

# MAP 2302: Elementary Differential Equations

## SUMMER C 2024 Online

### SYLLABUS/CALENDAR

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#### Course Instructors

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Course homepage is located on Canvas, <http://elearning.ufl.edu>.

**Canvas Messages:** Check your messages **daily** so that you do not miss any important announcements.

**Text: (Optional) Fundamentals of Differential Equations and Boundary Value Problems** by R. Kent Nagle, Edward B. Saff and Arthur David Snider, ISBN-13: 978-0321977106, ISBN-10: 9780321977106. You may use the previous edition and/or the version without boundary value problems if you prefer. This is mostly used as a reference/exercise for our course. The content is based on the text but wholly contained in the Canvas course.

**Requirements:** A hardwired connection (not wireless) is strongly recommended when working and submitting assignments. It is the student's responsibility to have a reliable internet connection, adequate internet speed and a cleared cache/cookies before starting each assignment .

**Time commitment:** University students are expected to spend at least 3 hours for each hour watching lecture videos in order to keep up with the course material.

**Content:** The course is a collection of 28 lectures. The lectures cover Chapters 1 (Introduction, Lectures 1-4), 2 (First Order ODEs, Lectures 5-10), 4 (Second Order ODEs, Lectures 11-17), 7 (Laplace Transforms, Lectures 18-24), and some of 8 (Series Solutions, Lectures 25-28) from the text. Chapter 6 (Theory of Higher Order Differential Equations, Extra Topics 1-5) is optional and extra lectures are provided for this chapter.

**Homework:** Doing homework is essential to success in this course and is one of the best ways to prepare for quizzes and tests. Online homework is completed in Canvas. Homework is worth 10% of the grade. The lowest two scores are dropped. Each homework has **unlimited attempts**. Students who miss parts of a multiple-part question should feel free to ask about which parts were missed.

**Lecture Quizzes:** There is a lecture quiz for each lecture with 2-4 pooled questions with **two attempts** each. The lowest two scores are dropped. Lecture Quizzes are worth 10% of the course grade.

**Quizzes:** There will be ten online quizzes covering 2-4 lectures with **one attempt** each. The lowest two scores are dropped. Quizzes are worth 10% of the course grade. Online quizzes are 30-50 minutes long and require the use of Honorlock.

**Discussion board:** There is one discussion board for each exam period. If you have a question, please show your work and state the assignment from which the problem comes. The question must not have already been asked so read the boards daily. If you ask a question that has been answered in an online video, you will be directed to watch the video of that topic unless you require specific clarification. Discussion boards are locked at 10 PM the night before each exam.

**Practice Exams:** Four online practice exams are available in quiz format Canvas. They are not for credit.

**Exams:** Four online exams will be given from 10AM-10PM on the dates shown in the calendar. The exams will be administered via Honorlock. The fourth (final) exam is cumulative. Each is worth 17.5% of your grade. No external aids or devices such as calculators or cell phones are permitted, nor is use of other websites, discord servers, Group Me, and the like.

**Precalculus Quiz:** This quiz is designed for students to determine if their precalculus skills are adequate for success in this course. Students should take the quiz without aids before the end of the drop/add period. A complete set of precalculus notes is available in Canvas for review.

**Grades:** The letter grade will be awarded with Canvas rounding up the display grade (i.e. 89.5 counts as A) as follows:

A	90%-100%	C	70%-74%
A-	87%-89%	C-	67%-69%
B+	85%-86%	D+	64%-66%
B	80%-84%	D	60%-63%
B-	77%-79%	D-	57%-59%
C+	75%-76%	E	0%-56%

If you have a grade dispute, please resolve it with your instructor **within a week** of the assignment deadline.

