MTH 311 ADVANCED CALCULUS - Winter 2018

Class Meetings MWF 11:00-11:50am in BEXL 320, W 10:00-10:50am in BEXL 328

Instructor Elaine Cozzi
- Office: KIDD 292
- E-mail: cozzie@math.oregonstate.edu
- Phone: 737-4175
- Office Hours: Mon: 1-2 pm, Wed: 2-3 pm, Fri: 10-11 pm

Text Advanced Calculus, by Fitzpatrick

Course Webpage http://people.oregonstate.edu/~cozzie/MTH311W18.html
The first-day handout, homework assignments, and other course materials will be posted on the course webpage.

Course Content Topics include axiomatic properties of the real line, topology of the real line, convergence of sequences of real numbers, functions, limits of functions, basic properties of continuity and derivatives, and Riemann integration. These topics are covered in Chapters 1-4 and 6 of the text.

Prerequisites Completion of MTH 255 (or MTH 255H) and MTH 355. Both courses must be completed with a grade of C- or better.

Course Assessment Your overall grade will be determined by the following:
- Homework: 30%
- Short Quizzes (Class Participation): 10%
- Midterm Exam: 25%
- Final Exam: 35%

Homework Homework will usually be due on Fridays at the beginning of class, although you may occasionally have homework due on a Monday or Wednesday. You will have a total of eight homework assignments. You are strongly encouraged to discuss homework problems with your classmates outside of class; however, you must write up and submit your own work. Late homework will not be accepted under any circumstance. Your lowest homework grade will be dropped.

Exams There will be one in-class midterm and a final exam. The midterm is scheduled for Thursday, February 15, 6:30-8pm, location TBA. The final is cumulative and will be held on Monday, March 19, 6:00 PM - 7:50 PM.

Learning Outcomes Upon completing MTH 311, the successful student
is expected to be able to analyze and construct rigorous mathematical arguments using mathematical concepts including the following:

- the Archimedean principle
- the triangle inequality
- convergence and monotone convergence of real sequences
- sequential compactness
- continuous and uniformly continuous functions
- the Extreme Value and Intermediate Value Theorems
- the $\epsilon$-$\delta$ criterion for continuity and uniform continuity
- differentiating functions using convergence criteria
- Leibnitz notation
- Darboux sums and upper and lower integrals
- the First and Second Fundamental Theorems of Calculus

**Students with Disabilities** Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

**Academic Honesty** Students are expected to be familiar with Oregon State University’s Statement of Expectations for Student Conduct. Please review this statement at http://oregonstate.edu/admin/stucon/achon.htm