

Syllabus

Course Information

Course Description

In this course we introduce the theory and solution of elementary ordinary differential equations. Topics discussed in the course include methods of solving first-order differential equations, existence and uniqueness theorems, second-order linear equations, higher-order linear equations, systems of equations, and applications. Applications of differential equations in physics, engineering, economics, and medicine are explored.

This class will remain as remote instruction for the ENTIRE Spring Semester.

Course Objectives

At the end of the course, students will be able to identify the type of many elementary ordinary differential equations, determine the appropriate method of solution, and use the tools of Calculus I and II to actually calculate the precise solution and discuss qualitative properties of the solution.

Prerequisites and Co-requisites

MATH 1920 or MATH 2421 with a grade of C- or better.

Course Topics

Chapters 1, 2, 3, 4, 5, 6, 7, 8 (Some sections may be omitted depending on time constraints.)

Course Organization and Meetings

Since this course is entirely remote instruction for the semester, lectures will be done asynchronously so that you can view them at your leisure. Lectures should be watched through Ecourseware to receive credit towards class participation and attendance. **LECTURES ARE ESSENTIAL AND YOU WILL NOT BE ABLE TO PASS THIS COURSE WITHOUT VIEWING THEM COMPLETELY.**

Classes will meet at the scheduled time to discuss homework questions and example problems. (We are essentially using "flip the classroom", the online version.) *You should have viewed the lectures and attempted the homework BEFORE these sessions.* Just watching me solve problems that you have not attempted before the meeting (so that you know where you have issues) will NOT help you pass quizzes and exams.

Zoom sessions will be synchronous at our MW class times. You will find the link and password which must be used to enter the meeting in the module for each session. These sessions will be recorded and posted in Ecourseware. But in order to receive credit towards class participation, you must attend these Zoom sessions LIVE.

In some modules in this course you will find Discussion Boards on various topics. Your participation in these Discussion Boards also counts towards your class participation grade.

Office Hours

Office hours will be held via Zoom on Fridays from 9:30-10:30 am.

Other times are available by appointment only, if you have class during that hour.

Course Contract

In section F. of *Getting Started* you will find the Course Contract which must be downloaded, signed, and uploaded as a pdf into Dropbox. The contract states that you have read and understand all the material in the Getting Started Module and understand the ground rules of the course. The signed course contract is due Friday, January 22, 2021.

The course contract must be received before you will receive credit for any work in this course, and you will receive a 0 for any work (homework, quizzes exams) submitted before the contract is received.

Specific Course Requirements

Students should have a very strong working knowledge of all of the techniques of integration from Calculus 1 and 2. This includes basic and more advanced substitutions, integration by parts, trigonometric substitutions, partial fractions and other methods from Calculus 2. Inverse trigonometric and hyperbolic functions, their derivatives and integrals are required prerequisites. These techniques will be necessary to carry out the calculations involved to determine solutions of ordinary differential equations via the methods presented in this course.

Textbooks, Supplementary Materials, Hardware and Software Requirements

Required Textbooks

Differential Equations and Boundary Value Problems by Nagle, Saff and Snider. The ISBN for the MyLab access code is **9780135902738**. A free ebook comes with the MyLab. You can buy it from the bookstore or directly from Pearson.

Supplementary Materials

MyLab by Pearson is required for the homework assignments. You must enroll in MyLab through the link in this course.

Hardware and Software Requirements

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

Assessment and Grading

Testing Procedures

- Tests will be online using Ecourseware.
- On quizzes, laptops, ipads, or cell phones are **ONLY** to be used for viewing the class or allowed materials. You may use your text book and personal notes, but contacting anyone else in **ANY** manner (including searching other websites during exams) is a violation of the Code of Student Conduct and will be prosecuted.
- The Midterm and Final Exams will be monitored via Zoom on your **phone** and your phone must be placed to provide a complete view of your face **AND** work area. Laptops, and calculators will **NOT** be allowed during the test. No hats, caps, hoodies or watches can be worn during exams. Only paper, pens or pencils and your notes can be on your workspace. Any violations of this policy will receive a 0 on that exam and possibly an F for the course.
- There is **NO LEAVING** a exam for **ANY** reason (no bathroom breaks, etc). If you leave the camera view, your exam is finished and must be turned in prior to your exit from the screen. If I cannot see your workspace and your face, I will ask you to adjust the camera before you start the exam. If you violate this policy, your exam will not be graded, and you will receive a 0 for that exam.
- Arrive on time for each online test. Any tardiness will cost you working time on the test; you will not be granted extra time if you are late.

