Math 236 – Multivariable Calculus – Course Policies

PROFESSOR: Tommy Ratliff, Science Center 106b, x3968
EMAIL: tratliff@wheatoncollege.edu
WEBPAGE: http://www3.wheatoncollege.edu/tratliff/
OFFICE HOURS: Posted on webpage
And by appointment (Really!)
TEXT: *Multivariable Calculus, Early Transcendental Functions, Third Edition* by Smith and Minton

Overview

This course is a continuation of the topics covered in Calculus I and Calculus II. As you may expect, in Multivariable Calculus we'll be studying functions of more than one variable which will allow us to model surfaces, curves, and situations in 3-space (and higher dimensions!) This will make our models not only much more realistic, but also more complicated, and much more interesting, at the same time. The specific topics we'll cover are listed on the syllabus on the course webpage.

Course Goals and Expectations

A primary goal of this course is to help your development from being a *consumer* of mathematics to being a *producer* of mathematics. In other words, you should be able to apply the mathematical concepts and techniques that you have learned to problems that are not identical to ones you have seen before. In particular, you will not always have a template for how to approach a problem, especially on the takehome exams and projects. Instead, you will need to pull together ideas from different areas to solve a new type of problem. You will almost certainly have to try multiple approaches, including some dead ends, before finding one that works for you. There will often be multiple ways to tackle a problem, so you won't know what method will work until you try! This can be frustrating at times, but it is also a problem-solving skill that will be useful to you well beyond this semester.

Two of the important skills we will emphasize in this course are that you learn to read a math text and that you learn to communicate mathematics with other students. Mathematics is a very personal discipline that is best learned by *doing* rather than by observing. Therefore, the class will be structured with some lectures to emphasize particular topics, but there will also be a significant amount of time spent on inclass work. You will have a reading assignment for nearly every class meeting, and it is **extremely** important that you complete the reading before the next class meeting. The class meetings are not intended to be a complete encapsulation of the course material, but instead will focus on the major concepts from the reading and clarify the more subtle concepts.

In general,

You should expect to put in approximately 3 hours outside of class for each hour in class.

There will be some weeks where you spend more time (e.g. working on projects or preparing for exams), and there may be some weeks where you do not spend the full 9 hours.

The Honor Code

We are operating under the Honor Code for all of your academic work while you are at Wheaton. I take this quite seriously. This carries freedoms and responsibilities for both you as students and me as the professor. The best approach is to avoid any situation where there is a temptation to violate the Honor Code. Or if you find yourself in such a position, you should remove yourself from it.

Remember that you should write out, and sign, the following statement on all course work:

> "I have abided by the Wheaton College Honor Code in this work."

Evaluation

The assignments for the semester fall into three broad groups: Exams, Projects, and Daily/Weekly Assignments. Your final grade will be determined by

Two Exams	33%
Comprehensive Final Exam	17%
Three Projects	20%
Problem Sets	15%
WebWork Assignments	10%
Reading Assignments	5%

Exams

On each of the two exams, there will be an inclass portion worth 15–20% of the exam and a more substantial takehome part comprising the remainder. The Final Exam will be comprehensive and most likely will be entirely takehome. See the syllabus on the course webpage for the dates of the exams.

Projects

There will be two group projects and one individual project assigned during the semester. You will have one class period to work together on each group project, and your written report will be due a week or so later. See the syllabus on the course webpage for specific dates.

One of the main goals of the projects is that you learn to communicate mathematics *precisely*, both verbally with your group and in writing. The reports should be written in complete sentences explaining the results and major ideas involved. You may divide the writing of the report in whatever way is agreeable to the group, but everyone should completely understand the whole of the paper. Further, each member should proofread the entire paper for consistency and typos. I will give you a handout that explains my expectations for the written reports in more detail.

Daily/Weekly Assignments

- **Reading Assignments:** The purpose of reading the text *before* class is that if you are familiar with the basic concepts and definitions, then the class meetings can be devoted to the major ideas and subtleties of the material. Mathematical understanding is built in stages, and you will absorb the material more quickly if the class meetings are your *second* exposure to the fundamental ideas.

  The reading assignments are posted on the course webpage and include two or three basic questions that you should be able to answer after you have read the section. You will submit your responses through Wheaton onCourse. See the *Suggestions for Reading a Math Book* on the course webpage for more information.

- **WebWork Assignments:** WebWork is an online system that gives you immediate feedback on whether or not you have answered the problem correctly. The WebWork problems are primarily computational in nature. You will have a WebWork assignment due most Mondays during the semester.

- **Problem Sets:** You will also have a Problem Set due most Fridays that consists of problems from the textbook that are more conceptual and require more explanation. These problems should be well-written and well-justified. See the *Guidelines for Solutions to Problem Sets* on the course webpage for more information on the expectations for the Problem Sets.

  The Problem Sets will vary between Individual assignments and Group assignments. For the Group assignments, each group will turn in one paper. For the Individual assignments, I encourage you to discuss the assignment with other students, but you must turn in a separate paper that represents your own work. If you do work with someone else on an assignment, you should indicate that in a note on the top of your paper.

Working with Other Students

For the group assignments during the semester, you will work in groups of two or three (of your choosing). Each assignment will receive a grade, and the group will determine how the points are allocated to each member. For example, if a group of three receives an 85 on an assignment, then the group will have $3 \times 85 = 255$ points to distribute among them. I will be available to mediate this process, if necessary.

Class Attendance

Although class attendance is not a specified percentage of your grade, I will keep a class roll to help me determine borderline grades at the end of the semester. If you do miss class, you are responsible for the material that was covered.

Accommodations for Disabilities

In compliance with the Wheaton College policy and equal access laws, Dean Wilhelm is available to discuss appropriate accommodations that may be recommended for students with disabilities. Requests for accommodations are to be made during the first two weeks of the semester so that timely and appropriate arrangements can be made.

Students are required to register with Denyse Wilhelm, Assistant Dean of Academic Resources and Disability Services, ADA/504 Coordinator, whose office is located in Kollett Hall, first floor at the Filene Center for Academic Advising and Career Services. Contact ext. 8215 to schedule an appointment, or email Dean Wilhelm at wilhelm_denyse@wheatoncollege.edu.

Getting Help

Please come see me during my office hours! If you have a conflict and cannot make my office hours, please call or email me and we can set up an appointment for another time. You should also take advantage of the tutoring hours in the Kollett Center.