Instructor: Dr. Henghui Zou
Office: 480B, Campbell Hall
Office Hours: MW 10:00-11:00am; or by appointment
Phone/Email: 934-2154/zou@math.uab.edu


Time/Place: 12:30-1:45pm Tu & Th/HHB 126

Course Description: We shall study solutions of partial differential equations (PDEs) arising from sciences (e.g., physics, biology, etc.) and engineering. Chapters 1-4 from the text book, with some exceptions, will be covered. Topics to be studied include modeling (PDEs arising from physics) and classification of second order PDEs (Chapter 1), solutions of PDEs on unbounded domains (Chapter 2), the Fourier method (the method of separation of variables, Chapter 3), solutions to boundary value problems (Chapter 4). You are expected to understand fundamental concepts and perform standard calculations. In particular, you will be able to apply standard methods to solve standard PDE problems (i.e., deriving solutions), and set up problems mathematically, i.e., set up the PDEs with proper boundary and/or initial conditions. We may include some applications (Chapters 5&6) if time permits.

Prerequisite: MA 252 with grade of C or better.

Mid-term: There will be four mid-terms (in class and/or take-home). An one-week advanced notice will be given for in class tests.

Final: The final exam is scheduled at 10:45am-1:15pm, Thursday, December 13. The format of the final will be either in class or take-home.

Homework: There will be regular homework assignments.

MA555 Students: There will be extra problems on assignments and tests for students who take the course as MA555.

Grading Policy: Mid-terms: 60% total. Final: 40%.