

INSTRUCTOR Edwin O'Shea / Roop 323 / osheaem@jmu.edu / www.educ.jmu.edu/~osheaem

CLASS TIMES

Section 1: MWF 10.10-11.00 and Th 09.30-10.45 in Roop 213.

Section 3: MWF 11.15-12.05 and TH 11.00-12.15 in Roop 213.

OFFICE HOURS

MWF 9.35-9.55 and 1.50-2.15 in Roop 323, or by appointment. I will also come to class 15 minutes before the starting time, in order to discuss questions or problems you may have.

REQUIRED TEXTS AND MATERIALS.

Calculus by Kohn and Taalman is required. There will also be some excerpts of other texts posted on the course website or handed out in class that are required reading.

COURSE OBJECTIVES AND TOPICS.

Math 235 intends to provide a first proper insight into one of the great achievements of humankind, the Calculus. This course will be an introduction to differential and integral calculus of functions of one variable, culminating with the "Fundamental Theorem of Calculus" which says (and says why) that differentiation and integration are inverses of one another in a well defined sense.

This class will involve some computation, similar to what many of you did in high school in courses like algebra, trigonometry and pre-calculus but it will emphasise understanding and motivation over said computation and tricks. We will explore both the theory and applications of the calculus while simultaneously developing the necessary understanding of functions to enable us to understand this theory and its applications.

We will cover Chapters 0 through 4 of the text. The topics to be covered are summarised at the end of this syllabus. Like the effect of reading great pieces of literature, I hope that you will begin to see the world a little differently after taking this course.

Furthermore, since this course also satisfies a general education requirement then, like other general education classes, it should be thought of as being similar to one in the humanities in so far as you are very much expected to *come to class with the reading being reflected upon and critiqued*.

BROAD EXPECTATIONS

I expect to be in a position to give everyone in this class a minimum grade of a C- or higher. I do not curve. In return, what I expect from you is to be working hard and thinking deeply about this class. If you have AP/BC Calculus credit, with its emphasis being mostly on computational tricks then congratulations but you should consider such credit as being far from equivalent to doing well in this class.

It is a good idea to drop the class if you can't place these expectations on yourself, or if you think that the instructor is the one who is primarily responsible for your education. Drop now and go enjoy the rest of this semester. I have a deep reservoir of kindness and support for hard working students, a lot less so for anyone who is not making an honest attempt at doing the reading and the homework.

Forgive me for repeating myself but it's worth repeating again and again: Coming to class without working and thinking hard about the problems and without a first sincere reflection on the assigned reading is a recipe for being completely lost in class (in utilitarian terms, that means spending your semester in that hinterland between course grades D and F) and getting very little out of the course as a whole.

This class is required for many STEM fields but it is not going to be an applications to biology or engineering class; it will be a proper university-level mathematics class where we will study the calculus because we like it, or because we want to like it and are going to work hard to do so. It so happens that the tools acquired are extremely helpful for the sciences and engineering but that is not our primary focus.

Please drop if you are incapable, as a matter of basic courtesy and respect, of turning off your phone while in class. Once you come through the doors of Roop 213 you can talk as loud as you want but only if it is about mathematics. Every other reason is a bad reason to drop. Thinking that you are not good at mathematics is the top bad reason to drop.

QUIZZES

There will be a short quiz every MWF, based on the reading that was assigned from the previous class. MWF will constitute discussion, mostly the instructor at the board leading the discussion from the reading. Thursday will be group work for the first 50 minutes and will finish with a twenty minute quiz that covers all material from the past week. **The small daily quizzes will constitute 10% of your grade. There are no makeups for the daily quiz. The Thursday quizzes will have two questions – see below for how these quizzes are weighted.**

CLASS PARTICIPATION + NOSE-POINTS.

Class participation is very welcome. Participation does not mean that you have the “right answer” but rather you have contributed something true and relevant to the discussion at hand. When I tap my nose while looking at you, it means you get a “nose-point” for participation. On the Thursday quiz, there will be a box where you can record the number of nose points you have for that week. **Class participation carries 5% of the total grade and will be added at the end of the semester.** Excellent and consistent participation scores a 5/5, decent participation scores 4/5, regular attendance with a small number of contributions scores 3/5.

IN CLASS TESTS

There will be two in class tests (March 5 and April 23). **I reserve the right to push back the dates of these tests.** There are no makeups but there are especially no makeups for the pre-Spring Break test. **In Class Tests plus Thursday quizzes are worth a total of 55% of the total grade.**

FINAL EXAM

The final exam will be a written exam held on May 4 in Roop 213. Section 1 is from 8:00-10:00 and Section 3 is at 10:30-12:30. **The final written exam is worth a total of 30% of the total grade.**

I have a strong tendency (and a long history) to forgive all past misdeeds with a strong final exam. For example, if you have a C- grade average after the final exam (according to the scores above) but if your final exam grade is a B- then you will get a B-. If you have a B- grade average after the final exam but if your final exam grade was a C- then you still get a B-. This benefit of the doubt does NOT apply

to someone who consistently misses class or who have missed a number of exams. Your attendance will not be officially recorded but if you are on the border between two grades your attendance, participation, improvement and notebook keeping over the semester may be taken into account.

ASSESSMENT RUBRIC

As already stated above 5% of the grade is for class participation, 10% for MWF quizzes, 55% for Thursday + Tests, and 30% for the final exam. I have the freedom (but not the obligation) to raise a grade if the final exam is especially strong. Let me explain how the Thursday+Tests grade works:

Thursday Quiz and Tests will contain questions. Questions will be graded on an **A/B/C/D** scale.

A: Excellent and complete solution/argument with the smallest of gaps allowed.

B: A decent, close to complete argument that nonetheless would need one major hint to complete or two minor ones. Questions acheiving this grade should be re-read carefully with the holes filled in.

C: Proposed argument contains something that is true and relevant. Can also be given to arguments that have serious errors and are not easily fixed.

D: Argument might contain a thread of something that is true and relevant, or be little more than the student's name on the page and/or scribbles.

HOW TO GET A SENSE OF YOUR GRADE FROM THE THURSDAY QUIZZES AND TESTS?

Almost all questions carry equal weight. Occasionally, some test questions might be weighted more. For example, a challenging and/or necessarily long question might be weight double. To get a sense of your overall grade give yourself 5 for every A, 4 for every B, 3 for every C, 2 for every D, 0 for every missed/absent assignment. Compute your average, being sure to count tests and class days missed. Try to account too for the participation points.

At the end of the semester, if your cumulative average is 4.5 or above then you are guaranteed an A, equal or above 3.6 but less than 4.5 then you are guaranteed a B, equal or above 2.7 but less than 3.6 is guaranteed a C, and a D is between 2.0 and 2.6. Plus/minus grades will be assigned accordingly.

FIRST WEEK ATTENDANCE POLICY

At the instructor's discretion, any student registered for a class in the Department of Mathematics and Statistics who does not attend at least one of the first two scheduled meetings of the class (or does not attend the first scheduled meeting of a class that meets once a week) **MAY** be administratively dropped from the class. Students will be notified by e-mail if they will be dropped. Students who fail to attend should not assume they will be administratively dropped by their instructor; it is the students responsibility to drop the course on their own or they will receive a grade at the end of the semester. All students are responsible for verifying the accuracy of their schedules and changes made in their schedules.

GENERAL JMU POLICY

Go to www.jmu.edu/syllabus for university wide policies on Attendance, Academic Honesty and Safe-Assign, Adding/Dropping Courses, Disability Accommodations, Inclement Weather and Religious Accommodations.