

MATH 3150-002: PDE's For Engineers

Lecture: MW 8:00-9:30 AM Location: CANVAS

Course Instructor: Jacob Madrid

Email: madrid@math.utah.edu (preferred method of contact)

Office Hours: TBD

Remote Learning Course:

This is a remote learning class, where instruction will take place during the time listed in the online schedule. This meeting time will consist of traditional lectures as well as directed problem solving exercises. In addition, supplemental instructional videos will be regularly posted. All lecture material (include that presented during the scheduled class time) will be recorded and posted to the course web page. Problem solving exercises will not be recorded, but will be posted to the course web page.

Course Web Page:

All course information and announcements will be posted on the CANVAS page, which can be accessed through your CIS. It also contains material that may help you succeed in this course as well as links to class Zoom meetings. I will assume that you are keeping up to date with its contents.

Textbook:

- *Partial Differential Equations for Scientists and Engineers*, by William Nesse. (PDF provided free on Canvas page)

Prerequisites:

- C or better in either Math 2250 OR (2270 AND 2280), AND
- C or better in Math 2210 OR Math 1260 OR Math 1280 OR Math 1321

Course Description: Fourier series and boundary-value problems for the wave, heat, and Laplace equations, separation of variables in rectangular and radial geometries, Fourier transform.

Course Work and Evaluation

Grading: The grades of homework, exams, and finals will weight as follows in your overall average.

Homework	30%
Midterm 1	20%
Midterm 2	20%
Final	30%

Using the above weights, letter grades will be assigned as follows: If X is your percentage total grade listed in Canvas, then

$$\begin{aligned} X \geq 93\% &\Rightarrow A, X \geq 90\% \Rightarrow A-, \\ X \geq 87\% &\Rightarrow B+, X \geq 83\% \Rightarrow B, X \geq 80\% \Rightarrow B-, \\ X \geq 77\% &\Rightarrow C+, X \geq 73\% \Rightarrow C, X \geq 70\% \Rightarrow C-, \\ X \geq 67\% &\Rightarrow D+, X \geq 63\% \Rightarrow D, X \geq 60\% \Rightarrow D-, X < 60\% \Rightarrow E. \end{aligned}$$

I reserve the right to change the grade scheme as I see fit. Any other grade schemes will only be beneficial to your grade as compared to the above standard.

Homework: Homework will be assigned weekly. Homeworks will be assigned on Wednesdays and submitted through CANVAS the following Wednesday. All homework assignments and due dates will be posted on CANVAS. Homeworks will be completed outside of class and all students must turn in their own homework assignments. The lowest two homework scores will be dropped. *No* late homeworks will be accepted.

Exams: There will be two midterm exams and one final exam. Midterm 1 will cover the material from weeks 1-5; Midterm 2 will cover material from weeks 6-9; the Final exam will be cumulative. Exam dates and times are listed on the course schedule. There will be no makeup exams. However, if the percentage earned on your Final exam is higher than either of your Midterm exams, I will replace one Midterm score with the Final.

Other Policies and Resources

The Americans with Disabilities Act: The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

Addressing Sexual Misconduct: Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veterans status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801- 581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585- 2677(COPS).

Important Dates:

Memorial Day (NO CLASS) Monday, May 25
First Midterm **Wednesday, June 17**
Withdraw Deadline Tuesday, June 19
Second Midterm **Wednesday, July 15**
Classes End Wednesday, July 29
Course Final **Friday, July 31 (7:30 am-9:30 pm)**