Your grade is comprised of the following:

- 4 Exams                      17.5% each
- Quizzes                      10% (drop lowest two scores)
- Homework                    10% (drop lowest two scores)
- Lecture Quizzes            10% (drop lowest two scores)

### Exam Coverage

Exam 1 covers 1.1-1.4, 2.2-2.6 and applications (L1-9)

Exam 2 covers 4.1-4.7 (L11-L17)

Exam 3 covers 7.2-7.6, 7.8-7.9 (L18-L24)

Exam 4 is comprehensive, approximately 50% chapter 8 (L25-L28) with the remainder from chapters 1-2, 4, and 7 (L1-24).

**Accommodations for students with learning disabilities:** Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/get-started/>

**Academic Honesty:** The course will be conducted in accord with the University honor code and academic honesty policy which can be found at <https://policy.ufl.edu/regulation/4-040/>. The Mathematics Department expects you to follow the Student Honor Code. We are bound by university policy to report any instance of suspected cheating to the proper authorities.

In addition, we remind you that lectures and the lecture notes given in this class are the property of the University/faculty member and may not be taped/shared without prior

permission from the lecturer 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.

**Makeup Exams:** If you miss an exam with valid documentation, you may take a makeup. If you miss without valid documentation, there will be a 10% penalty. Valid documentation includes documented illness, school sponsored activity, death in the immediate family, court-ordered or military appointments, and religious holidays. Scheduled flights do not count as valid documentation so do not make plans for a flight which conflicts with exam dates and times. If you miss a second exam, the comprehensive fourth exam will replace it. Exam makeups will be scheduled after discussion with the course coordinator.

If you have a conflict with another assembly exam in a course that has a higher course number, please notify the coordinator within the first two weeks of the semester to qualify for a makeup.

If illness or other extenuating circumstances cause you to miss an exam, contact the course coordinator immediately (no later than 24 hours after the exam) by email. Then, as soon as possible after you return to campus, bring the appropriate documentation to the course coordinator.

To be eligible for a make-up you must have completed at least 75% of the course work that has been given so far.

**Late submissions:** Due date is not do date! Please do not wait begin your assignments the day that they are due. If there are any last minute difficulties with your computer or access, you will be out of luck. Homework and quizzes can be submitted late with a 25% penalty for each day beyond the due date. If documented illness or other extenuating circumstances cause you to miss a deadline for an assignment you will be granted extensions. You must contact the course coordinator for details.

**False Late penalties:** There is a feature in Canvas associated with late penalties such that if you have completed an assignment on time but review it at a later date, Canvas will assign a late penalty. These penalties must be removed by the coordinator by hand. To prevent such occurrences, please keep written records of all your work rather than opening past-due assignments that you have already completed.

**Evaluations:** Course evaluations are now at <https://gatorevals.aa.ufl.edu/>

**Privacy:** Any class sessions, including office hours, may be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate verbally are agreeing to have their voices recorded.

If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

**Diversity:** The Mathematics Department is committed to diversity and inclusion of all students. We acknowledge, respect, and value the diverse nature, background and perspective of students and believe that it furthers academic achievements. It is our intent to present materials and activities that are respectful of diversity: race, color, creed, gender, gender identity, sexual orientation, age, religious status, national origin, ethnicity, disability, socioeconomic status, and any other distinguishing qualities.

**Campus Resources:**

**Health and Wellness U Matter, We Care:** If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

**Counseling and Wellness Center:** Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services. Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

