

Mth 322, Section 001: Applied Partial Differential Equations

Instructor: Dacian Daescu

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Office Hours: Friday 10:00-12:00. Also by appointment.

Class Time and Location: TR 10:00-11:50 Unitus Building 209

Textbook: INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS WITH APPLICATIONS, by E.C. Zachmanoglou and D.W. Thoe. Dover Publications, 1986.

Final Examination: Tuesday, June 9, 10:15–12:05, in class.

Course web site: Syllabus, class assignments, and other information about the course will be available on the web site: <http://www.mth.pdx.edu/~daescu/mth322.html>

Students are responsible for checking this site on a regular basis.

Course Description: This course provides an introduction to the theory and applications of first order partial differential equations. The material will be covered as follows:

Chapter 1: Review of concepts: Calculus and ODEs.

Chapter 3: Theory and applications of first-order PDEs. Sections 1-6.

Chapter 4: Series solutions. Cauchy-Kovalevski theorem.

Chapter 5: Linear PDEs, characteristics, classification, canonical forms.

Chapter 6: Equations of mathematical physics

Chapter 10: Systems of first-order PDEs (if time allows).

This course plan may be modified during the semester. Such modifications will be announced in advance in class and on the course web page; the student is responsible for keeping abreast of such changes

Prerequisites: Mth 256.

Grading Policy: The final grade will be based on homework and tests, as follows:

1. **Final exam:** Tuesday, June 9, 10:15–12:05, in class. Comprehensive exam, **30%** of the course grade.
2. **Midterm exam:** in class, **30%** of the course grade. Scheduled for Tuesday, April 28.
3. **Homework:** **40%** of the course grade. Homework will be assigned and collected on a weekly basis. Only selected problems will be graded.

Tests are closed-book, closed notes. Examinations will be based on the homework assignments and the topics discussed in class. In assigning final course grades, plus/minus grading will be used. Main criteria for evaluating your work will be: correctness, completeness, and *clarity* of the work presentation.

Only under exceptional circumstances will a student be permitted to shift the time of the examinations.

Disability requests: If you have a disability which may require special arrangements for seating, testing or other class requirements, please contact me after class or during my office hours.