Partial Differential Equations I
Math 6540(8540) Syllabus Fall 2008

Space-Time: Gillham Hall 4400 MWF 11-11:50am

Instructor: Mao-Pei Tsui

Office Hours: UH2080B M 1:30-3:00pm, W 1:30-3:00pm, F 1:00-2:00pm

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Class Web Site: http://www.math.utoledo.edu/∼mtsui/6540f08/6540.html

Text:1. *An Introduction to Partial Differential Equations Series: Texts in Applied Mathematics , Vol. 13 Authors: Renardy, Michael and Rogers, Robert C. , 2nd ed., 2004, ISBN: 978-0-387-00444-0*

2. *Partial differential equations, by L. C. Evans, Grad. Stud. Math., vol. 19, Amer. Math. Soc., Providence, RI, 1998, xvii + 662 pp., ISBN 0-8218-0772-2*

Homework: I will assign problem sets every two weeks, to be handed in. These assignments and their due dates will be posted on the course website.

Exams: We will have one in-class one hour midterm exams, and a take home final exam.

- Midterm I Oct. 20 (Monday) 11-11:50 am

Grading: The following percentages are assigned to the components of the student's grade.

Hand in homework	40%
Midterm	20%
Final Exam	40%

Course outline: This is a course in partial differential equations. The focus of the course is to introduce important techniques in the study of partial differential equations.

Possible topics:

- Chapter 1 (Evans's book) Introduction
- Chapter 2, (Evans's book) Four important Linear PDE Transport equation, Laplace's equation, Heat equation, Wave equation
- Chapter 2 (Renardy and Rogers) Characteristics methods;
- Chapter 3 (Renardy and Rogers) Conservation Laws and Shocks
- Chapter 4 (Renardy and Rogers) Maximum Principles