

MAT 22B: Differential Equations (2021 Summer Session I)

Instructor: Benjamin Godkin

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Office Hours: M 4-5 PM, T 2-3 PM, W 4-5 PM, R 3-4 PM, F 10-11 AM or by appointment

Website: Canvas

Class meetings: MWF 2:10 PM - 3:50 PM via Zoom (June 21, 2021 - July 30, 2021) Lectures will be recorded and available through Canvas, and attendance is not required.

Textbook: *Elementary Differential Equations and Boundary Value Problems* by Boyce and DiPrima

Course Outline: We will follow the course schedule available on the department website(https://www.math.ucdavis.edu/courses/syllabus_detail?cm_id=59). Note that summer session will move significantly faster than the schedule on the department website. More detailed calendar below.

Prerequisites: At least one of the prerequisite requirements below:

- MAT 022A C- or better
- MAT 067 C- or better

OR by consent of instructor.

Grading: Homework 20%, Quizzes 15%, Group Work 15%, Midterm 20%, Final 30%

Homework: There will be 2-3 assignments due per week (except the first week and exam weeks). Assignments should be submitted on Gradescope. Homework will typically be due MWF by 2:10 PM. The 3 lowest assignments will be dropped. Late homework will generally not be accepted.

Quizzes: There will be 2 quizzes per week (with exceptions for exam weeks). Typically on Mondays and Wednesdays. The 2 lowest scores will be dropped. Quizzes cannot be made up.

Group Work: Each week, there will be a group work assignment to be completed with your assigned group. You are free to form your own groups of 3-4, but if you do not choose a group, you will be randomly assigned to a group. I will hold “discussion sections” (OH with breakout rooms setup) on Tuesdays and Thursdays which you may use as a meeting place, but attending those sessions is not mandatory.

Exams: There will be one midterm and one final exam. These exams cannot be made up and are scheduled to take place during the class time. Please make sure you are available during the scheduled time as makeup exams will not be possible.

- Midterm: Wednesday July 14, 2021
- Final: Friday July 30, 2021

Discord: There is a student-run class Discord server where I will answer any questions you may have. See <https://discord.gg/hgg8KRscmc> to join.

Class Policies:

- Please make use of the communal forum for questions, but you may also email me any questions you have. Please email me at the above email address and not through Canvas. I will try to reply within 24 hours or by Monday if you email over the weekend. If you do not get a reply, please follow-up, because I may have missed your email.
- You may work on homework with other students, but your write-up should be completed yourself and in your own words.
- Calculators will not be allowed on exams.
- All exams are closed book, notes, and other resources.
- Students are expected to adhere to the UCD Code of Academic Conduct (<http://sja.ucdavis.edu/cac.html>). Any suspicions of cheating will be reported to OSSJA, and they will handle cases.
- If anything of concern comes up please contact me sooner rather than later.

Other resources:

- The Academic Assistance & Tutoring Center provides tutoring services during the summer through Zoom. <https://tutoring.ucdavis.edu/math>
- The 3Blue1Brown YouTube channel has a great video series on differential equations with lots of visualizations. <https://youtube.com/playlist?list=PLZHQB0b0WTQDNP0jrT6KV1fJuKtYTftqH6>

Course Schedule:

| Lecture | Date | Sections (Boyce and DiPrima 11th) |
|---------|-----------|-----------------------------------|
| 1 | 6/21/2021 | 1.1, 1.2, 1.3 |
| 2 | 6/23/2021 | 2.1, 2.2 |
| 3 | 6/25/2021 | 2.3, 2.4, 2.5 |
| 4 | 6/30/2021 | 2.6, 2.7 |
| 5 | 7/2/2021 | 2.8, 2.9 |
| 6 | 7/7/2021 | 3.1, 3.2 |
| 7 | 7/9/2021 | 3.3, 3.4 |
| 8 | 7/12/2021 | 3.5, 3.6 |
| 9 | 7/14/2021 | Midterm |
| 10 | 7/16/2021 | 3.7, 3.8 |
| 11 | 7/19/2021 | 6.1, 6.2 |
| 12 | 7/21/2021 | 7.1, 7.2, 7.3 |
| 13 | 7/23/2021 | 7.4, 7.5 |
| 14 | 7/26/2021 | 7.6, 7.7 |
| 15 | 7/28/2021 | 7.8, 7.9 |
| 16 | 7/30/2021 | Final |