Syllabus for Integral Calculus-Spring 2020

Math 1B	Section 1	CRN 45429	**Math 1BH**	Section 1	CRN 46881
Instructor	Dr. Zack Judson		**Email**	judsonzack@fhda.edu	
Prerequisite	Math 1A or an equivalent course				

Required Materials

1) "Calculus Early Transcendentals, 8th Edition" by James Stewart
2) A calculator or apps capable of graphing and numerical integration

Office Hours

My office hours will be held Monday through Friday from 8:30 to 9:20 am. Due to our current status, these office hours will be held online. During this hour I will answer questions of a personal nature over email, and I will answer math questions on the office hour discussion board on Canvas. Please be aware that I will be monitoring 3 different discussion boards during this time, so it may take some time to cycle through your questions. When asking math questions, please be specific. **Do not just reference a problem number.**

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.

Homework

Homework will not be a part of your grade in this course. Some of you will read that sentence and have the mistaken impression that there will be no homework. The only way we can learn mathematics is by practicing mathematics. 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. Unfortunately, due to the amount of material we cover in this course we will rarely if ever have time to cover homework questions during class, so you are encouraged to ask homework questions you might have on the office hour discussion board.

Exams

This course will consist of 4 midterms, each of which will represent 10% of your grade. These exams will be taken synchronously, that is to say they will take place during our class meeting time. The midterm will become available at 7:20. You will have until 8:30 to upload a pdf of your solutions. Please note that only 50 minutes of this time are allotted for you to take the test, the rest of the time is to handle scanning and uploading your file. Your work on this exam should be your own. **All students with duplicated work will receive a zero on those questions.**

Quizzes

Quizzes will represent 20% 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. You will have 25 minutes to answer the questions and upload a pdf of your solutions. You must upload your solutions before 7:30am the following day. There are two exceptions to this, on the introductory quiz you will be given an unlimited number of attempts so that you can sort out how to scan and upload files and on the prerequisite quiz you will be given 70 minutes.

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. These labs will be worked on in groups of three or four. Labs will account for 10% of your total grade. Each member will submit their own lab which will be graded individually. In addition you will be graded on your communication in your lab group discussion board. For this portion you will be graded based on both your questions and your answers to the questions of others. For further information regarding the lab assignments please read the Lab Grading Policies later in this document.

Discussions

Again, the only way to learn math is to practice math. For this reason, after the first exam we will begin having discussions on an approximately weekly basis. In discussion we will work in groups on additional problems. Your work will be graded on participation and effort.

Final Exam

We are scheduled to take our exam on Monday, June 22 from 7am to 9am. Like our midterms the final will take place synchronously. The final will be made available at 6:45 am and you will have until 9:1 5 am to upload your solutions. Realistically you should upload your solutions by 9:00 am, the extra time is to help with technical delays.

Honors

If you are taking the honors section of this course you will be required to do two honors assignments. These honors assignments will replace your discussion grade.

Grading Scale

Due to the complexity of the material, I typically use a grading scale different than the traditional 70/80/90 scale that we have all grown up with. However, the emergency online nature of this course prevents me from predicting what that scale should be. Please rest assured that this course will be curved so as to appropriately reflect what you have learned.

Lab Grading Policies

Nobody makes it into a second quarter Calculus class without being exceptionally bright. For this reason, you may at some time in the past, have decided that it is easier to work alone than to work with others. This is unfortunate for two reasons:

1) The further you go in Math (or any other discipline) the more difficult the material becomes. If you go far enough, no matter how smart you are, you will reach a point that you cannot proceed without help.

2) Presumably the end result of your education will be to obtain a job that you enjoy and that will maintain you in a style in which you enjoy. Almost certainly this job will require you to work with others.

The labs we will cover in this class serve two purposes, they allow us to dig deeper into the fertile soil of the Calculus and they provide us the opportunity to develop our co-operative skills. Most of you, at some point after you transfer will take a class where a single group project might be worth as much as one of your midterms. It can be difficult to rely on others for such a large part of your grade. To ease you into these dynamics, your labs represent a relatively small part of your grade, each lab accounting for about 2%. Part of your grade for each of these labs will depend on the other members of your group.