Grading Procedure

- Grades will be based on the Midterm Exam (33% of the final grade), homework (10% of the final grade) and quizzes (15% of the final grade), class participation (3% of the final grade) and the Final Exam (39% of the final grade).
- **THERE ARE NO MAKEUPS FOR MISSED EXAMS OR LATE ASSIGNMENTS, even if you have an excuse.**

- The Final Exam is **COMPULSORY**. Failure to take the Final Exam will result in an F in the course.

Grading Scale

The plus/minus system will be used in grading. The following grade scale will be used:

A	90-100
A-	88-89
B+	85-87
B	80-84
B-	78-79
C+	75-77
C	68-74
C-	65-67
D	60-65
F	59 and below

Assignments and Participation

Assignments and Quizzes

Homework will be assigned via MyLab; there will be homework assigned for each section we cover. Homework and deadlines are clearly listed on the MyLab assignment page for the course.

LATE HOMEWORKS will NOT be accepted, so check your homework due dates carefully. At the end of the semester, homework will be compiled and the percentage of correctly completed homework problems will determine your homework score. The grade scale for the course will be used to assign the letter grade for Homework, which is 10% of your final grade. But please understand, if you do not do your homework and keep on track, there is practically no chance of doing well on the Midterm and Final Exams, which are the bulk of your grade in this class. At the pace we have to keep, if you fall behind, you will have tremendous difficulty in catching up.

Quizzes will be given throughout the semester. At the end of the semester, the percentage of total points on quizzes will determine the letter grade for your Quiz Grade (15% of your final grade) using the grade scale for the course. Some quizzes will be given through Ecourseware asynchronously, while others will take place during class in MyLab.

Failure to be in class and/or view the modules for the week completely may result in your quiz for that week being given a 0 or your score penalized. This is the online version of "You can't take the inclass quiz if you are not in class".

Class Participation

Attendance is important and will be monitored. Every student is required either to be in class when synchronous class is offered and to stay for the entire class or to view the recorded sessions if live attendance is not possible. Asynchronous lectures must be viewed through Ecourseware to receive credit towards class participation (3% of your final grade).

Subsequent online lectures 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. Please remember NO LATE QUIZZES will be accepted, so it is very important to view the Assignment and Quizzes section often to review deadlines.

Students are encouraged to work together as well as solo on homework assignments. Discussion threads and chat rooms are great resources for working together in a socially distanced environment.

Course Ground Rules

- **Participation is required.** Students are expected to attend class; for lectures that is asynchronously through Ecourseware and synchronously when Zoom sessions are held. Students are expected to participate in the Zoom online homework and review sessions, to learn how to navigate in Ecourseware, and to keep abreast of course announcements. Students must use the assigned university e-mail address rather than a personal e-mail address to communicate; technical problems should be addressed immediately. Students must observe course etiquette at all times.
- **No make-up for missed assignments or tests** (even if you have an excuse). All quizzes not completed on time earn a 0. Failure to complete the module's work will result in your quiz score being penalized, even possibly scored as 0 (depending on the amount of the course you have skipped by the time of the quiz).
- **No make-up for the Midterm or Final Exam.** You must be present to take the exams at the time required.
- **Arrive on time for each test.** Any tardiness will cost you working time on the test; you will not be granted extra time if you are late. Tests must be submitted as a single pdf file with the 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](#) (2nd Edition)
[Citation Styles Online](#) - Purdue Owl

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 on any exam or quiz **will be given an F for the course** and taken before the Academic Integrity Committee. Expectations for academic integrity and student conduct are described in detail on the website of the [Office of Student Accountability](#). Please read in particular, the section about "[Academic Misconduct](#)".

Library, Tutoring, and Other Resources

- The myMemphis Portal system, eCampus Student tab provides access to [University library](#).
- 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](#) (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 oie@memphis.edu. Complaints can be submitted online at [File a Complaint](#).

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 oie@memphis.edu. The full text of the policy can be found at [GE2030 - NONDISCRIMINATION AND ANTI-HARASSMENT](#).

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](#) (free).
- Use Microsoft Office Software for Faculty, Staff, and Students for document creation.
- Play media content with [Real Player](#) (free). [Quick Time](#) (free), or [Windows Media Player](#) (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 COVID-19 test should contact the Dean of Students at deanofstudents@memphis.edu.

Technical Support

Call the Helpdesk: (901) 678-8888

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