Syllabus

General Info

Course MAT221 Calculus III
Instructor Charilaos Skiadas (skiadas at hanover dot edu)
Term Winter 2015-2016
Office SCH 121C
Office Hours MW 2pm-4pm, R 2pm-3pm, and by appointment.
Book *Calculus*, 3rd ed, by Jon Rogawski
Websites for notes[1], for quizzes[2].
Class times MWRF 12pm-1pm in SCH102.

Course Description

Calculus 3 is the third part of our Calculus sequence. It contains fundamentally two parts. The first part is the concept of *infinite series*, where we explore the concept of adding infinitely many numbers and yet reaching a finite result. This also leads to a powerful form of function representation, that of *power series*. The second part of the course extends Calculus concepts to multiple variables. This includes looking at vectors and vector-valued functions, as well as functions of multiple variables, and their partial derivatives and double integrals. We will also spend some time discussing optimization problems in multiple dimensions, a complex and fascinating subject.

By the end of this course:

- You will a solid understanding of the theory behind infinite series and power series, and the general concept of adding infinitely many numbers together.
- You will be comfortable describing geometric concepts on the plane and space using vectors and vector-based equations.
- You will have learned about the tools used in the calculus of functions of multiple variables, and how to approach questions regarding functions of multiple variables.
- You will know how to approach optimization problems in multiple variables.

Course Components

Reading Notes and Practice Problems

On the website you will find a schedule[3] with links to documents for each class day. In those documents you will find notes for the day's lesson, a reading assignment, and

---

[1] skiadas.github.io/Calc3Course/site/
[2] https://moodle.hanover.edu/course/view.php?id=1480
[3] http://skiadas.github.io/Calc3Course/site/schedule.html

a list of practice problems. You should work on those practice problems, and ask any questions you have about them. You do not have to turn the problems in.

Class Attendance

You are expected to attend every class meeting, including labs. You are only allowed to miss 3 classes without excuse. From that point on, every unexcused absence will result in a reduction of your final score by one percentage point, up to a total of 5 points. Excused absences should be arranged in advance, and backed by appropriate documentation. Emergencies will be dealt with on an individual basis. There are very few reasons that would qualify as an excuse for an absence.

Homework Assignments

There will be regular homework assignments about once per week. There will also be a list of problems that you are expected to solve but not turn in. Questions on the exams tend to be similar to the homework problems, so it is to your advantage to really *understand* the homework, and not merely "do it" or copy it just to get it turned in. Homework assignments are 15% of your final grade.

There will also be online quizzes in Moodle that will give you an opportunity to review/test your knowledge of the theory. Quizzes will be 5% of your final grade.

Exams

There will be two midterms, on Friday, February 12th and Friday, March 18th, and a final/3rd midterm during finals week. **You have to be here for the exams**. If you have conflicts with these days, let me know as soon as possible. Do not plan your vacation before you are aware of the finals schedule. In terms of your final grade, the exams you did better on will weigh more.

Getting Help

- You should never hesitate to ask me questions. I will never think any less of anyone for asking a question. Stop by my office hours or just email me your question, which has the great benefit of forcing you to write it down in clear terms, which often helps you understand it better.
- You are allowed, and in fact encouraged, to work together and help each other regarding the notes and the practice problems. However, I strongly encourage you to try the problems out on your own first before talking to someone about them.
- You may discuss homework problems with others, but only after you have spent some time trying them on your own. And in any event the submitted work must be your own! So even though you may talk to others about the problem, when you sit down to write the answers you should be on your own.

Grading

Your final grade depends on class attendance, homework, project, midterms and the final, as follows:

Component	Percent
Attendance	5%
Homework	20%
Worst Midterm	20%
Middle Midterm	25%
Best Midterm	30%

This gives a number up to 100, which is then converted to a letter grade based roughly on the following correspondence:

Letter grade	Percentage Range
A, A-	90%-100%
B+, B, B-	80%-90%
C+, C, C-	70%-80%
D+, D, D-	60%-70%
F	0%-60%