MATH 2250: Calculus I for Science and Engineering
Course ID 25506, Fall 2017

Instructor Dr. Jennifer Royal
Meeting Place and Time MWF 10:10 – 11:00 in Boyd 304, R in 3:30 – 4:45 in Boyd 302

Office Location Boyd 637A
Office Phone Number (706) 542-2629 (preferred contact method is email)
Email jroyal@uga.edu
Office Hours MF 11:15-12:15, W 12:15-1:15 or by appointment, with at least 24 hours notice
UGA MATH 2250 Website: http://www.math.uga.edu/2250
Course Website (Dr. Royal's sections): https://faculty.franklin.uga.edu/jroyal/content/math-2250

Prerequisite MATH 1113 or permission of department

Materials The textbook is Hass, Weir, Thomas, University Calculus, Early Transcendentals, Third Edition, ISBN 9780321999580. You may use any model of TI-30 in class *except the TI-30X Pro*. No other calculators will be allowed, and sharing of calculators is not permitted.

Course Description Limits, derivatives, differentiation of algebraic and transcendental functions; linear approximation, curve sketching, optimization, indeterminate forms. The integral, Fundamental Theorem of Calculus, areas. Emphasis on science and engineering applications.

Course Objectives The student will understand the limit and the derivative both conceptually and operationally. The student will learn how to use calculus concepts to model and solve various typical problems in science and engineering, with particular emphasis on graphs, optimization problems, and basic integration problems. The student will learn to set up word problems clearly and concisely and to provide clear solutions.

Topical Outline
(1) Functions, rates of change, limits.
(2) Differentiation rules: polynomials and transcendental functions, sum, product and quotient rules, chain rule, implicit differentiation; inverse functions.
(3) Applications of differentiation: linear approximation, Newton's method, curve sketching and convexity, optimization problems, related rate problems, L'Hospital's rule.
(4) The integral and summation notation, anti-differentiation, Fundamental Theorem of Calculus. Areas between curves and some techniques of integration.

Course Grade Your numeric grade will be calculated using the following percentages:

In-class Exams	60% (each exam is worth 15%)
Cumulative Final Exam	25%
WeBWorK	5%
Quizzes	10%
Total	100%

Letter Grades Letter grades will be assigned using the following scale:

92-100	89-91	87-88	82-86	79-81	77-78	72-76	69-71	60-68	< 60
A	A-	B+	B	B-	C+	C	C-	D	F

In-class Exams and Final Exam Our class will have four in-class exams and a cumulative final exam. No makeup in-class exams will be given in the course. If you are absent from a scheduled in-class exam, and your absence is excused (generally, this requires a medical or legal explanation, with supporting documentation), the portion of the course grade determined by the missing exam will be divided equally among the other exams (including the final exam). If you know in advance that you cannot be in attendance for a particular exam, discuss this with the instructor as early as possible. The exam dates below are tentative.

Exam 1: Thursday, August 31
Exam 2: Thursday, September 28
Exam 3: Thursday, October 26 ***This is the Thursday before Fall Break. Plan accordingly!
Exam 4: Thursday, November 30
Cumulative Final Exam: Tuesday December 12 from 7 pm - 10 pm (mass exam, location TBD)

WeBWorK The purpose of homework is for you to continue developing your understanding of the material. Struggle is a part of the learning process, and I hope that you will wrestle with problems you do not understand, and that you will grow and learn through this process. Please come and get help during office hours if you have questions.

Your homework for this course will be submitted through WeBWorK at https://webwork.math.uga.edu/webwork2/Math2250_Royal_F17/. Each time you work on a WeBWorK assignment, keep a well-organized, handwritten copy of your work on the assignment. For some assignments you will also hand in your written solutions for a separate grade. See below for advice on adhering to UGA's Academic Honesty Policy on your WeBWorK. Your username for WebWorK is your UGA myID, and your password is your nine digit 810 or 811 student number. For example, if your UGAMail is xyz30602@uga.edu and your student number is 8114567890, then your username is xyz30602 and your password is 811456789.

Quizzes I will use quizzes to gauge your progress in learning the material. We will have quizzes approximately once per week. After we cover a topic, you should be ready for a quiz on that topic on the second class day after that. (Get help ASAP if you need it.) I will drop your lowest in-class quiz grade. Make-up quizzes will not be given. If, on a quiz day, you have an excused absence with valid documentation, I will drop an additional quiz grade for that excused absence.

