

Math 251

Calculus I

Winter 2014

8:40-10:05am

MWF

GRV 112

Instructor: Jessica Giglio

Office: GRV 224

Office Hours: Mon. 12-1pm, Tue. 1-2pm, Wed. 12-1pm, Thu. 1-3pm, and by appointment

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Web page: <http://www.cocc.edu/jgiglio/>

REQUIRED MATERIALS

Text with WebAssign: *Calculus: Early Transcendentals, Hybrid, 7th Ed.* by Stewart. ISBN 9781111426682.

Includes multi-term WebAssign access. This text/access is also used for MTH 252, 253, 254, and 255. You can also purchase either one-term or "lifetime of edition" access through WebAssign, which includes eBook access.

Calculator: A graphing calculator is required and should be brought to class every day. The TI-83 or TI-84 are recommended. If you have another calculator, that is fine, but you are responsible for knowing how to use it.

COURSE INFORMATION

Course description: MTH 251 is a course in what is often called Differential Calculus. This is essentially a course that is concerned with rates of change. To study these rates of change effectively, we must have our algebra skills finely tuned. Therefore, I am assuming that you completed MTH 111 and MTH 112 (or their equivalent) with a B- or better. These rates of change are often called derivatives. To find these derivatives, we will first study limits and the idea of continuity. We will work with all concepts algebraically, graphically, numerically and verbally. We will cover most of the material in the first 4 chapters of the text.

Course outcomes: Students who complete MTH 251 will be able to:

- understand and apply limits.
- apply the basic techniques of differentiation on polynomial, rational, trigonometric, exponential, and logarithmic functions to investigate the behavior of mathematical models.
- understand, apply, and interpret the relationships between applied or theoretical models and their derivatives or antiderivatives. Emphasis will given to applications of rates of change.
- determine and analyze the rate of change of functions given function data from a graph, table of values, or formula.
- use the topics from calculus in conjunction with the graphing calculator to obtain precise graphs of models, including a graphical analysis of rates of change, concavity, and extrema for the model.
- write significant mathematics in at least one of the following formats:
 - Determine the solution or lack of solution to a multiple-step problem and develop the solution in a formal laboratory report.
 - Analyze, discuss in a team, and develop the solution to an open-ended problem and present that solution in the form of a formal technical report.

Instructional Methods: This course uses a variety of instructional methods including lecture, class discussions, and small group work.

Student Requirements: Throughout this course, you will be expected to:

- Read the assigned sections of the textbook.
- Attend and actively participate in class discussions and activities (bring paper every day!).
- Work cooperatively in groups.
- Complete homework and other assessments according to the policies listed on this syllabus.

Attendance: After the first week, attendance will not be taken. However, regular attendance is expected. If you need to miss class, you should check WebAssign for announcements and assignments and check the website for handouts. You are responsible for all material covered in class during your absence and should get notes from a fellow student as soon as possible.

Important Dates:

January 10	Last day to begin attendance in a new class
January 17, 5pm	Last day to drop a class for a full refund
January 20	Martin Luther King, Jr. Day (college is closed)
February 21	Last day to change from grade to audit or vice versa; last day to drop a course without receiving a W on your transcript
March 12, 6pm	Last day to withdraw from classes (instructor approval is required and you will receive a W on your transcript)

ASSESSMENTS AND GRADING

Homework: Daily homework is primarily handled electronically through WebAssign. Homework for each week is due Sunday at midnight. You may use WebAssign to request a 1-week extension on any homework assignment. You are encouraged to ask questions about homework in or out of class, and you can get help through WebAssign as well. You will usually have five chances to improve your homework score as long as you finish by the due date (for a few multiple-choice problems in section 2.8, you'll only have two tries). Problems submitted at least 24 hours early receive a 2% bonus, while those submitted late (with the extension) receive a 10% penalty.

Labs: We will have approximately 6-7 labs this quarter. My hope is that you will work in groups of 2-4 and will hand-in one lab "write-up" per group. Write neatly in pencil and staple your pages. Clearly lay out your work using proper notation. Circle/highlight/box your final answer where applicable. All graphs must be done on graph paper. Make sure to label your axes. Any other in-class work will be included in this category as well. You may turn in labs one class day late for no penalty and until the next exam for 50% credit. You are welcome to submit labs individually as well.

Project: There will be one project assigned this term. You will be expected to work in groups of 2-4 and hand in a single report. Late projects will not be accepted, but you will have most of the term to work on the project.

Exams: We will have three in-class exams during the term as well as a comprehensive final exam. In-class exam dates will be announced well ahead of time. If you need to miss an exam, you must contact me *prior to the start of the exam* (email or voice message is fine for initial contact). We will then arrange a time for you to take the exam with the Testing Center *before the next class meeting*. If you do not follow through with these arrangements, you will receive a 0 on the exam.

