# Math 2144 Section 701: Honors Calculus I

## MWF 11:30 - 12:20, PS 112

Instructor: Jeff Mermin
office: 414 MSCS
email: mermin@math.okstate.edu
Section 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** Tuesdays 4:00–5:00, Thursdays 12:00–1:00, and Fridays 12:30–1:30 in my office, Wednesdays 6:00–7:00 in the MLSC, 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 is discussed in the overall course information sheet. The section grade accounts for fifteen percent of the course grade, and is assigned as follows:

    10%  Quizzes
    5%   Group work and other written homework.

Section grades will be curved appropriately at the end of the semester.

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

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okstate 8152 0634

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There will be homework due on Webassign almost every class day. Typically these assignments will be due a day or two after their material is introduced in class; however, you will find it much easier to succeed if you read the material and begin the homework **before** we get to it in class.

**Quizzes.** There will be a 15-minute quiz almost every Friday. Quizzes will be open-book and open-notes, but **calculators will not be allowed.** I will count only your ten highest quiz scores.

**Group Work.** You will be placed in a four-person group during the first class. You will be expected to work together, both in and out of class, to solve and produce jointly written solutions to the regular group assignments. In order to be successful, you will need to meet regularly (probably *at least* twice a week) and work individually on these assignments in between meetings. If your group encounters time conflicts that make regular meetings difficult, please tell me immediately so that I can reshuffle.

**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 five "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, your group 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.

Per the course syllabus, you may use TI-83 and TI-84 calculators on the common exams. If you do not own such a calculator, you may borrow one from the Math Department office.

**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.

There is free tutoring available in the MLSC (on the first floor of the library; see http://www.math.okstate.edu/mlsc for details).

Finally, several older math majors will hold Supplemental Instruction sessions beginning in the second week of classes.

**Academic Integrity** Don't cheat, or help other students cheat. If you aren't sure whether or not something is allowed, see the overall course information sheet or the document "Rules for written assignments" (http://www.math.okstate.edu/~mermin/2144/airules.pdf)

**Links and attachments** The course syllabus consists of four documents; please read them all.
This course information sheet may be found at

$$\text{http://www.math.okstate.edu/~mermin/2144/sectioninfo.pdf}$$

The overall Math 2144 syllabus is available at

$$\text{http://www.math.okstate.edu/~mermin/2144/courseinfo.pdf}$$

The document on academic integrity is available at

$$\text{http://www.math.okstate.edu/~mermin/2144/airules.pdf}$$

Finally, the OSU syllabus attachment is on the web at

$$\text{http://academicaffairs.okstate.edu/images/Patty/FacultyandStaffResources/Syllabus/fall 2014}$$
$$\text{syllabus-final.pdf}$$

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

# MATH 2144: Calculus I, Section 701

**Instructor:** Jeff Mermin
**Email:** mermin@math.okstate.edu
**Office:** MSCS 414

**Class Meeting:** MTWF, 11:30-12:20, PS 112 **Office Hours:** TBA or by appointment.
**D2L(Online Classroom):** http://oc.okstate.edu

**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/login.html).
- For Section 701 use WebAssign Class Key: **okstate 8152 0634**.

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.

**Expectations:** All students are expected to participate and be involved in class asking and answering questions. During class, there should be **no use of cellphones or laptops**, as these can be distracting. Plan to spend, on average, eight hours *outside of class* on MATH 2144. This includes reading the text, working on problems, discussing questions with others, and making use of the SI sessions, office hours or the MSLC. Should you miss class it is your responsibility for obtaining any handouts and find out about any announcements or assignments you may have missed. You should arrange to borrow a classmate's notes so that you can learn what was covered in class.

**Missing Work Policy:** I will offer reasonable accommodation in the event that you miss a major assessment activity for a valid and documented reason, assuming documentation is provided in advance unless absolutely impossible. For a quiz or exam, you need to tell me as soon as you know there is a conflict and will be ineligible for a make-up if you do not. If you will not make it to class when homework is due you should turn it in early or get a classmate to turn it in for you.

