

Fall 2015 (Ivey)

MATH 120: INTRODUCTORY CALCULUS

Instructor Dr. Thomas A. Ivey Office #4 Greenway, Rm. 301 Phone 953-7276

Email iveyt@cofc.edu

Web iveyt.people.cofc.edu

My office hours are Mon/Wed 2-3pm, Thursday 10-10:45 and 3-4pm. No appointment is necessary to come to office hours. If these times aren't convenient, please make an appointment to see me at some other time.

Textbook *Calculus: Early Transcendentals* (6th edition), by James Stewart

Course Material We'll cover most of chapters 2 through 5 in the textbook. (Material in chapter 1 should be mostly review for students enrolling in this course.) Students will learn the calculus of algebraic, trigonometric, exponential and logarithmic functions. In a more general context, students will learn the theory of limits and continuity, differentiation, the Riemann integral and the Fundamental Theorem of Calculus, and study applications of derivatives and the Mean Value Theorem. The section-by-section schedule shown at right may be adjusted during the semester.

Important Dates In-class tests are on **Sept. 17**, **Oct. 15**, and **Nov. 12**. The last day to withdraw with a grade of W is **Oct. 29**. The common final exam is on Saturday, **Dec. 12**, noon-3pm.

Grading Your grade will be based on your course work, in the following approximate proportions: 25% homework and labs, 17% for each test, and 25% for the final exam.

Course Work *In order to learn the course material, it is essential that you keep up with the homework.* Most assignments will be given using the WebAssign system, which gives you problems similar to those in the textbook, with some numbers changed. When you do online homework, you should get in the habit of writing out solutions on paper, since this will help you do well on tests. I will often give you "lab" problems to do in small groups in class; these are designed to help you get ready for the homework, and answers will be posted on OAKS.

I encourage you to ask questions about homework at the start of class, or in office hours; please understand that sometimes I may not fully answer your question because I am expecting you to complete the problem on your own. Help will also be available at the **Math Lab** in the library; hours of operation will be announced.

Attendance Policy and Makeups After the first week or so, roll will not be taken; however, *each student, whether present or not, is responsible for all assignments and material covered in class.*

If you are absent on a test day, you will need to go to the Associate Dean of Students (67 George St.) for an official excuse. (For students absent due to College-sponsored events, a memo from the faculty or staff member responsible will suffice.) With a valid excuse, your final exam grade will be substituted for the missed test. *Students who miss one test or fail to attempt three assignments (without a valid excuse) may be dropped from the class with a grade of WA.*

WebAssign Information You can "self-enroll" at www.webassign.com using the class key **cofc 6223 6010** (11am MWF section) or **cofc 4072 0633** (1pm MWF section). To ensure access to the system after 2 weeks, you will need to enter an **access code** obtained from your textbook (if your package is new) or by purchasing online after you log in to WebAssign.

Guidelines for Classroom Conduct (as published by the President's Advisory Committee)

- Turn off cell phones and all other electronic devices; do not text during class!
- Leaving class for short periods of time on a regular basis is rude and disruptive. If you absolutely must leave during class, please do so in a way that does not disturb the professor or other students.
- It is rude and unacceptable to talk while the professor (or another student who has the floor) is talking.

Date	Section
8/26	1.5
8/27	1.6
8/28	2.1
8/31	2.2
9/2	2.3
9/3	Lab
9/4	2.4
9/7	2.5
9/9	2.6
9/10	2.7
9/11	2.8
9/14	3.1
9/16	review
9/17	Test 1
9/18	3.1
9/21	3.2
9/23	3.3
9/24	Lab
9/25	3.4
9/28	3.5
9/30	3.6
10/1	Lab
10/2	3.7
10/5	3.9
10/7	3.9
10/8	Lab
10/9	3.1
10/12	4.1
10/14	review
10/15	Test 2
10/16	4.1/4.2
10/21	4.2
10/22	Lab
10/23	4.3
10/26	4.4
10/28	4.4
10/29	Lab
10/30	4.5
11/2	4.7
11/4	4.7
11/5	Lab
11/6	4.8
11/9	4.9
11/11	review
11/12	Test 3
11/13	5.1
11/16	5.1/5.2
11/18	5.2
11/19	Lab
11/20	5.3
11/23	5.4
11/30	5.4
12/2	5.5
12/3	Lab
12/4	5.5
12/7	review

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General Education Student Learning Outcomes

Students are expected to display a thorough understanding of the topics covered. In particular, upon completion of the course, students will be able to

- (1) model phenomena in mathematical terms,
- (2) solve problems using these models, and
- (3) demonstrate an understanding of the supporting theory behind the models apart from any particular application. These outcomes will be assessed on the final exam.

Course-Specific Learning Outcomes

By the end of the course, students should be able to

- Calculate a wide variety of limits, including derivatives using the limit definition, and limits computed using l'Hôpital's rule;
- Demonstrate understanding of the main theorems of one-variable calculus (including the Intermediate and Mean Value Theorems, and the Fundamental Theorem of Calculus) by using them to answer questions;
- Compute derivatives of functions with formulas involving elementary polynomial, rational, trigonometric, inverse trigonometric, exponential and logarithmic functions;
- Use information about the derivative(s) or antiderivative of a function (in graphical or symbolic form) to understand a function's behavior and sketch its graph;
- Construct models and use them to solve related rates and optimization problems;
- Recognize functions defined by integrals and find their derivatives;
- Approximate the values of integrals geometrically or by using Riemann sums;
- Evaluate integrals by finding simple antiderivatives and by applying the method of substitution.

These outcomes will be assessed on homework, tests and the final exam.