Math 316–001 (Advanced Calculus II)
Spring 2020

Instructor: David Walnut
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email: `dwalnut@gmu.edu`
Office hours: TR 10:00am–11:30am and by appointment.
Text: Leonard F. Richardson, *Advanced Calculus: An Introduction to Linear Analysis*
Topics: The course will cover portions of Chapters 5, 8–11 of Richardson. Other topics will be covered if time permits.

General Comments:

   This course is a continuation of Math 315, Advanced Calculus I. The overall goals of the course remain the same, viz. 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. 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. You are required to be familiar with the mathematical typesetting software LaTeX though any other flavor of TeX that you are familiar with is also fine. All written assignments are to be prepared in LaTeX More details on this are below. Finally please read (and re-read) the textbook's Introduction on p. xxi–xxv.

   A BlackBoard page will be set up for this course. This page will contain announcements, handouts, solutions to exams, class notes, and other important information. You should check BlackBoard regularly to avail yourself of these helpful resources.

Grading:

Written Assignments: Regular written homework assignments will be made throughout the semester, about once per week. Precise assignments and due dates will given on BlackBoard.
   The student should be aware of the following regarding homework sets:

- No late assignments will be accepted for any reason.

- All assignments are to be typed using TeX or LaTeX and submitted to me electronically through BlackBoard as a .pdf file. Homeworks prepared in any other way or submitted in any other file format will not be accepted.

- The name of the .pdf file that you submit will follow the following format: `LastName-HWnumber.pdf`. So for example: `Jones-HW04.pdf`.

- Your name must appear in the text of the homework assignment write-up. A template for what I want the homework write-ups to look like will be posted on Blackboard.

If any of the above requirements are not met, your homework assignment will not be accepted. What follows is useful advice for the written assignments.

- Collaboration is permitted on the writing assignments, but the final write up must be your own. You must demonstrate to me in your written proofs that you substantially understand the problem and what you are writing. If you are just copying someone else's solution, I will know.

- It is wise to start any homework assignment early. If you try to solve a problem and get stuck, please come to my office hours or contact me by email to ask for a hint. I am very liberal with hints.

- If a problem has resisted all your attempts to solve it, please do not try to bluff your way through in your homework writeup. It is much better to give a partial solution and describe where you got stuck.

Your lowest three scores on your written assignments will be dropped. The average of your remaining written homework assignment scores will count for 70% of your final grade.

Midterm and Final Exam: A midterm exam will be given on Thursday, March 5, 2020. The exam will take the full class period. A makeup for this exam will not be given except in cases of extreme hardship and then only when I have been contacted **in advance.** A final exam will be given on Thursday, May 7, 2020, 10:30am-1:15pm in the same room where we have class. The final exam will not be cumulative. Your score on each exam will count for 15% of your final grade.

The grading scale is as follows, and is based on your correctly rounded semester average. There will be no curve.

A+:	**99 +;**	**A:**	**92 - 98;**	**A-:**	**90 - 91;**
B+:	**88 - 89;**	**B:**	**82 - 87;**	**B-:**	**80 - 81;**
C+:	**78 - 79;**	**C:**	**72 - 77;**	**C-:**	**70 - 71;**
		D:	**60 - 69;**		
		F:	**0 - 59.**		