

Math 532: Partial Differential Equations, Spring 2015

Meetings: TR 8:55-10:10 in SH 111

Instructor: Shibin Dai

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Office: SH 230

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Office Hours: W 10:30-11:20, Th 10:30-11:20 and by appointment

Prerequisite: Math 472 (Fourier Series and Boundary Value Problems) or consent of instructor

Textbook: We will follow, but not too closely, the book by Jürgen Jost, *Partial Differential Equations*, Third Edition, Graduate Texts in Mathematics, Springer, 2012

Other PDE books for supplementary reading:

1. *Partial Differential Equations* by Lawrence C. Evans, Graduate Studies in Mathematics, Volume 19, American Mathematical Society, 1998. This is a standard PDE book in many math graduate programs over the country, and it requires a solid analysis background. Also, there are not many exercises, but it gives a modern approach to the subject.
2. *Partial Differential Equations* by Fritz John, Reprint of the fourth edition, Applied Mathematical Sciences, Springer-Verlag, New York, 1991. Before Evans, this was the standard book in math graduate courses; many still prefer it to Evans.

Class communication: The best way to contact me is through email. All course materials will be posted on canvas.

Course Objectives: The course intends to give a mathematical overview of the basic partial differential equations of mathematical physics: the Laplace equation, the wave equation and the heat equation. We will stress elliptic partial differential equations. Time permitting, we will introduce the idea of weak solutions to partial differential equations, and study more general partial differential equations of the second-order.

Course Evaluation: Homework will count for 50% of the class grade, the midterm test will count for 20% and the final exam will count for 30%. Homework will be assigned biweekly, and you are encouraged to work on them in groups, but you must turn in your own solutions.

Final Exam: A comprehensive final exam will be held on Thursday May 7, 8:00–10:00.

Grades: Grades will be assigned as follows:

A [90%,100%], B [80%,90%), C [70%,80%), D [60%,70%), F [0,60%)

Make-up Exams: Make-up exams will be provided only in the case of a documented legit excuse, at the discretion of the instructor. Excused absences include absences due to illness and travel on university or career-related business. Unless it is an unforeseen circumstance, arrangements must be made prior to the date of the exam.

Withdrawals and Incompletes: You have the primary responsibility for withdrawing from the course. **The last day to drop with a “W” is Monday, March 16th.** Under university policy, the grade of **I** (incomplete) is given for passable work that could not be completed due to circumstances beyond the student’s control. The I grade should not be used to avoid a student receiving a D or F grade.

Important Notes:

- You are expected to attend every class and show up on time.
- Announcements and grading will be communicated to you through Canvas. Access your Canvas account regularly.
- At the end of the final examination, the course is over, and there are no more opportunities to submit additional work.
- I will not compose extra credit assignments for students who want to try to compensate for poor results in another component of the course.

Plagiarism: Plagiarism is using another person's work without acknowledgment, making it appear to be one's own. Intentional and unintentional instances of plagiarism are considered instances of academic misconduct and are subject to disciplinary action such as failure on the assignment, failure of the course or dismissal from the university. The NMSU Library has more information and help on how to avoid plagiarism at <http://lib.nmsu.edu/plagiarism/>

Disabilities and Discrimination: Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) cover issues relating to disability and accommodations. If a student has questions or needs an accommodation in the classroom (all medical information is treated confidentially), contact:

Trudy Luken
Student Accessibility Services (SAS) - Corbett Center, Rm. 244
Phone: 646.6840 E-mail: sas@nmsu.edu
Website: www.nmsu.edu/~ssd/

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Gerard Nevarez or Agustin Diaz
Office of Institutional Equity (OIE) - O'Loughlin House
Phone: 646.3635 E-mail: equity@nmsu.edu
Website: <http://www.nmsu.edu/~eoo/>