**Supplemental Instruction Sessions:** These sessions are designed to help you succeed in this course and will begin in the second week of classes. I encourage you to attend weekly. The times will be determined within the first week of classes.

**The Mathematics Learning Success Center (MLSC):** The MLSC is on the fifth floor of the Edmon Low Library, and is a great resource. The MSLC has tutors who work with students from Calculus I and help you with your questions. Hours for Calculus I tutoring:
- Monday through Thursday from 1:00 PM until 9:00 PM,
- Friday from 1:00 PM until 5:00 PM,
- Sunday from 1:00 PM until 9:00 PM.

**Syllabus Attachment:** Please read the OSU syllabus attachment on the web from the page: http://academicaffairs.okstate.edu/faculty-a-staff follow the link under Syllabus Attachment for Fall 2014. 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.

**Any changes to this syllabus will be announced in class and posted on D2L.**

**Grades:** There are two schemes, for each student the one that results in the higher grade will be used:

|                | Scheme A  | Scheme B  |
|----------------|-----------|-----------|
| 3 Hour Exams   | 15% each  | 10% each  |
| Final Exam     | 25%       | 40%       |
| Diff Gateway   | 5%        | 5%        |
| WebAssign      | 10%       | 10%       |
| Section grade  | 15%       | 15%       |

Earning a score of 90% guarantees an A for the semester, 80% a B, 70% a C, and 60% a D. These cutoff scores may be lowered if circumstances warrant.

**Homework:** To learn Calculus you must practice. There are two different aspects to the homework WebAssign and Written Assignments.

*WebAssign:* You will have assignments for each section in the text. For each problem you will have 3 chances to answer without any reduction in score, and then two additional chances with a reduction of 20% each time. I encourage you to keep a notebook for homework where you work out the WebAssign problems, or to print the assignments work through the problems and keep it in a binder.

*Written Assignments:* There will be written assignments approximately every week and a half; these will be more involved exercises or things that cannot be done with WebAssign. **If your work is not legible it will not be graded and will not receive credit.** Your submitted work must be **stapled** together. Late homework will not be accepted.

**Differentiation Gateway:** This is designed to ensure that you master the skills of differentiation. It is a **no partial credit** quiz, meaning you earn all 5% of the final grade if you answer 6 of 7 questions correctly, otherwise no credit is earned. The differentiation Gateway is scheduled for Monday, October 6th during class. There will be additional opportunities for retakes for those who do not pass on the first attempt, but these will take place outside of class time.

**Exams:** There will be three Hour Exams in the evenings, and a comprehensive Final Exam for this course:

| | |
|---|---|
| Exam 1 | Thursday, September 18 from 5:30 to 6:30 |
| Exam 2 | Thursday, October 16 from 5:30 to 6:30 |
| Exam 3 | Thursday, November 20 from 5:30 to 6:30 |
| Final Exam | Monday, December 8 from noon to 1:50 |

All of your exams will be in **ANSI 123**. For the exams you are allowed a **calculator** (described below) and a $3 \times 5$ **note card**.

**Calculators:** TI 83 and 84 models are permitted on the Hour Exams and the Final Exam. You may **not** use a TI 89, Nspire, or a calculator with a computer algebra system, wireless or internet capability, a QWERTY keyboard, or a camera. If you do not own an allowable graphing calculator, you may borrow one from the Math Department office without charge. Graphing calculators can be a valuable tool, but not a substitute for your own conceptual understanding.

**Academic Integrity:** Oklahoma State University is committed to the maintenance of the highest standards of integrity and ethical conduct of its members. Please see the OSU Fall 2014 Syllabus Attachment for more information.

You are encouraged to work and study together, however **all written and online work you hand in must be your own**. Copying someone else's solutions, letting others copy your work is prohibited. Do not cheat. 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.

**Drops and Parachutes:** The last day to drop a class without a W is Monday August 25th. Within two weeks of the start of classes Dr. Francisco may be able to parachute students to College Algebra, Trigonometry or Precalculus without any grade penalty. Talk with your instructor immediately if you would be more comfortable in one of these classes.