

APPM 5470 Fall Semester 2009

Partial Differential Equations

Course Information

Section 010 MWF 1:00pm, ECCR 137

Professor James H. Curry (curry@colorado.edu)

(ECOT 218, Office Hours MW 2:15pm-3:30pm or by appointment)

Required Text: Partial Differential Equations of Mathematical Physics and Integral Equations Ronald B. Guenther and John W. Lee (Dover Publications, 1996)

Course Goals, Philosophy and Context:

This is an Applied Mathematics Department Preliminary Examination course. A course goal is to gain exposure to, and a facility for, the tools, methods, and strategies that are central to the study of Partial Differential Equations (PDE's).

An important additional goal of the class is to help prepare APPM students for the Preliminary Examination in Partial Differential Equations.

As you already understand, the only way to learn this material is to spend the time to develop both the vocabulary and necessary problem solving approaches and skills. I will be a guide, prod, and facilitator for your learning. The material is graduate level mathematics. It is important to have a good understanding of this foundational mathematical area, it sets the proper tone for many other grad level APPM courses. Finally, I want each of you to be able to tell parts of the "story" of PDE including: who, what, when and where.

Homework / Class Participation (40%)

Homework will be assigned in class at least weekly. Most of these exercises will come from the textbook. Again, a goal of the exercises is to help us develop a facility for the language and strategies used in solving PDEs. I expect that you will be able to demonstrate this facility to me and the other participants in the class. **I encourage you to work in groups so that you can teach each other the material.**

Midterm and Final (30% each)

There will be two Midterms exams during the semester. Midterms are designed to give you feedback and to give me a sense of what was learned and what modifications I may need to make in the course. **The first midterm will be Monday October ZZZ 7:00pm until 9:30pm. Expect it to cover chapters 2 and 3 of the textbook. The Final Examination will be December 17th between 1:30 and 4:00pm.**

Web Page

The course will maintain a web page whose address is:
<http://amath.colorado.edu/appm/courses/5470> and with your permission, I will post some of your projects on the class web page.

Grading

I want each one of you to do well in this course. Grades will be based on homework and class participation (40%), your midterm score (30%) and the Final Exam (30%).

Getting an acceptable grade (B+ to A- range) is easy, do all the work at the 87% to 90% level and show positive growth in your understanding of the material. In order to receive a grade of A you must impress me that you not only understand the material, but also understand the material at a very high level. This means demonstrating mathematical, computational, and communication skills at a level sufficient for a research pass on the APPM Preliminary Exams.

Students with disabilities, who may need academic accommodations, should discuss options with me during the first two weeks of class (see also : < <http://www.colorado.edu/disabilityservices/syllabus.html>>