

Syllabus

Course Information

Course Description

In this course we treat the evaluation of derivatives and integrals and their use in applications to physics, engineering and economics. These are the main topics in Calculus. Differential Calculus and Integral Calculus appear to be very different, but they are closely tied together, which is the content of the Fundamental Theorem of Calculus. All this is based on limits, the concept that distinguishes between high school mathematics and university mathematics. Curve sketching, geometry and applications to science are treated. Story problems will be introduced, as will mathematical thinking (as opposed to mere memorization).

This is a fully online class for the Fall semester.

Course Objectives

At the end of the course, the students should have some facility in using the personal "mathematical tool kits" they developed in formulating and solving problems involving calculus. Given a problem, they should be able to recognize which methods could possibly be helpful in the solution.

Prerequisites and Co-requisites.

High school algebra is a prerequisite, and portions of it are reviewed in context when they are needed.

Course Topics

Chapters 2 through 5 in Stewart's textbook. Chapter 1, a review of high school algebra, is reviewed in the context of the new Calculus concepts we develop. Some sections will be omitted and some additional topics will be included. This will be decided during the course, depending on the progress and interests of the students. For example, we may include some applications occurring in today's news, but how much will depend on how the class is doing and the pace at which the class is proceeding. If the class is having trouble with an important topic, we may have to devote more time to that topic and less time to a different topic. These will be changes involving not a great deal of time, but they will be important.

A four credit hour course normally requires an investment on your part of 16 hours per week. Four hours to view the lectures, and 12 more hours to study, work on homework and other problems, and review the lectures if necessary. By Saturday you should be caught up with everything covered in the week that just ended.

Specific Course Requirements

Mathematics has a "tree like" structure, and Calculus 1 depends heavily on algebra, integral calculus depends on differential calculus, etc.. We will begin with an overview of Calculus 1 and a review of some topics from algebra so that we can reach a common starting point. Students with a weak algebra background will probably have to do some extra studying to catch up. The physics and some of the geometry needed will be taught in the course.

Course Organization and Meetings

This course consists of entirely remote instruction for the entire fall semester. Lectures will be done asynchronously, so you can view them at your leisure. But the Monday [and Wednesday] lectures will be available for viewing Mondays [Wednesdays] at 10:20AM. It is best that you view them as soon as you can through eCourseware to receive credit for class participation and attendance. These lectures will cover more than three hours per week, usually four (and occasionally more, possibly, if we get behind). Some homework problems and other examples will be included in the lectures.

Zoom sessions will be held as needed for further discussion of problems. These will be synchronous, and you may ask questions. You will receive an email with the link and password which must be used to enter the meeting. These sessions will be recorded and posted in eCourseware. You are expected to attend all these meetings.

In some modules in this course you will find some Discussion Boards. You are expected to participate in these Discussion Boards.

Office Hours

Office hours will be held via Zoom Mondays and Wednesdays, 12:30-1:30 PM. An appointment is required so that I can send an invitation for the Zoom session. Please email me at jgoldste@memphis.edu

for an appointment during office hours. If the timing of the office hours does not suit you, please email me about that to see what can be done. We can set up a time for a private consultation, but we have a large class and time is not unlimited.

Textbooks, Supplementary Materials, Hardware and Software Requirements

Required Textbooks

The textbook is

James Stewart, Calculus, 8th edition, Cengage publishers.

It is available from the University Store at 901-678-2011, and [online opens in new window](#). We will also use WebAssign, an online homework system developed and sold by Cengage. Problems from WebAssign will be assigned every week.

Supplementary Materials

Stewart's book and WebAssign should be adequate. Other Calculus texts are available free online.

Hardware and Software Requirements

Some recommendations can be found at <https://www.memphis.edu/uofmglobal/services/technology/requirements.php>.

But calculators are not required and are not recommended for Calculus 1. You must learn to think, not to push buttons.

