Syllabus for M513

PDE: Partial Differential Equations

Instructor: Yuxi Zheng (August 25, 2008, updated Sept 9.)

Lecture Schedule: MWF 9:05-9:55AM, 106MB
Contact info: yzheng@math.psu.edu, 865–0361; McAllister 229
Web address: http://www.math.psu.edu/yzheng
Office hours: M 2:30–3:20pm, T 11–11:50, F 1:30–2:20.

This is the primary PDE course for mathematical graduate students, who are preparing for the Ph.D. in PDE, Numerics, Scientific Computation or Modelling. Advanced engineering graduate students who have passed the course "Introduction to Applied Math I and II (M580-1)" may take this course for more and deeper knowledge.

Prerequisite is M412 (undergraduate PDE) or equivalent familiarity with PDEs. As this course needs a lot of real analysis, students are adviced to be well prepared in analysis such as M504 (Analysis in Euclidean Space) and M509 (Linear Analysis with Applications I).

1. Text: *Partial Differential Equations*, by Lawrence C. Evans. Chapters 1–5.

2. Homework: Visit http://www.math.psu.edu/yzheng/m513/m513index.html

Schedule: One assignment is given early each week and due the Wed. of the following week.

3. Examinations: There will be one midterm exam (date: Sunday evening 8-10pm, October 12) and one final exam. The final course grade will be determined as follows:

30% homework + 30% midterm exam + 40% final exam.

4. Makeup exam policy: No makeup exams allowed. Missed mid-term exam will be substituted by the final exam. Missed Final Exam will result in F for the course. Severe sickness and other compelling reasons for missing the final exam need show formal documentation.

5. Academic integrity policy: All Penn State Policies regarding ethics and honorable behavior apply to this course.

6. Reference books:

Fritz John, Partial Differential Equations.

Walter Strauss, Partial Differential Equations, An Introduction.

Renardy and Rogers, An Introduction to Partial Differential Equations.

DiBenedetto, Partial Differential Equations.

Robert C. McOwen, Partial Differential Equations.

H. F. Weinberger, A First Course in Partial Differential Equations with Complex Variables and Transform Methods, Dover.