

MAP 2302: Elementary Differential Equations Section 12342 Online, Summer B 2020

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# 1 Course Overview

MEETING PLACE/TIME: Online

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## 1.1 Content

MAP 2302 Elementary Differential Equations presents techniques for solving and approximating solutions to ordinary differential equations. It is primarily for students in disciplines which emphasize methods. We will cover some material from Chapters 1(Introduction), 2(First Order ODE), 4(Second Order ODE), 7(Laplace Transform), and 8(Series Solutions).

This is an ONLINE VERSION of the class **–all content is delivered online**. Students view **28 online lecture videos** and complete lecture questions/quizzes and homework in the course management system Canvas. Students are encouraged to post questions and answers on the course Discussion Board in Canvas. Three semester unit exams and a cumulative final exam are posted in Canvas and **administered through ProctorU**.

## 1.2 Prerequisites

MAP2302 assumes that you have essential Calculus 2 (MAC2312) skills necessary to succeed in this course. Students should be able to do the work without a calculator. A grade of C in UF MAC2312 meets the minimum requirement for the course. We encourage students to review the prerequisite material to gain a strong knowledge in order to succeed in Differential Equations. **Completed lecture notes of Calculus 2 are posted in Canvas for your convenience under the Syllabus tab**.

- 1.3 Necessary Materials
  - TEXTBOOK: Fundamentals of Differential Equations by R. Kent Nagle, Edward B. Saff and Arthur David Snider, ninth edition, ISBN-13: 978-0321747730, ISBN-10: 0321747739.

You may use the eighth edition if you prefer.

• COMPUTER ACCESS AND REQUIREMENTS: All assignments should be taken on a computer, not cell phone or tablet, since there may be compatibility issues with CANVAS. You are responsible for having access to a working computer and have your work completed on time. Complete and submit your work early. If you wait and run into any difficulties to submit your work, you will be out of luck.

It is recommended that proctored exams should be taken with a wired connection, rather than wireless, if possible. You are responsible for having reliable access when working on exams or quizzes online.

• CALCULATOR: NO CALCULATORS are allowed on quizzes or on the exams. A graphing calculator and Wolframalpha are useful as a study and learning tool when used appropriately but are not essential.

## 1.4 Canvas

UF Online's course management system, is accessed through elearning.ufl.edu. All course information including the course homepage, syllabus, and exam information are posted on this site. In addition, there is a mail tool and discussion forum for communication. All grades are posted in Canvas. You are responsible for verifying that those grades are accurate. You have one week after a score has been posted to resolve any grade concerns by contacting your instructor. We will not consider these grade disputes at the end of the semester. Please note: Important course information is clearly communicated in this course guide and assignments and course materials are easily accessible through the CANVAS modules. If you cannot find your answer in the resources above, there is also a Discussion Forum available in Canvas. Please use this to post questions and to supply answers to your fellow students. Your instructor will check the discussion forum regularly. BE SURE TO TURN ON the ALERTS from Canvas so you get timely course information. Your instructor will send announcements regularly.

## 1.5 Lecture Notes and Videos

The lecture videos provide the main presentation of course material, and are accessed through the CANVAS modules. To stay current with the course, we recommend watching the videos daily following the schedule posted on the course calendar. Since this is a 6 week semester, you will have a lecture to watch every week day, Monday - Friday. You should watch the lectures and answer the corresponding Lecture Quiz Questions before attempting the corresponding homework. You may contact your instructor or post questions on the course discussion board if you need clarification on a topic. It is possible to get ahead in this class if you complete each assignment early. If you have other commitments, adjust your schedule to complete the assignments earlier rather than later.

Students should print out the lecture noteshells from the module page before watching the video. This will make it easier to take notes and to follow the lectures.

# 2 Testing (back to top)

# 2.1 Semester Exams

This course uses the online proctoring service ProctorU for exams. The exams are taken in Canvas under the supervision of a proctor from ProctorU. You must register with ProctorU for each exam at least 4 days prior to the exam date. It is highly recommended that you reserve your exam time slots for all of your exams early in the semester in order to guarantee you can take the exam at the most convenient time for you. You have a two day window to take the semester exams. The exams will take place on:

Exam 1	Friday-Sat, June 17-18 th
Exam 2	Friday-Sat, June 31-Aug 1st
Exam 3	Friday-Sat, Aug 7-8 th
Final Exam	Thursday -Friday Aug. 13-14th

Students are responsible for material covered in the course, including lectures, homeworks, and quizzes.