Assessment and Grading

Testing Procedures

We will have two 75 minute exams plus a two hour final exam in class. These will be given online using ecourseware. For the 75 minute exams, students will have 125 minutes in which to take it, so that students have a chance to revisit problems that are causing them trouble at first. You may use Stewart's book and your class notes. Calculators, laptops, et al should not be helpful in timed exams. If you cannot think up ways of solving exam problems and have not studied adequately for an exam, searching online will probably not be helpful. I will make up your exam problems. You will not find them online. To succeed in this course, you must study regularly and heavily.

Grading Procedure

12% of the class grade is based on homework. 12% of the class grade is based on periodic pop quizzes. Each 75 minute exam counts for 21%, and the final exam counts for 34% of the course grade. All exams will be graded on the curve. For example, if problem #1 on Exam 1 is worth 20 points, I will grade everybody's problem #1 prior to going to #2. On a particular 20 point problem there will be those that get 20 and those that get 0. The rest will be carefully looked at and put in a pile that is ordered; if your work is better than John's, you will get a higher grade than John. Thus if you get a 10, that does not mean that you got half of it right. It means you did better than someone who got an 8 but not as well as someone who got an 11. At the end of grading an exam I will make a list of the exam grades and determine the curve. If you got a A+ you will get 4.33 points, 4.0 for an A, 2.67 for a B-, etc. I will average these numbers for your final numerical grade. It will have to exceed 1.5 in order for you to get a C- or above. For the quizzes and homeworks, I am mainly concerned that you do them all, so that I can be flexible in interpreting these grades upward a bit. Similarly, improvement throughout the course is admired, especially on the final exam. If you get a C- on the final, you can expect to get a C- (at least) in the course. If you get a B on the final, it is unlikely that you will get less than a B- in the course. But getting an A on the homework and quizzes is not sufficient for passing the course with a C- grade.

Taking the final exam is a requirement for passing the course.

There are no make up exams or quizzes. I will consider accepting late homeworks.

Grading Scale

How one computes the "final numerical grade" is explained above. The letter grades corresponding to the final numerical grades are

A+	4.17-4.33
A	3.84-4.16
A-	3.50-3.83
B+	3.17-3.49
B	2.84-3.16
B-	2.50-2.83
C+	2.17-2.49
C	1.84-2.16

C-	1.50-1.83
D+	1.17-1.49
D	0.50-1.16
F	0.00-0.49

Assignments and Participation

Assignments and Quizzes

Homework will be assigned via WebAssign; there will be homework (HW) assigned for each section we cover. Check your HW due dates carefully. The computer will grade your HW. HW counts for 12% of your course grade. Quizzes will be multiple choice questions, given approximately once per week, and computer graded. Quizzes count for 12% of your course grade.

Class Participation

Attendance is important. I will have computer access to determine when and for how long you watch the lectures. We will go over some exercises during the lectures, and we will have occasional extra interactive sessions in which you can ask questions.

Online sessions will be available as preceding modules are completed.

In some modules students are required to view online material to enable viewing of the online quiz. No late quizzes will be accepted. So view the Assignment and Quizzes section often to review deadlines.

Students are encouraged to work together as well as alone on HW assignments. Discussion threads and chat rooms are good resources for working together in a socially distanced environment. Technical problems should be addressed immediately. Course etiquette should be always observed.

Course Ground Rules

Participation is required. Students should attend class, virtually in our case. Students should participate in online HW and review sessions, to learn how to navigate Ecoursework and to keep abreast of course announcements. Students must use their U of M email addresses, not personal accounts.

No exams can be made up. Nor can the final exam. You must be present to take exams at the required times.

Arrive on time for the exams. They cannot be turned in late. There is ample time to take the exams and go over them again if one starts on time. Tests must be submitted as a single file PDF with your name "YOURNAMETESTX".

