

MATH 7383, Section 1 — Fall, 2018

Th 4:30 - 6:30 p.m., Dunn Hall 109

Instructor: Dr. Ben McCarty

Office: DH 345

Email: bmmccrt1@memphis.edu

Office hours: 2:30 - 3:30 M Th (or appointment)

Prerequisites: Permission of Instructor.

Goals: This course focuses on the content knowledge needed to teach Calculus 1 at the high school or undergraduate level. In particular we will explore the ideas of limits, derivatives, and integration, from the perspective of the teacher.

Texts: *Calculus 8E: Early Transcendentals*, by James Stewart, with WebAssign access. My suggestion will be to buy the WebAssign access, which comes with an ebook, at a discounted rate. You will need the course access code *memphis 0776 5149*.

IMPORTANT! Webassign will be used for the two follow-up courses as well. To save money, be sure to buy the multi-term license, not the single-term license.

This is *the* standard calculus textbook at many universities, and WebAssign is commonly used for online homework. So it is hoped that some familiarity with this text and this software package will be of use to you in the future.

Expectations: As you know, our course consists of 2 hours in class, and 2 hours of online instruction. My goal with the in class instruction is to get y'all involved each week, solving problems, and discussing solutions/ideas. Mathematics is largely learned by doing. With that in mind, classes will proceed with me introducing concepts/ideas, and you working problems individually and/or in groups. My goal is for you, the students, to solve most of the problems, produce examples, and take ownership of this material. You will be expected to present solutions to your peers, and critique the solutions presented by your peers. Part of the goal here is to practice teaching, to anticipate points of student confusion, and to improve our teaching.

While we will essentially cover chapters 2-5 of the textbook, we will not precisely follow the textbook's presentation of the material. This means that you will need to take complete notes, and that attendance is important. Your notes should include any definitions, theorems and examples presented in class, as well as example problems worked out and presented by you or your fellow classmates along the way.

Some homework will be assigned in WebAssign each week. This will serve as a review of the types of problems students are expected to solve, as well as familiarize you with the software your students may be expected to use. In addition to the WebAssign homework, some additional content will be assigned through eCourseware. Each week I will post a few questions for you to solve and discuss online. For example, you may be asked to study the textbook's presentation of a particular topic and answer questions, explain a concept, present a teacher solution to a problem, or create a teaching sequence. In many cases, you will be required to post your own solution, and to provide feedback on the solutions of your peers. In all cases discussion is encouraged. You should come to class prepared to discuss and critique your solutions.

Grading Policy: Grades will be based on your in-class and online presentations and participation, graded homework, and 2 take-home exams. The homework will consist of both WebAssign grades, and your solutions/critiques for problems posted on eCourseware.

Grade Breakdown:

40 %	2 Exams
50 %	Homework
10 %	Class Presentations

The grading scale (rounded to the nearest whole number) is straightforward:

90% – 100%	: A	80% – 89%	: B
70% – 79%	: C	60% – 69%	: D
0% – 59%	: F		

Other Miscellany: I will send out email emails from time to time with announcements and/or supplemental materials. Be sure that you check your Memphis email regularly (or have it forwarded to your preferred email address) and to regularly check eCourseware and WebAssign.

I have no objection to the use of calculators, where appropriate, and we will at times make use of them, along with other software. A TI-83 or better may be helpful, but is not required.

Important dates: For holidays/university closures, see
<http://www.memphis.edu/registrar/calendars/academic/ay1617.php>