For each exam, you should have only the following items: pencils or pens, your Gator1 ID card or a government-issued picture ID and up to 10 sheets of completely blank, white, scratch paper (no holes, lines, printing, etc). No calculators are allowed. No cell phones, no notes, no books, no outside help.

It is your responsibility to make sure that you have a stable, reliable internet connection when taking quizzes and exams. **No special make-ups will be given due to technical problems.** 

## 2.2 Final Exam

A mandatory, comprehensive final examination will be given as indicated on the course calendar. You will need to register with ProctorU at least three days in advance to schedule a 2 hour time block on the day of the exam. IMPORTANT: The final exam is critical to your course grade and is required of all students. The exam score will count as 100 points of your final point total.

We also allow the final exam score to improve your grade on one of the semester exams. That is, if your final exam grade is higher than the lowest of your three semester exam scores, its percent score prorated to 80 points will replace that lowest test. For example, if your lowest semester exam score is 56 and you earn 80% (84 points) on the final, the exam score of 56 will be replaced by 64 (80% of 80 points) in the gradebook. If the final exam score is lower than all the semester exams, however, the original semester exam scores will remain.

**Note**: You may not use a calculator or any other study aid for exams. Be sure to read the ProctorU handout thoroughly to understand the exam procedures before you start a test. You are responsible for having a secure connection during the exam. We cannot give makeup work for a failed internet connection.

# 3 Grade Overview (back to top)

Your overall course grade will be based on your performance on the following assignments:

• VIDEOS AND LECTURE QUIZZES:

Viewing the lecture presentations is an important aspect of the learning process. Videos are accessed through the modules in CANVAS, and you should print out the lecture outline before each lecture to fill in as you follow the video presentation. There are several lecture questions included in each lecture. You should work these problems as you watch the videos. A Lecture Quiz including some of those questions is posted for each lecture in CANVAS. We encourage you to use the text as well as the videos to help you work the quiz problems; one question on a quiz may be from a worked out textbook example so you can see its solution. You may also post questions about the Lecture Quizzes on the class discussion board or ask for help during office hours. These lecture quiz scores scores will count as 15% of your final course grade. **The Lecture Quizzes are due on the date of lecture. You will have a total of 28 Lecture Quizzes in Canvas corresponding to each lecture. We encourage you to work the quizzes early, after you have watched and studied the videos, while the material is fresh in your mind. <b>Two lecture quizzes are dropped at the end of the semester, so ABSOLUTELY NO EXTENSIONS OR MAKE UPS on the Lecture Quizzes.** 

• Homework

Online homework administered in Canvas is planned to review concepts and to provide practice of the lecture material. Homework assignments will be posted with each module and the due dates are posted in the course Calendar. The homework problems are graded by the software and you see your score immediately after submitting your work. You will have **3 attempts for each homework (except multiple choice or true/false problems)**. You will also have a total of 28 homeworks in Canvas corresponding to each lecture. These homework scores scores will count as 20% of your final course grade. Their due dates are posted on the course calendar. Two homework grades are dropped at the end of the semester, so ABSOLUTELY NO EXTENSIONS OR MAKE UPS on the homeworks.

There will be a 5% per day penalty on those questions not completed by the original due date.

- EXTRA CREDIT: Opportunities to earn extra credit will be offered throughout the semester in form of practice for the exams or other assignments. Make sure you read all announcements in order not to miss these extra credit opportunities.
- EXAMS:

There are three exams worth 15% each and a final exam worth 20% points. IF IT HELPS, you may substitute your final exam score for the lowest exam score (rescaled appropriately, of course, to compensate for the disparity in point values). Some bonus points will be included in the exams.

• MAKE-UP AND EXTENSION POLICY:

All assignment deadlines will be clearly indicated on the course Canvas calendar. Late assignments will not be accepted. Make-up exams are given only for extreme unforeseen circumstances. In case of illness, documentation will be required. For technological problems, see the Getting Help section below.