Guidelines for Communication

EMAIL

- Always include a subject line.
- Remember without facial expressions some comments may be taken the wrong way.
- Be careful in wording your emails. Use of emoticons might be helpful in some cases.
- Use standard fonts.
- Do not send large attachments without permission.
- Special formatting such as centering, audio messages, tables, html, etc. should be avoided unless necessary to complete an assignment or other communication.
- Respect the privacy of other class members

DISCUSSION GROUPS

- Review the discussion threads thoroughly before entering the discussion.
- Be a lurker then a discussant.
- Try to maintain threads by using the "Reply" button rather starting a new topic.
- Do not make insulting or inflammatory statements to other members of the discussion group. Be respectful of others' ideas.
- Be patient and read the comments of other group members thoroughly before entering your remarks.
- Be cooperative with group leaders in completing assigned tasks.
- Be positive and constructive in group discussions.
- Respond in a thoughtful and timely manner.

Web Resources

[Columbia Guide to Online Style by Janice R. Walker and Todd Taylor opens in new window](#) (2nd Edition)

Plagiarism and Integrity

Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students guilty of academic misconduct, either directly or indirectly, through participation or assistance, are immediately responsible to the instructor of the class in addition to other possible disciplinary sanctions which may be imposed through the regular institutional disciplinary procedures. Expectations for academic integrity and student conduct are described in detail on the website of the [Office of Student Accountability opens in new window](#). Please read in particular, the section about "[Academic Misconduct opens in new window](#)".

Library, Tutoring, and Other Resources

- The myMemphis Portal system, eCampus Student tab provides access to [University library opens in new window](#).
- The tutoring link in the course navigation bar provides access to free online tutoring through UpSwing.
- The LinkedIn Learning link in the course navigation bar provides free access to thousands of video tutorials.
- Other support services are available through the Educational Support Program.

Students With Disabilities

Qualified students with disabilities will be provided reasonable and necessary academic accommodations if determined eligible by disability services staff at the University of Memphis. Prior to granting disability accommodations in this course, the instructor must receive written verification of a student's eligibility for specific accommodations from the disability services staff. It is the student's responsibility to initiate contact with [Disability Resources for Students opens in new window](#) (DRS) and to follow the established procedures for having the accommodation notice sent to the instructor.

Sexual Misconduct and Domestic Violence Policy

This policy specifically addresses sexual misconduct which includes dating violence, domestic violence, sexual assault, and stalking. The policy establishes procedures for responding to Title IX-related allegations of sexual misconduct. Complaints can be reported to the Office for Institutional Equity (OIE). The OIE office is located in the Administration Building, Room 156. You may contact the OIE by phone at 901.678.2713 or by email at [oe@memphis.edu opens in new window](mailto:oe@memphis.edu). Complaints can be submitted online at [File a Complaint opens in new window](#).

Non-Discrimination and Anti-Harassment Policy

University policy prohibiting discrimination and harassment based on protected characteristics and classes. Complaints of discrimination and harassment can be reported to the Office for Institutional Equity (OIE). You may contact OIE by phone at 901.678.2713 or by email at oe@memphis.edu. The full text of the policy can be found at [GE2030 - NONDISCRIMINATION AND ANTI-HARASSMENT opens in new window](#).

Technology Requirements

The following is a list of the minimum requirements to use our learning management system. Some courses will have more advanced requirements.

- Access to a reliable, high-speed Internet connection (DSL or Cable).
- Test your device to ensure it is compatible with our LMS (Learning Management System) using the System Check Wizard.
- Open PDF files using the free downloadable software at Adobe Acrobat Reader DC.
- Access Flash-based content with [Adobe Flash Player opens in new window](#) (free).
- Use Microsoft Office Software for Faculty, Staff, and Students for document creation.
- Play media content with [Real Player opens in new window](#) (free), [Quick Time opens in new window](#) (free), or [Windows Media Player opens in new window](#) (free). (available for students via <http://umapps.memphis.edu/>)

Syllabus Changes

The instructor reserves the right to make changes as necessary to this syllabus. If changes are necessitated during the term of the course, the instructor will immediately notify students of such changes both by individual email communication and posting both notification and nature of change(s) on the course bulletin board.

COVID Information

For up to date information about COVID on campus see [this link](#). Students who have a positive COVID19 test should contact the Dean of Students at

deanofstudents@memphis.edu

Technical Support

Call the Helpdesk: (901) 678-8888

[Online Helpdesk opens in new window](#): To report an issue or request assistance, contact umTech - Information Technology Services.