# MAP2302 Elementary Differential Equations 

Fall 2021

## Section Information

| Section | meets | MWF | room | instructor | email | office | office |  |
| :---: | ---: | :--- | :--- | :--- | :--- | :--- | ---: | :--- |
|  | hours |  |  |  |  |  |  |  |
|  | period | time |  |  |  |  | Live |  |
| 4869 | 4 | $10: 40-11: 30$ AM | LIT101 | Manly | imanly@ufl.edu | LIT 371 |  | R5,6 |
| 5609 | 5 | $11: 45-12: 35$ PM | LIT101 | Ngonghala | calistusnn@ufl.edu | LIT468 | TBD |  |
| 0100 | 6 | $12: 50-1: 40$ PM | LIT109 | Rudyak | rudyak@ufl.edu | LIT406 |  | MW5 |
| 3228 | 7 | $1: 55-2: 45 ~ P M ~$ | LIT109 | Demas | demasc@ufl.edu | LIT 323 | R3 | F4,5 |

## Course Coordinator: Carol Demas

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

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 cleared cache and 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: We will cover Chapters 1(Introduction), 2(First Order ODEs), 4(Second Order ODEs), 7(Laplace Transforms), and some of 8(Series Solutions).

Lecture Quizzes: Each lecture has a brief online quiz in Canvas. Lecture quizzes are worth $8 \%$ of the grade. The lowest two scores are dropped. Each lecture quiz has two attempts.

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 $8 \%$ 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.

Quizzes: There will be ten quizzes covering 2-4 lectures with one attempt each. The lowest two scores are dropped. Quizzes are worth $10 \%$ of the course grade. Quizzes are $30-50$ minutes long.

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 conference, you will be directed to watch the video of that conference unless you require specific clarification. Discussion boards are locked at 10 PM the night before each exam.

Practice Exams: Four online practice exams are due on the dates shown in the calendar. Practice exams are worth $5 \%$ of your grade. The lowest score is dropped. Each practice exam has one attempt. Late submissions are not possible as practice exams may be reviewed shortly after the due date.

Exams: Four live evening assembly exams will be given on the dates shown in the calendar. The fourth exam is comprehensive. Each is worth $17.5 \%$ of your grade.

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:

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4 Exams 17.5% each
Quizzes 10% (drop two lowest scores)
Lecture Quizzes 8% (drop lowest two scores)
Homework 8% (drop lowest two scores)
Practice Exams 5% (drop lowest score)
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Total: $101 \%$ (there is one extra credit point built in to the course).
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 disability.ufl.edu/students/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 www.dso.ufl.edu/sccr/honorcodes/honorcode.php. 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 on Nov. 30. If you miss without valid documentation, there will be a $10 \%$ penalty for its replacement. Valid documentation includes documented illlness, 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.

Late submissions: Homework, lecture quizzes, and quizzes can be submitted late with a $20 \%$ penalty for each day beyond the due date.

Evaluations: Course evaluations are now at https://gatorevals.aa.ufl.edu/
Privacy: Our 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.

## Exam Coverage

Exam 1 covers 1.1-1.4, 2.2-2.6 (L1-L9) and applications (L10)
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).

Final Exam (Exam 4): date pending

Tentative due dates (subject to possible revision)

| Sun | Mon | Tues | Wed | Thur | Fri | Sat |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Aug 23 | 24 | 25 | 26 | 27 | 28 |
|  |  |  |  |  | LQ1/HW1 <br> Syllabus Quiz |  |
| 29 | 30 | 31 | Sept 1 | 2 | 3 | 4 |
|  | LQ2/HW2 |  | LQ3/HW3 |  | LQ4/HW4 |  |
| 5 |  | 7 | 8 | 9 | 10 | 11 |
| Quiz1(L1-3) | holiday |  | LQ5/HW5 |  | LQ6/HW6 |  |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| Quiz2(L4-6) | LQ7/HW7 |  | LQ8/HW8 |  | LQ9/HW9 |  |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Quiz3(L7-9) | LQ10/HW10 |  |  | PE1 | Exam1 (L1-10) |  |
| 26 | 27 | 28 | 29 | 30 | Oct 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  |  |  | LQ11/HW11 |  | holiday |  |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|  | LQ12/HW12 |  | LQ13/HW13 |  | LQ14/HW14 |  |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Quiz4(L11-13) | LQ15/HW15 |  | LQ16/HW16 | Quiz5L(14-15) | LQ17/HW17 |  |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Quiz6(L16-17) |  | PE2 | Exam 2 (L11-17) |  |  |  |
| 31 | Nov 1 | 2 | 3 | 4 | 5 | 6 |
|  |  |  | LQ18/HW18 |  | LQ19/HW19 |  |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|  | LQ20/HW20 |  | LQ21/HW21 | holiday | LQ22/HW22 |  |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Quiz7(L18-21) | LQ23/HW23 |  | LQ24/HW24 | $\begin{aligned} & \text { Quiz8(L22-24) } \\ & \text { PE3 } \end{aligned}$ | Exam 3 (L18-24) |  |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
|  |  |  | holiday | holiday | holiday |  |
| 28 | 29 | 30 | Dec 1 | 2 | 3 | 4 |
|  |  | Exam1-3 makeup | LQ25/HW25 |  | LQ26/HW26 |  |
| 5 | 6 | 7 | 8 | 9 | 10 |  |
| Quiz9(L25-26) | LQ27/HW27 |  | $\begin{aligned} & \text { LQ28/HW28 } \\ & \text { Quiz10(L27-28) } \\ & \text { PE4 } \end{aligned}$ | reading | reading |  |