# 4 Grade Distribution (back to top)

To summarize, your final grade in the course will be derived as follows:

Lecture Quizzes	15%
Homework	20%
Extra Credit	3%
Three Semester Exams	$3 \times 15\%$ each = $45\%$
Final Exam	20%
Total	100%

This grade will then be converted to a' letter grade using the following grading scale:

>= 90%	А	67% - 72.8%	С
87% - 89.8%	A-	64% - 66.8%	C-
84% - 86.8%	B+	62% - 63.8%	D+
80% - 83.8%	В	57% - 61.8%	D
76% - 79.8%	В-	56% - 56.8%	D-
73% - 75.8%	C+	<56%	Е

Note: Any grade lower than C does not give Gordon Rule or General Education credit. Extra assignments for individual students to improve a grade are not possible. There will be no review of disputed points at the end of the semester. All grade concerns must be settled within one week of the receiving the grade on the assignment. For a complete explanation of current policies for assigning grade points, refer to the UF undergraduate catalog: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

# 5 General Information (back to top)

## 5.1 Getting Help

### TECHNICAL DIFFICULTIES

For issues with technical difficulties for Canvas, please contact the UF Help Desk at:

- http://helpdesk.ufl.edu
- (352) 392-HELP (4357)
- Walk-in: HUB 132

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from the Help Desk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are available at http://www.distance.ufl.edu/getting-help for:

- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints
- Library Help Desk support

Should you have any complaints with your experience in this course please visit http://www.
distance.ufl.edu/student-complaints to submit a complaint.

### MATHEMATICAL OR OTHER DIFFICULTIES

There are many resources available to help you succeed in the course. In addition to your instructor, resources include:

- The Teaching Center Math Lab, located at SE Broward Hall, is a tutorial service staffed by trained math and science students to provide help with your calculus questions and homework. Tutors will be glad to provide guidance on specific problems after you have attempted them on your own. You may want to attend different hours to find the tutors with whom you feel most comfortable. You can also request free one-on-one tutoring. Check the webpage, https://teachingcenter.ufl.edu/ for a map of the location, tutoring hours, and more. All students are encouraged to use the resources of the Broward teaching center.
- 2. Office of Academic Support offers free one-on-one and small group tutoring sessions to any UF students. See http://oas.aa.ufl.edu/programs/tutoring/ for details.
- 3. UF Counseling Center provides information and workshops on developing Math Confidence. The center also offers counseling support in case of issues with academics, adjusting to the stress of college life, or personal challenges. Please use this resource before you get overwhelmed! You may contact the center at https://counseling.ufl.edu/.

### SUCCESS

Other than having a strong calculus background, success in MAP 2302 depends largely on your attitude and effort. Mathematics is not a spectator sport. You will only understand the material when you are actively engaged. It is not effective to watch a video and copy notes without following the thought processes involved in the lecture. Instead, before watching a lecture video it is important to look over the textbook sections to be covered to become familiar with the vocabulary and main ideas. That way you will better be able to grasp the lecture material. After watching the video, before you attempt homework problems and quizzes, you should reread the text as well as study the lecture to understand its main ideas and the steps involved in solving the example problems.

As with most college courses, you should expect to spend a minimum of 2 hours working

on your own for every hour of classroom instruction (at least 6 hours per week). You should therefore plan to spend at least 10 hours each week(double that for half summer terms) on this online course including the time spent watching the lecture videos.

It is critical that you keep pace with the course material as presented in the module for each week. Do not fall behind. Ask questions either in office hours (online) or using the resources listed below; do not let misunderstandings go unanswered. Students who do not actively participate have much more difficulty. We recommend studying with others, and an important resource to facilitate communication in an online course is the MAP 2302 discussion board in CANVAS. You should check the discussion board regularly, posting questions and answers for fellow students. The effort of asking questions and communicating ideas clearly, as well as the practice of writing solutions, are effective tools in helping you better understand the concepts. The instructor for MAP 2302 will check the discussion board regularly to answer student questions and to post selected problem solutions.

In studying for this class, you must be careful not to let a tutor, friend, or calculator "think" for you. Be sure that you can work problems completely on your own, without help, by the time of an exam.

USE THE RESOURCES AVAILABLE AS YOU STUDY! We encourage you to seek help from your instructors through email and office hours and from your peers using the discussion board in CANVAS. Contact the Broward Teaching Center, teachingcenter.ufl.edu, for tutoring services.