**University Police Department:** Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

**UF Health Shands Emergency Room / Trauma Center:** For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

**GatorWell Health Promotion Services:** For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

**Academic Resources E-learning technical support:** Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).

**Career Connections Center:** Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

**Library Support:** Various ways to receive assistance with respect to using the libraries or finding resources.

**Teaching Center:** Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420.

**General study skills and tutoring.** Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

**Student Complaints On-Campus:** Visit the Student Honor Code and Student Conduct Code webpage for more information.

**On-Line Students Complaints:** View the Distance Learning Student Complaint Process.

**Tentative due dates** (subject to possible revision)

Mon	Tues	Wed	Thur	Fri
May 13	14	15	16	17
		HW1/LQ1 Syllabus Quiz	HW2/LQ2	HW3/LQ3
20	21	22	23	24
HW4/LQ4	HW5/LQ5 Q1(L1-3)		HW6/LQ6	HW7/LQ7 Q2(L4-6)
27	28	29	30	31
<u>Holiday</u>	HW8/LQ8	HW9/LQ9	Review Q3(L7-9), PE1	Exam1 (L1-9)
3	4	5	6	7
	HW10/LQ10		HW11/LQ11	HW12/LQ12
10	11	12	13	14
HW13/LQ13	HW14/LQ14 Q4(L11-13)		HW15/LQ15	HW16/LQ16 Q5(L14-15)
17	18	19	20	21
HW17/LQ17		<u>Holiday</u>	Review Q6(L16-17), PE2	Exam 2 (L11-17)
24	25	26	27	28
<i>Summer Break</i>	<i>Summer Break</i>	<i>Summer Break</i>	<i>Summer Break</i>	<i>Summer Break</i>
1	2	3	4	5
	HW18/LQ18		<u>Holiday</u>	HW19/LQ19
8	9	10	11	12
	HW20/LQ20		HW21/LQ21	
15	16	17	18	19
	HW22/LQ22 Q7(L18-21)		HW23/LQ23	
22	23	24	25	26
	HW24/LQ24		Review Q8(L22-24), PE3	Exam 3 (L18-24)
29	30	31	1	2
	HW25/LQ25		HW26/LQ26	
5	6	7	8	9
HW27/LQ27	HW28/LQ28 Q9(L25-26)		Review Q10(L27-28), PE4	Exam 4 (L1-28)

HW: 28 homework (unlimited attempts, drop 2 lowest) due 11:59 PM

LQ: 28 lecture quizzes (2 attempts, drop 2 lowest) due 11:59 PM

Q: 10 quizzes (1 attempt, drop 2 lowest) due 11:59 PM

PE: 4 practice exams (unlimited attempts) not for credit

**This syllabus is subject to change. You will be notified if any changes are made.**

**Tentative Book HW for extra practice (NOT COLLECTED FOR A GRADE)**

	9 <sup>th</sup> edition	(mechanical clock)	8 <sup>th</sup> edition	(apple)
Lct	Section	Problems	Section	problems
1	1.1	1-11 odds		Same
2	1.2	1-11 odds, 21-27 odds		Same
3	1.3	1-7 odds, 11-17 odds		Same
4	1.4	1,3,5 take two steps only		Same
5	2.2	1-25 odds		Same
6	2.3	1-21 odds		Same
7	2.4	1-25 odds		Same
8	2.5	1-11 odds		Same
9	2.6	1-27 odds		Same
10	1 <sup>st</sup> order apps	2.4 33, 3.2 23-25, 3.3 1-5 odds		Same
12	4.2	1-19 odds, 27-31 odds		Same
13	4.3	1-25 odds	4.3	1-17 odds, 21-25 odds
14	4.4	1-25 odds, 27-31 odds		Same
15	4.5	9-35 odds	4.5	11-19 odds, 23-25 odds
16	4.6	1-11 odds		Same
17	4.7	9-13 odds, 19-20, 41-44	4.7	9-13 odds, 19-20, 37, 39
18	7.2	1-19 odds		Same
19	7.3	1-9 odds, 13-17 odds, 25		Same
20	7.4	1-25 odds		Same
21	7.5	1-7 odds, 12, 15-23 odds, no sketch		Same
22	7.6	1-17 odds, 21-23 odds, no sketch	7.6	1-17 odds
23	7.8 (convolution)	1-21 odds, 23, 25	7.7 (convolution)	Same
24	7.9 (dirac delta)	1-17 odds, no sketch, 25, 27	7.8 (dirac delta)	Same
25	8.1	1-5 odds, 9a		Same
26	8.2	1-5 odds, 11-13 odds, 17-27 odds, 29, 33		Same
27	8.3	1-27 odds		Same
28	8.4	1-15 odds		Same