

Math 316: Advanced Calculus II

Spring 2019

- **Instructor:** Tyrus Berry, tberry@gmu.edu, <http://math.gmu.edu/~berry/>
- **Office:** Exploratory Hall, room 4452
- **Office hours:** MW 10:30am-12:00, and by appointment.
- **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 5 and 8-11 of the text.
- **Classroom:** Peterson Hall, Room 1109

1 General Comments

This course is a continuation of Math 315, Advanced Calculus I. The overall goals of the course remain the same: 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. In particular, this course focuses on differentiation and integration in higher dimensions. 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 315. The student is expected to be familiar with the material in Chapters 1-4 of Richardson (or equivalent, subject to instructor permission).

2 Grading

Grades will be based on:

- **Weekly Homework (Due Tuesdays):** 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%
 - Weekly Quizzes (Each Thursday): 30%
 - Final Exam: May. 14th, 10:30am-1:15pm, 20%
- **Corrections:** Quizzes can be resubmitted for up to $\frac{1}{2}$ of missed credit.