General Grading: Each lab member is required to turn in their own lab report. Failure to turn in a lab report will result in a 0. There will be no late labs accepted. Although I will grade each lab member individually, I will also take into account the interactions between the group on the lab discussion board. For instance, if a lab mate asked a question about part IV that you did not answer and you have the correct answer for part IV that would constitute a failure on your part to communicate with the group, in particular if your lab mates do not have the correct answer for part IV.

Group Size: Groups must consist of three or four people. Groups must be declared on the day a lab is introduced. After the first lab you will have the opportunity to choose your own groups provided that everyone has the opportunity to join a group with at least 3 members. If this is not the case, I reserve the right to reform groups as needed. You may change lab groups with each lab, but you are not required to do so. All lab days are already on your calendar.

Important Dates

April 25	Last day to add a class
April 26	Last day to drop a class
May 8	Last day to request Pass/No Pass grading option
June 5	Last day to drop with a “W”

Tentative Schedule

Week 1

April 13	Introductions.	Introductory Quiz.	
April 14	Chapter 5.1		
April 15	Chapter 5.2		
April 16	Chapter 5.2	Lab 1 begins.	
April 17	Chapter 7.7	Prerequisite Quiz.	

Week 2

April 20	Chapter 7.7		
April 21	Chapter 6.1	Lab 1 due.	Lab 2 begins
April 22	Q & A	Quiz on Ch. 7.7	
April 23	Chapter 6.2		
April 24	Midterm 1		

Week 3

April 27	Chapter 6.2	Lab 2 due.	
April 28	Discussion 1		
April 29	Chapter 8.1	Quiz on Ch. 6.2	
April 30	Chapter 8.2		
May 1	Discussion 2	Lab 3 begins	

Week 4

May 4	Chapter 6.4	Quiz on Ch. 8.1-2	
May 5	Discussion 3		
May 6	Chapter 6.4		
May 7	Chapter 6.5	Lab 3 due.	
May 8	Q & A	Quiz on Ch. 6.4	

Week 5

May 11	Chapter 4.9		
May 12	Midterm 2		
May 13	Chapter 5.3	Lab 4 begins.	
May 14	Chapter 5.3		
May 15	Chapter 5.4		

Week 6

May 18	Chapter 5.5	Quiz on Ch. 5.3-4	
May 19	Chapter 7.1	Lab 4 due.	
May 20	Discussion 4		
May 21	Chapter 7.2		
May 22	Chapter 7.3	Quiz on Ch. 5.5, 7.1-2	

Week 7

May 25	Memorial Day	No Class
May 26	Discussion 5	
May 27	Chapter 7.4	
May 28	Discussion 6	Lab 5 begins.
May 29	Q & A	Quiz on Ch. 7.3-4

Week 8

June 1	Chapter 7.8	
June 2	Chapter 7.8	
June 3	Midterm 3	
June 4	Discussion 7	Lab 5 due.
June 5	Chapter 8.5	Quiz on Ch. 7.8

Week 9

June 8	Discussion 8	
June 9	Chapter 9.1	
June 10	Discussion 9	Quiz on Ch. 8.5
June 11	Chapter 9.2	Lab 6 begins.
June 12	Chapter 9.3	

Week 10

June 15	Chapter 9.3	Quiz on Ch. 9.1-2
June 16	Discussion 10	
June 17	Discussion 11	
June 18	Midterm 4	
June 19	Q & A	

Week 11

June 22	FINAL Monday	7:00-9:00 am

Student Learning Outcome(s):

*Analyze the definite integral from a graphical, numerical, analytical, and verbal approach, using correct notation and mathematical precision.
*Formulate and use the Fundamental Theorem of Calculus.
*Apply the definite integral in solving problems in analytical geometry and the sciences.