MATH 1A SECTION MP1 CRN 28069

This course covers the fundamentals of differential calculus.

Instructor: **Dr Zack Judson**

Modality: 80% Face to Face / 20%

Online Time: MTWTh 10:30-12:20 Room: G5

Drop In Hours: M 12:30-1:20 TTh 12:30-1:50 Room: G5

Email: judsonzack@fhda.edu

(Note: I will not answer Math questions over email)

Prerequisite: Precalculus or an equivalent course or placement

Text: "Calculus: Volume 1," Strang and Herman, OpenStax

Student Learning Outcomes

1. Analyze and synthesize the concepts of limits, continuity, and differentiation from a graphical, numerical, analytical and verbal approach, using correct notation and mathematical precision.
2. Evaluate the behavior of graphs in the context of limits, continuity and differentiability.
3. Recognize, diagnose, and decide on the appropriate method for solving applied real world problems in optimization, related rates and numerical approximation.

Grading Scale

Due to the complexity of the material the grading scale we will use is as follows:

A : 90−100 B+: 80−84 C+: 67−69 D : 50−59 F : 0−49
A−: 85−89 B : 75−79 C : 60−66
B− : 70−74

All grades will be computed using multiple measures. Students will receive the highest possible grade they achieve through these measures.

Accommodations

Those of you who need additional accommodations, due to disability, campus-related activities, or some other reason, please meet with me during the first two weeks of class to discuss your options.

Exams

Four exams will be given with no make-ups. Each exam will be worth 10% of your grade. If an exam is missed under circumstances and for a very valid reason, an alternative will be found.extreme

Final Exam

A two-hour comprehensive final exam will be given on Thursday, December 12, from 9:15 to 11:15. The final will represent 20% to 30% of your grade. (see quizzes below)

Quizzes

Quizzes will represent up to 10% of your grade. However, all points that are missed on quizzes will be replaced by your final. For example, if you average a 60% across all quizzes and then score a 75% on the final, you will earn back 75% of the points you had missed on quizzes so that your final quiz score will be a 90%. In this way quizzes are designed to be a place where you can make mistakes and learn from them.

As with your midterms, you are expected to do your own work on quizzes. However, unlike midterms, quizzes will be given asynchronously. On the day a quiz is assigned, you can click on the quiz at any time. The quizzes are designed to be completed in 30 minutes. You will have to answer the questions and upload a pdf of your solutions. You must upload your solutions before midnight. The best way to create a pdf of your work is to do the work by hand. Then take a picture of your work. You can convert your picture to a pdf using any number of free apps. Your first quiz will be a short informational quiz designed to make sure everyone knows how to create a pdf.

Due to the fact that all missed points are covered by the final, quizzes will only be graded if they are submitted as a single pdf through the CANVAS quiz.

As part of this online component to the class, there will also be a self-reflection after each of your quizzes. This will provide you the opportunity to think about your experience with the material assessed in the quiz. This will provide me with the ability to check and see if you have questions. For you, this means an easy 5 quiz points. For me, this means an opportunity to address any confusion you might be having.

Labs

A half dozen times throughout the quarter we will have lab assignments. The intention behind lab assignments is to encourage students to think more deeply about the material. For this reason, the labs often cover topics you haven't seen in the course. By the time each lab is assigned you will have learned all of the skills you need in order to complete the assignment.

These labs will be worked on in groups of three or four. You will need to work on them outside of class to complete them. Although every student must turn in their own lab assignment, you

will be graded as a group on the assignment. No late lab assignments will be accepted. Each Lab will be graded out of 100 points.

At least 3 days prior to the lab due date, we will have a lab check-in day. A rough draft of the lab must be submitted before midnight on the evening immediately preceding the Lab Check-In. The rough draft will be worth 10 points and will be graded solely based upon attempting all parts of the exam and asking meaningful questions about those parts you do not know how to do up to that point.

In addition, each Lab will have a Lab discussion worth 10 points where you will document your interactions with your group. This discussion will be graded both for the work you share with the group and for your responses to the posts of other group members. You are more than welcome (and even encouraged) to interact with your group in other ways; however, you need to make sure to document this interaction on your discussion board. This documentation needs to show what interactions are happening in your group. Bad example: "we met in zoom today and did the lab" Good example: attach a transcript of the meeting.

Labs will represent 10% of your grade. Your lowest aggregate lab score will be dropped.

Group Work

In my experience, every calculus class understands the lecture right up until the point they have to work through a problem. To help facilitate this process, we will often break into groups and work on problems and get our hands dirty. This work will take place in small groups at the whiteboards. You will be graded based on your active participation both while you are writing on the board and while others are doing the writing.

Group Work will account for 10% of your total grade.

Homework

As with all courses you are expected to put in at least 2 hours of work per unit per week outside of class. Some of this time will be spent on your labs and quizzes and preparing for exams. Other time will be spent learning and practicing the course material. The grade attached to this additional time is your homework.

The only way we can learn mathematics is by practicing mathematics. Each week you will be a problem set of 10 questions, many of these questions will have multiple parts. Each question will be graded out of 5 points.

It is best to think of the homework assignments I assign as minimal problem sets. Students are encouraged to go beyond them. It is recommended that you complete all homework problems from a particular section before we take the quiz covering those sections.

Homework will account for 10% of your grade.

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• Evaluate the behavior of graphs in the context of limits, continuity and differentiability.

• Recognize, diagnose, and decide on the appropriate method for solving applied real world problems in optimization, related rates and numerical approximation.

Office Hours:

M	12:30 PM	01:20 PM	In-Person	G5
T,TH	12:30 PM	01:50 PM	In-Person	