MATH 251H - SPRING 2011
ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS

Instructor: Professor Anna L. Mazzucato
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Office hours (subject to change): Tuesday 5:45-6:45 PM
Thursday 5-6 PM
Friday 1:15 - 2:15 PM

Class meets MTW F 04:40PM - 05:30PM in 115 OSMOND.

DESCRIPTION: Honors course in first- and second-order equations; special functions; Laplace transform solutions; higher order equations; Fourier series; partial differential equations.

This Honors Course will differ from the regular Math 251 course in that we will study the material in depth and your assignments will be more challenging. In particular, there may be different problems on each of the midterm and final exams. There will also be a final project due.

PREREQUISITES: Math 141 or Math 141H. Students may not schedule this course for credit if they have already passed Math 250.


We will cover most of Chapters 1, 2, 3, 6, 7, 9, 10, depending on time. A detailed list of course topics will be available on the course web page and/or ANGEL as time progress.

GRADING: The grade for the course is based on a total of 500 points, divided as follows:

Midterms: 100 points each
Final Exam: 150 pts
Quizzes: 100 pts
Final Project: 50 pts.

Grading will follow a ten-point base (i.e., 90-100% is A, etc).
NOTE: Your grade will be based EXCLUSIVELY on the midterm examinations, quizzes, final examination and project. There is no "extra-credit" work.
EXAMS: There will be TWO MIDTERM EXAMS and a COMPREHENSIVE FINAL EXAMINATION. The midterms will consist of two 75-minute evening exams, scheduled for Thursday February 17 and Wednesday April 6, 6:30 -7:45 PM (subject to change). The final exam is scheduled for final exam week, May 2-6. Midterm CONFLICTS due to concurrent class or lab, or other University-sponsored activity, are to be communicated to me AT LEAST THREE WEEKS IN ADVANCE. A conflict exam will be scheduled before the regular midterm in such a case. Resolving conflicts with a final exam is responsibility of the students. Nor the instructor nor the Mathematics Department can schedule a conflict final exam. You should not plan to leave University Park before Saturday May 7. THERE WILL BE NO MAKE-UP EXAMS except for valid and documented reasons, such as illness. Make-up exams need to be requested IN ADVANCE. Personal business such as travel, employment, weddings, graduations, or attendance at public events such as concerts, sporting events, etc. are not valid excuses. If a student requests a make-up exam, but cannot document a valid reason, 20% of his/her grade will be automatically deducted.

HOMEWORK AND QUIZZES: There will be weekly homework assignments consisting in problems from the book. The homework is for the students to practice and WILL NOT BE COLLECTED OR GRADED. Homework assignments and solutions keys will be available on this course web page and through ANGEL. Homework will be assigned usually each MONDAY. There will be IN CLASS quizzes roughly every two weeks ON FRIDAY. MISSED quizzes MAY NOT be made up at a later time for ANY reason. Quizzes will be announced in class the period before. Your lowest quiz score will be dropped.

COURSE SPECIFIC POLICIES: You MAY NOT use calculators, personal notes, or the textbook and NO COLLABORATION is allowed during quizzes and examinations.

Attendance to this course IS REQUIRED and I will randomly take attendance throughout the course. If you cannot attend class because of a valid excuse, such as illness or University-sponsored activity, you are to contact me IN ADVANCE and you are responsible for materials due, concepts covered, and assignments given. If you miss more than one attendance check, 20 points will be automatically deducted from your final grade. In particular, it will NOT BE TOLERATED that students arrive late, leave class early, or disrupt class in any way. I will make all efforts to start and finish class on time. Please, discuss any logistic problem with me.

Classroom seating: you may choose any seat you like in the classroom, but you are asked to keep the same seating throughout the semester.

Cell Phones must be TURNED OFF during ALL course activities. ANY electronic device (phones, ipods, ipads, computers, etc) used in class or that disturbs class activities, except when allowed by the instructor, will be CONFISCATED until the end of the class period.

COMMENTS: This course is difficult but of FUNDAMENTAL IMPORTANCE to almost any scientific discipline, not just advanced Mathematics. In order to succeed in
it, you MUST devote to it adequate time and attention, by coming to class regularly, keeping up with reading and homework assignments, taking advantage of office hours. If you do not understand one concept, you will NOT understand subsequent material. IT IS IMPERATIVE that you do not fall behind, but if you do, DO NOT WAIT. Come to office hours immediately to get extra help. Consistency in course work will pay off at the end of the course.

I expect that you read the textbook carefully after each class periods. In fact, it is best to read the book before coming to class. I WELCOME questions both during and outside class. ALL questions are very useful to both the instructor and the students. I also welcome general feedback about the course. An anonymous feedback form will be available on this course web page.

You are required to carefully read and understand this syllabus. Occasional changes in the syllabus or schedule will be available on the Instructor’s web page, or through ANGEL, or announced in class.

**ACADEMIC INTEGRITY:** All Penn State policies regarding ethics and integrity apply to this course. For more information, see:
http://www.science.psu.edu/academic/Integrity/index.html