to arrange a make-up.

If you cannot attend a regular class due to illness or another emergency, no documentation is necessary. If you aren't sure whether or not you're too ill to attend class, please see a doctor. If you need to miss *several* classes, let me know as soon as possible, so that I may plan how to accommodate the situation.

**Calculators** Calculators are excellent tools that allow us to avoid computational drudgery on the way to discovering and understanding deeper ideas. However, if we misuse them to avoid computational work that we haven't mastered, they can too easily become an obstacle to understanding. Thus, I encourage you to use calculators as sparingly as possible while studying and working on your homework.

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. In your written answers to these questions, you may use calculators only to replace computations that would be tedious for any beginning calculus student:

- Drawing a rough sketch of a graph.
- Addition, subtraction, multiplication, and division of real numbers.

- Computing the decimal value of any function (including exponentials, logarithms, trigonometric functions, etc.) at any input.
- Finding the zeroes of any function.

Anything else must be fully justified as if no calculator were available.

**Where to go for help** You have many resources for this course. I hope you will bring questions to me in office hours. Most students find it helpful to talk to classmates and work problems together. I encourage you to post and answer questions in the Discussion section of Desire2Learn. Finally, there is free tutoring available in the MLSC (on the first floor of the library; see <http://www.math.okstate.edu/mlsc> for details).

**Academic integrity** Don't cheat, or help other students cheat. Please read my "rules for written assignments" at

<http://www.math.okstate.edu/~mermin/2144/airules.pdf>.

(I also consider this document part of the course syllabus.)

If, after reading this, you aren't sure whether or not something is allowed, ask me before you try it.

Don't violate academic integrity in any other way, either. 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 according to the OSU academic integrity process. If you have further questions, contact the Office of Academic Affairs, 101 Whitehurst, 405-744-5627, <http://academicintegrity.okstate.edu>.

**Links and attachments** The course syllabus consists of four documents; please read them all.

This course information sheet may be found at

<http://www.math.okstate.edu/~mermin/2144/admin.pdf>

The handout on groupwork is available at

<http://www.math.okstate.edu/~mermin/2144/groupwork.pdf>

The document on academic integrity is available at

<http://www.math.okstate.edu/~mermin/2144/airules.pdf>

Finally, the OSU syllabus attachment is on the web at

<http://academicaffairs.okstate.edu/faculty-a-staff/47-syllabus-fall>

This has a lot of important information, including instructions about disability accommodations. Please contact me privately during the first week of the course if you need accommodations as the result of a disability.

