Instructor: Yao Yao

Email: yaoyao@math.gatech.edu

Lecture time and place: TR 1:35–2:55pm, Skiles 270

Office: Skiles 259  Office phone: (404)894-3949

Office hours: Wednesday 3pm-4pm and Thursday 3-4pm, or by appointment.

Class Webpage: http://www.math.gatech.edu/~yaoyao/6341.html


Course description: This course introduces the students to the fundamentals of partial differential equations (PDE). The emphasis is placed on the main examples of linear PDEs and exact solution techniques. We plan to cover all of Chapter 2 in the textbook, and a part of Chapter 3 and 4. Topics include the Laplace, Poisson, heat, and wave equations, the method of characteristics for first order equations, conservation laws, the energy method, and some methods of explicit solutions like separation of variables, Fourier transform, fundamental solutions and Green’s functions.

Grading scheme: Grades are based on biweekly homework assignments (25% total, lowest one dropped), two midterm exams (25% each), and a take-home final exam (25%). Letter grades will be assigned according to the standard cutoffs: A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, F: 0-59%. If necessary, these cut-offs may be lowered at the end of the semester to arrive at a standard grade distribution for the course.

Homework: There will be roughly biweekly homework sets (you should expect about 7 in total). They will be posted on the class webpage, and due at the beginning of classes on roughly every other Tuesday. No late homework will be accepted for any reasons, but the lowest homework score will be dropped. Working in groups on the homework assignments is encouraged, however, you must write up your own solution independently.

Exams: The two midterm exams are tentatively scheduled on Sep 27 (Tue) and Nov 1 (Tue) in class. The midterm exams are closed-book, closed notes, and no cell phones allowed. There will be no make-up exams. If a midterm exam is missed for an acceptable and documented reason such as severe illness or official university excuses, your grade will be reweighed appropriately. The score for an unexcused absence from a midterm exam will be zero.

The final exam will be a cumulative take-home exam, assigned on Dec 8, 5pm and due on Dec 15, 5pm. For the take-home final, any collaboration or discussion (including discussion on the internet) is strictly forbidden.

Academic Integrity: Please be aware of the Georgia Tech Honor Code (http://www.honor.gatech.edu) and follow it carefully. Any evidence of cheating or other violations of the Georgia Tech Honor Code will be submitted directly to the Office of Student Integrity.