Final Exam: The final exam is Monday, March 17, 8-10am. On an individual basis, for emergencies and other special circumstances, a student may take a final examination at a time other than that scheduled, providing the student has received **prior** approval by petition signed by the instructor and the department chair (the form is available on the COCC website).

Grading Breakdown:

WebAssign Homework	10%
Labs	15%
Project	10%
In-Class Exams	45% (15% each)
Final Exam	20%

Grading Scale:

A, A-	90-100%
B, B+, B-	80-89%
C, C+	70-79%
D	60-69%
F	less than 60%

You can always find your current course grade in the WebAssign gradebook.

TENTATIVE COVERAGE SCHEDULE

A detailed and updated schedule is available at <http://www.cocc.edu/jgiglio/>.

- Week 1:** Syllabus; review of algebra and trig
- Week 2:** More review; Exam 1
- Week 3:** Introduction to limits
- Week 4:** More on limits; introduction to derivatives
- Week 5:** Differentiation rules
- Week 6:** Differentiation rules continued; Exam 2
- Week 7:** More differentiation rules
- Week 8:** Related rates
- Week 9:** Exam 3; applications of derivatives
- Week 10:** More on applications of derivatives

ADVICE FOR SUCCESS

- **Get help as soon as you need it.** Of course you are always welcome to ask questions in class, or to come by my office hours or set up another time to meet with me individually or with a group. You can also get free tutoring in the lower level of the library. You can find the current schedule at <http://www.cocc.edu/tutoring-and-testing/>.
- **Stay on top of things with WebAssign and the webpage.** You can use WebAssign to check your grades on individual assignments and look for announcements. Handouts will be available on the webpage (<http://www.cocc.edu/jgiglio/>) the day they are distributed.
- **Budget your time wisely.** Like with most college courses, you should expect to spend at least 2 hours on this course outside of class for every hour in class (so about 10 hours a week or more). Try to spread this time throughout the week rather than waiting until right before an assignment is due so that it's easier to seek help if you need it.
- **Practice, practice, practice.** The only way to truly learn math is by doing it for yourself, not just watching someone do it. If you need additional practice beyond the problems assigned, please let me know!

ADDITIONAL INFORMATION AND POLICIES

Cheating or Plagiarism: You are highly encouraged to work together and help each other. However, cheating or plagiarism on any assignment or test will result in a zero being recorded for that item and may result in an F for your final course grade.

Behavior: Your rights and responsibilities are detailed in the [Students Rights and Responsibilities](http://www.cocc.edu/Student-Life/Rights_and_Responsibilities/) (http://www.cocc.edu/Student-Life/Rights_and_Responsibilities/) handbook. Failure to abide by these guidelines will result in notification to Student Life and can result in dismissal from the class. As for classroom policies, we will have a discussion about them on the first day of class and decide together.

Americans with Disabilities Statement: Students with documented disabilities who may need accommodations, who have any emergency medical information the instructor should know of, or who need special arrangements in the event of evacuation, should make an appointment with the instructor as early as possible, no later than the first week of the term. Students may also wish to contact the COCC Disability Services Office in the Boyle Education Center, (541) 383-7583.

COCC Non-Discrimination Policy: Central Oregon Community College is an affirmative action, equal opportunity institution. It is the policy of the Central Oregon Community College Board of Directors that there will be no discrimination or harassment on the basis of age, disability, gender, marital status, national origin, race, religion, sexual orientation, or veteran status in any educational programs, activities or employment. Persons having questions about equal opportunity and non-discrimination, please contact Human Resources for referral to the appropriate personnel, 541-383-7236.

Student Insurance: Students are not covered by medical insurance while on campus or involved in college classes and activities. Students are responsible for their own medical and dental insurance coverage.

Getting Started with WebAssign

- You should be running a current browser with the latest Java version (download from <http://www.java.com/en/download/>).
- Go to <http://www.webassign.net>. Choose the 'I have a Class Key ' option and type in your class key from the first page of this syllabus.
- If you already have an account *with this textbook*: check "I already have a WebAssign account."
- If you do not have an account with this textbook: check "I need to create a WebAssign account."
- You do not need to purchase anything at this time! You may choose the Free Trial Period option.
- The WebAssign Calendar shows due dates for each assignment.
- The My Assignments section shows assignments on the day they are given out. To request an extension, wait until the due date has passed. Then click on Past Assignments, and you will see an option to "Request Extension" by each assignment.
- You are encouraged to ask questions concerning the homework during class or by e-mail. You can also use the "Ask Your Teacher" button in WebAssign. Remember that you only have five tries to answer a question correctly, so don't use them all up before you seek help! I am able to see all of your previous attempts at each problem.
- You are highly encouraged to **work in groups, use the COCC tutors** and drop by my office anytime (ideally, call or email first if you're coming outside my office hours).