Math 315-001 (Advanced Calculus I)
Fall 2018

- **Instructor:** Tyrus Berry, tberry@gmu.edu, http://math.gmu.edu/~berry/
- **Office:** Exploratory Hall, room 4452
- **Office hours:** TR 2:00pm-3:30pm, and by appointment.
- **LA Office hours:** MW 10:30am-12:00pm, T 11am-12pm
- **Course Website:** Blackboard, https://mymasonportal.gmu.edu/
- **Book:** Leonard F. Richardson, Advanced Calculus: An Introduction to Linear Analysis
- **Topics:** The course will cover portions of Chapters 1-5 of the text.
- **Classroom:** James Buchanan Hall, Room D005

1 General Comments

The goal of this course is to introduce the student to the arguments and techniques that are used in modern analysis, and in particular will help the student develop a facility with the limiting processes that occur regularly throughout mathematics. In addition the course reinforces the theory of differentiation and integration learned previously and places it on a more mathematically rigorous foundation. Finally the course provides a mathematically rigorous foundation for solving problems in more advanced applied mathematics including numerical analysis, differential equations, and functional analysis.

The prerequisite for this course is C or better in Math 213 and Math 290. The student is expected to be familiar with the basic rules of logic and of mathematical proof including universal and existential quantifiers, negation, and mathematical induction. The student is also expected to be familiar with the notion of function and equivalence relation, and with the basic properties of sets.

2 Grading

Grades will be based on:

- **Bi-weekly Homework:** 50%
  - **Homework should be submitted online via Blackboard in PDF format.**
  - Homework will be accepted late for up to $\frac{1}{2}$ credit and lowest grade will be dropped.
- **Cumulative Exams:** 50%
  - Midterm 1: Oct. 2nd (tentative), 15%
  - Midterm 2: Nov. 6th (tentative), 15%
  - Final Exam: Dec. 13th, 10:30am-1:15pm, 20%
- **Corrections:** All the above (except final exam) can be resubmitted for up to $\frac{1}{2}$ of missed credit.