# Syllabus

Math 222 Spring '19

Text: Calculus (Multivariable Calculus), 8th edition by Stewart

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Office Hours: M 2:00 – 2:50, T 11:00-11:50, W 12:00 – 12:50, F 10:00 – 10:50

or by appointment (or whenever I'm in... just stop by!)

Class times & room: Section 1: MTWF 9:00 – 9:50 pm in SCI A225

Section 1: MTWF 1:00 – 1:50 pm in SCI A225

## Mathematics-specific Learning Objectives

- Whick effectively in different coordinate systems, particularly in three dimensions
- Apply known calculus techniques in a multivariate environment
- Present and communicate calculus ideas effectively to others
- Work in small groups to answer mathematical problems

## Critical Thinking Learning Objectives

This course is part of a pilot program that focuses on the development of critical thinking skills across the disciplines. In mathematics, critical thinking helps us identify mathematical problems, transform them into solvable problems, and solve them using appropriate techniques. The pilot adds the following learning outcomes to the course:

- Recognize critical thinking as a process of identifying, evaluating and constructing mathematical reasoning in deciding what conclusions to draw or what techniques to apply
- Recognize that practice and persistence are critical to developing and strengthening mathematical ability
- Domonstrate persistence in mastering mathematical concepts and techniques

### Calculators

A graphing calculator will be required for this course. If you are going to purchase a calculator for this course, a good one might be one from the TI-8x series. All calculators are slightly different. Be sure that you have a manual (many manuals are available online).

The computer software *Mathematica* will be used extensively in this course, so you will occarionally need to go to the computer lab to do at portions of your assignments. The program is not very user-friendly, but it can do amazing things.

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### Grading

Grading will be based on an overall percentage score, using the following scale: 90%+ A- or better 80%-89.9% B-, B or B+ 70%-79.9% C-, C or C+ 60%-69.9% D-, D or D+

I reserve the right to adjust the final percentage +/- up to about 2%, based on my assessment of your effort and/or participation in the class and course in general.

To get your overall score, you will be graded on the following:

Participation/Daily (in class) Homework 1/7\*
"Quizzes" (best ten) 1/7\*
Class Presentations/Critical Thinking Articles 1/7\*
5 total exams (counting final) 5/7\*
Total 100%

Note: you cannot simply add your points together for each activity – a homework point and an exam point, for example, are not worth the same part of your grade.

\*Also note: there are 8 scores total, but only 7 count towards your grade. I will drop your lowest one. This means 1) you can bomb one test and still do fine in the class, or 2) if you are happy with your grade on the last day of class, you can skip the final (and reward for consistently good work).

#### "Ouizzes"

There are 11 Quizzes, most of them on Fridays. The word quiz is in quotes because these are *really* homework assignments. You will know ahead of time what problems will be on the quiz – they are on the homework sheet handout. Quizzes are open notes (but closed book), so if you do the quiz problems ahead of time you can simply write the work and answers down - not much stress or worry. On the other hand, if you *don't* do these problems ahead of time, the problems will be much more challenging. Quizzes will typically be ten minutes in length, so there isn't a lot of time to work them out on quiz day.

#### Daily Homework

Additionally, there will be one or possibly two homework problems to do below class most class days. These are prep questions, exercises chosen to prepare you for the day's material. You can compare your work with your classmates—and classmates—a help you—but you must turn in your own written solutions to the problems.

Participation

People learn more from doing something than from watching an instructor talk about it. To that end, most days will have class work — either worksheets (to do singly or in groups), or class discussions on the topics of the day. You are expected to be in class and participate in the day's activities. This is part of your grade! This means two things: if you skip class your grade will tend to suffer, but if you come to class and try hard, your grade will be better for it.

Presentations

Along these lines, you will also be expected to *present solutions* to a few problems during the semester. These problems will be given on a handout; there will be a D2L discussion board set up for problem requests. There are NINE days scheduled for presentations throughout the semester; additionally, there are presentation options in the last needs of class (and possibly room for one presentation on certain other class days). All told, you will be expected to present about four or five times in the semester – but also see the poxytopic.

Critical Thinking Articles

As part of this course you will need to read/watch certain articles on the development of critical thinking. You will need to do at least one article; articles beyond the next will lower the number of presentations you need to do in class. More details will follow in a few days.

Exams

There will be five exams and a cumulative final, marked on the schedule, below. Note that the actual dates of the exams may vary slightly.

Extra Credit

Proportion. If you post a question or an answer to a question on this board, you will receive entra credit (max +1 point per week can be earned). Your SUBJECT LINE should include a restatement (full or partial) eithe problem. This way, other students will be able to read and learn from the positions. To be eligible for the extra credit, your posting must have content — a posting such as "I agree" or "That doesn't seem right" does not earn any extra credit on how work.

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## Discussion Boards

There will be discussion boards set up for this course, via D2L. There will be two discussion board areas:

- 1) Boards for homework problems are <u>optional</u> and can earn you extra credit. These boards will be available to every student in the section.
- 2) General discussion boards are <u>optional</u> and offer no grade benefit. They are set up to allow you to ask your professor questions, or to offer a place for discussions not about the material (e.g., organizing study sessions, complaints about the book, etc.). These boards will be available to every student in the section.

All boards will be monitored after the fact. That is, you will post directly to the board, and I will monitor periodically throughout the week. Certain standards apply to posting at

- · Postings are never anonymous
- Postings <u>must not</u> contain inappropriate (foul, rude, hostile) language Violation of these rules may constitute academic misconduct (see below).

### Attendance:

You are expected to regularly attend class. When circumstances arise to prevent you from coming to class, you should let your instructor know (email is a great way to do so). Missing exams and/or paper deadlines will only be allowed in the most dire of circumstances and WILL require ACCEPTABLE DOCUMENTATION as to the reason for the absence.

## Academic Misconduct Policy

I expect you to complete the coursework for this course. Failure to complete an assignment will result in zero points awarded. Also see the following link:

http://www.uwsp.edu/admin/stuaffairs/rights/rightsChap14.pdf

## Student Rights and Responsibilities

You have certain rights and responsibilities. For more information, see the following link: http://www.uwsp.edu/admin/stuaffairs/rights/rightsCommBillRights.pdf