Math 333 Course Information

Prerequisite A grade of C or better in Math 231, and either of Math 270 or Math 271.

Required Text Applied Partial Differential Equations (3rd Edition), by J.D. Logan

Course Content Selected sections in Chapters 1-6 of the textbook.

Course Objective We will learn some of the fundamentals of analyzing and solving partial differential equations (PDEs). In particular, the student who successfully completes the class will know how to:

1. derive PDEs which model heat flow, and vibrating strings
2. solve PDEs using orthogonal expansions (infinite series)
3. supply a physical interpretation of the mathematical solution
4. approximate PDE solutions using finite orthogonal expansions, and determine the error between the true solution and the approximate solution
5. numerically solve some canonical PDEs using finite-difference schemes
6. analytically approximate solutions to PDEs using a Galerkin approximation (time permitting).

Homework Policy Problems will be assigned regularly. I encourage you to collaborate with each other when doing the homework problems; however, each person must hand in the solutions in his/her own writing and words. One of the goals in doing the homework is to not only further develop your problem-solving skills, but to improve your ability to communicate mathematics. I must receive a hard copy of the assignment at the beginning of the class period in which it is due. I will not accept an electronic copy, and I will not accept late assignments. If you will not be in class the day the homework is due because of a prearranged conflict, it is your responsibility to get the assignment handed in to me before you leave.

Make-up Policy There will be no make-ups.

Grading Policy The homework will be graded weekly. There will be a final exam. The points will be distributed as follows:

	Homework	Midterm	Final Exam	Total
Points	200	100	100	400

The distribution of grades is not determined until the end of the semester. In a typical situation, the final distribution of grades will determine the cutoff point for A's, B's, etc. I can guarantee, however, that if your class average is 93 or better, then you will receive an A for the course.

Attendance Policy Your attendance is not mandatory; however, your likelihood of doing well is directly proportional to the number of lectures that you attend. If you decide not to attend, that is your business, but please do not then expect me to be sympathetic to your pleas for help the day before a homework assignment is due.

Electronic Gadget Policy While you are free to use the technology of your choice while doing the homework problems, you will not be permitted to use any technology when taking in-class exams.

The classroom is a No Cell Phone Zone. You are not to use your cell phone to make phone calls, receive phone calls, or text message. Any violation of this policy will result in the deduction of three points from your final class average.