Course Info:
Math 564 - Mathematical Modeling
Spring 2011 - Section 001

Time/Place:
MWF: 10:00 AM - 10:50 AM, Room 383 Phillips Hall

Instructor:
Jeremy Louis Marzuola

Contact Info:
E-mail: marzuola@math.unc.edu
Office: 324D Phillips Hall
Office Hours: WF: 11 AM - 12:30 PM

Teaching Assistant:
Justin Allman

Contact Info:
E-mail: jallman@email.unc.edu
Office: Phillips Hall 37
Office Hours: TBD

Course Description:
We will review basic topics in Applied Mathematics that have applications throughout the physical sciences. Emphasis will be on usage and applications.

Topics:
I. Applied Linear Algebra
II. ODE and Dynamical Systems
III. Basic Functional Analysis
IV. Fourier Series/Transform
V. PDE Applications

Prerequisites:
Math 383 or the equivalent required. Some complex analysis, ODE, PDE and programming experience are recommended.

Required Course Texts:
Grading:
The course will be graded on weekly homework assignments (20%), a midterm exam (25%), an individual project (20%) and a comprehensive final exam (35%)

The midterm will be in class on March 4th, 2011. The final will be held at the designated time as made available in the University Calendar, which is Friday, April 29, 2011 at 8 AM.

Late homework assignments will not be accepted, though the two lowest homework scores from the semester will be dropped in the calculation of final grades. Homework assignments will be due at the beginning of class each Monday throughout the semester.

The project will be on a topic chosen by the student and comprises a significant portion of the grade. The idea will be to explore analytically and numerically a mathematical model related to an application of interest to each individual student. I suggest coming to talk to me early in the semester regarding possible topics of exploration. The project will be due on the last day of class, Wednesday, April 27, 2011.

Honor Code Statement and Course Policies:
It is expected that each student will conduct themselves within the guidelines of the UNC Honor System. Upon entering class, all cell phones should be turned off. Exams will be closed book and without calculators. Please put all cell phones and calculators away before coming to class for any exam.

Make-up and Absentee Policy:
Attendance at every class is strongly encouraged. No make-ups will be given for homework assignments. Missed in-class exams can be made up only if a written medical/coach excuse is provided showing you were unable to attend. No changes are permitted for the final exam without appeal to the Dean.