HW: 28 homework (3 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 (1 attempt, drop 1 lowest) due 11:59 PM
Final Exam date: TBD.

Tentative Lecture Schedule (subject to possible revision)

| Sun | Mon | Tues | Wed | Thur | Fri | Sat |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Aug 23 | 24 | 25 | 26 | 27 | 28 |
|  | Intro/L1 |  | L1/L2 |  | L2/L3 |  |
| 29 | 30 | 31 | Sept 1 | 2 | 3 | 4 |
|  | L3/L4 |  | L4/L5 |  | L5/L6 |  |
| 5 |  | 7 | 8 | 9 | 10 | 11 |
|  | holiday |  | L6/L7 |  | L7/L8 |  |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|  | L8/L9 |  | L9/L10 |  | L10 |  |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|  | Review |  | Review |  | $\begin{aligned} & \text { Review } \\ & \text { Exam1 (L1-10) } \end{aligned}$ |  |
| 26 | 27 | 28 | 29 | 30 | Oct 1 | 2 |
|  | L11 |  | L11/L12 |  | L12 |  |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  | L13 |  | L13/L14 |  | holiday |  |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|  | L14/L15 |  | L15 |  | L16 |  |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|  | L17 |  | L18 |  | L18/Review |  |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|  | Review |  | Review <br> Exam 2 (L11-17) |  | L19 |  |
| 31 | Nov 1 | 2 | 3 | 4 | 5 | 6 |
|  | L19/L20 |  | L20/L21 |  | L21/L22 |  |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|  | L23 |  | L24 | holiday | L25 |  |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|  | L25/L26 |  | L26/Review |  | Review <br> Exam 3 (L18-24) |  |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
|  | L27 |  | holiday | holiday | holiday |  |
| 28 | 29 | 30 | Dec 1 | 2 | 3 | 4 |
|  | L27/L28 | Exam1-3 makeup | L28 |  | Review |  |
| 5 | 6 | 7 | 8 | 9 | 10 |  |
|  | Review |  | Review | reading | reading |  |

## Tentative Book HW for extra practice (not collected for grade)

| 7th edition | (mechanical clock) | 6th edition | (apple) |
| :---: | :---: | :---: | :---: |
| section | problems | section | problems |
| 1.1 | 1-11 odds |  | same |
| 1.2 | 1-11 odds, 21-27 odds |  | same |
| 1.3 | 1-7 odds, 11-17 odds |  | same |
| 1.4 | 1,3,5, take two steps only |  | same |
| 2.2 | 1-25 odds |  | same |
| 2.3 | 1-21 odds |  | same |
| 2.4 | 1-25 odds |  | same |
| 2.5 | 1-11 odds |  | same |
| 2.6 | 1-27 odds |  | same |
| 1st order apps | $2.433,3.2$ 23-25 3.31 -5 odds |  | same |
| 4.2 | 1-19 odds, 27-31 odds |  | same |
| 4.3 | 1-25 odds |  | 1-17 odds, 21-25 odds |
| 4.4 | 1-25 odds, 27-31 odds |  | same |
| 4.5 | 9-35 odds | 4.5 | 11-19 odds, $23-25$ odds, $31-35$ odds |
| 4.6 | 1-9 odds,11 |  | same |
| 4.7 | 1-13 odds,19-20,41-44 | 4.7 | 1-13 odds, 19-20,37-39 odds, 45-47 odds |
| 7.2 | 1-19 odds |  | same |
| 7.3 | 1-9 odds, 13-17 odds, 25 |  | same |
| 7.4 | 1-25 odds |  | same |
| 7.5 | 1-7 odds, 12, 15-23 odds |  | same |
| 7.6 | 1-17 odds, 21-23 odds, no sketch | 7.6 | 1-17 odds |
| 7.8 (convolution) | 1-21 odds, 23, 25 | 7.7 (convolution) | 1-21 odds, 23, 25 |
| 7.9 (dirac delta) | 1-17 odds, no sketch, 25, 27 | 7.8 (dirac delta) | 1-17 odds, no sketch, 25, 27 |
| 8.1 | 1-5 odds, 9a |  | same |
| 8.2 | 1-5, odds, 11-13 odds,17-27 odds, 29, 33 |  | same |
| 8.3 | 1-27 odds |  | same |
| 8.4 | 1-15 odds |  | same |