Our hope is that through focused study and practice you will gain a real appreciation for these important concepts and their application. We want you to succeed in this class! But you must keep up with the course material and take the initiative to get help in time, before you get too far behind. Students with a positive attitude who are intellectually engaged as they work through the lectures and homework will learn the most from the course.

#### 5.2 Accommodations for Students with Disabilities

Students requesting class and exam accommodations must first register with the Dean of Students Office Disability Resource Center (DRC). Information about the DRC is available at <a href="https://drc.dso.ufl.edu/">https://drc.dso.ufl.edu/</a>. The DRC will provide a documentation letter to the student to present to the course instructor. This must be done as early as possible in the semester (i.e. at least 7 business days before the first exam), so there is adequate time to make proper accommodations.

#### 5.3 Academic Honesty Policy

All University of Florida students are bound by the Honor Pledge, which states:

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.

As such, on all work submitted for credit by students at the University of Florida, the following pledge is either explicitly required or implied:

#### On my honor, I have neither given nor received unauthorized aid in doing this assignment.

You should read and familiarize yourself with the Honor Code, available at https://sccr. dso.ufl.edu/students/student-conduct-code/. It specifies a number of behaviors that are in violation, and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor.

In addition, we remind you that lecture videos are the property of the University/faculty member and may not be used for any commercial purpose. Students found to be in violation may be subject to discipline under the Student Conduct Code.

**Disclaimer**: This syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected. Calendar with due dates on next page!

For each Lecture, L1-L28, you have a Lecture Quiz -LQ, and a homework corresponding to the sections covered in the lectures. These two assignments are due on the day the Lecture appears on the calendar. Some days will also have an exam due. Extra credit due dates will be posted in announcements.

For example on Tuesday, July 7th, you will locate Lecture 1 in module 1. After watching the videos and taking notes you will take the Lecture Quiz 1 appearing as LQ 1 in the calendar. Then you will go to assignments and do homework L1 section 1.1 corresponding to lecture 1 which covers section 1.1 appearing as L1 s1.1 in calendar.

Monday	TUESDAY	WEDNESDAY	( Thursday	FRIDAY	SATURDAY	SUNDAY
July 6th	7th	8th	9th	10th	11th	12th
Syllabus	Lecture 1	Lecture 2	Lecture 3	Lecture 4		
Quiz	LQ 1	LQ 2	LQ 3	LQ 4		
	L1 s1.1	L2 s1.2	L3 s1.3	L4 s1.4		
13th	14th	15th	16th	17th	18th	19th
Lecture 5	Lecture 6	Lecture 7	Lecture 8	Lecture 9	Exam1:	
LQ 5	LQ 6	LQ 7	LQ 8	LQ 9	L1-8	
L5 s2.2	L6 s2.3	L7 s2.4	L8 s2.5	L9 s2.6		
20th	21st	22nd	23rd	24th	25th	26th
Lecture 10	Lecture 11	Lecture 12	Lecture 13	Lecture 14		
LQ 10	LQ 11	LQ 12	LQ 13	LQ 14		
L10 1st	L11 s4.1	L12 s4.2	L13 s4.3	L14 s4.4		
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27th	28th	29th	30th	31st	Aug 1st	2nd
Lecture 15	Lecture 16	Lecture 17	Lecture 18	Lecture 19	Exam2:	
LQ 15	LQ 16	LQ 17	LQ 18	LQ 19	L11-17	
L15 s4.5	L16 s4.6	L17 s4.7	L18 s7.2	L19 s7.3		
3rd	4th	5th	6th	7th	8th	9th
Lecture 20	Lecture 21	Lecture 22	Lecture 23	Lecture 24	Exam3:	
LQ 20	LQ 21	LQ 22	LQ 23	LQ 24	L18-24	
L20 s7.4	L21 s7.5	L22 s7.6	L23 s7.8	L24 s7.9		
10th	11th	12th	13th	14th	15th	16th
Lecture 25	Lecture 26	Lecture 27	Lecture 28	Cumulative		
LQ 25	LQ 26	LQ 27	LQ 28	Final Exam		
L25 s8.1	L26 s8.2	L27 s8.3	L28 s8.4			