Students with Disabilities If you plan to request accommodations for a disability, please register with the Disability Resource Center (DRC). They can be reached by visiting the DRC Office, calling 706-542-8719 (voice) or 706-542-8778 (TTY), or by visiting http://drc.uga.edu. If you have a documented disability, I strongly encourage you to register now with the DRC so you have access to any accommodations that you may need throughout the semester.

Attendance Policy Students are allowed no more than 3 unexcused absences. **On the fourth unexcused absence, a student may be withdrawn from the course with a grade of W before midpoint, F after midpoint.** Do not regard these 3 allowed absences as "personal free days". These are only to be used in cases of personal or family emergencies. In some cases, verification may be required. I will work with any student who has a documented emergency, so please let me know as soon as possible if something is going on. Social functions, work, weddings, etc. do not count as excused absences. Let me know if you will miss class for an excused absence; if so, I may allow you to complete in-class assignments early.

What counts as attendance? I expect you to be in class on time every day. Leaving early or coming in excessively late counts as an absence. Let me know if you have a long trip to/from another class.

Deadlines Any work that is not submitted on time will receive a grade of zero. You are responsible for submitting assignments on time, even following an absence (excused or unexcused).

Electronics Policy Laptops, cell phones, tablets, smart watches, etc., may not be used in class. You may not have a smart watch or other personal electronic device on your person during a quiz or exam; these devices must be stored in a backpack or purse. Your personal electronic devices must be in "silent" mode during class; a ringing or vibrating device disrupts the classroom experience.

Announcements I will make most announcements in class; I will send others to your UGA email. You are responsible for the content of all announcements, even if you miss class or fail to check your UGA email.

Email Policy I welcome emails from students; however, please give me at least 24 hours to respond. (For weekend emails, that means 24 business-day hours, which means Tuesday.) Be sure to work on assignments in advance so that you have enough time to get your questions answered.

UGA Academic Honesty Statement As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: https://ovpi.uga.edu/academic-honesty/academic-honesty-policy. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

Specific Academic Honesty Guidelines for This Course You may not discuss a quiz or exam until it has been graded and returned to you, unless you have been given permission to do so. You are encouraged to discuss WeBWorK with others. However, when you write your solution before you submit it to WeBWorK, the math must go directly from your brain to the paper; while writing your solution, you may not use aids of any kind. Here are some relevant examples of academic dishonesty:
- getting an answer by finding a solution to a similar problem and changing the numbers to your own numbers without thinking through (and working through) the steps on your own
- getting someone (or an app) to work the problem for you and submitting the work as your own
- using unauthorized materials during a quiz or test situation, including cheat sheets, the internet, another person's test paper, an unauthorized calculator, etc.

This is not an exhaustive list; rather it is meant to give you an idea of the kinds of activities that are prohibited. Review the full academic honesty policy at https://ovpi.uga.edu/academic-honesty.

Important Dates

Classes begin	Aug 14 (Monday)
Drop-Add Ends	Aug 18 (Friday)
Labor Day (no class)	Sep 4 (Monday)
Withdrawal Deadline	Oct 19 (Thursday)
Fall Break	Oct 27 (Friday)
Thanksgiving Holidays	Nov 20-24 (Monday-Friday)
Last Day of Class	December 5 (Tuesday)

Office Hours Office hours are times that I have set aside especially for students to come and discuss math. My goal for office hours (and for the course!) is to help you learn math. When you come to office hours, you can arrive at any time that is convenient for your schedule (not just at the beginning). However, allow yourself enough time to ask questions. Here are some things to do during office hours:
- go over problems you are stuck on
- talk about why we did something while we were working a problem in class
- look for more example problems to work through (and work them)
- bring your homework and work on it by yourself or with a group
- ask for advice on study skills, test taking, etc.
- talk about how you are doing in the class

If you want to speak privately during office hours (e.g. about grades), let me know. If you want to meet with me individually outside of office hours, please make an appointment by email at least 24 hours in advance. If you receive a grade of D or F on any assignment, I expect a meeting as soon as possible.

Other resources for calculus help: http://www.math.uga.edu/study-hall-and-tutoring

Course Evaluations Please complete the online evaluation near the end of the semester. Student evaluations are used by the university to evaluate instructional faculty.

Disclaimer The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary. It is the responsibility of the student to seek clarification of the grading policy and/or course requirements and procedures from the instructor.