Elementary Differential Equations
Math 242

Instructor: Antoine Flattot, 777-5882, flattot@math.sc.edu
Lectures: MWF 1:25PM - 2:15PM, LC 101
Office Hours: MWF 11:15AM - 12:15AM, or by appointment, LC 400D

Overview: Many of the principles, or laws, underlying the behavior of the natural world are statements or relations involving rates at which things happen. When expressed in mathematical terms, the relations are equations and the rates are derivatives. Equations containing derivatives are called differential equations. Therefore, to understand and to investigate problems involving the motion of fluids, the flow of current in electric circuits, the dissipation of heat in solid objects, the propagation and detection of seismic waves, the change of populations, it is necessary to be able to solve or study differential equations.

Instructional Objectives: We will cover as much as possible of the following topics:
(1) First order differential equations.
(2) Numerical solutions of differential equations.
(3) Higher order linear differential equations.
(4) The Laplace transform.
(5) Systems of differential equations.

Textbook: *Differential Equations, computing and modeling*, by Edwards and Penney, Fourth Edition.

Prerequisite: Completion of Math 142 with a grade of C or better, or qualification by placement.

Grading: Your grade in this course will be based on your performance on quizzes, Homeworks, three midterms exams and a final exam. The weights assigned to each of these components will be:

Homeworks	20%
Three midterm exams	20% each
Final exam	20%

Course grades will be determined according to the scale:
A 90-100, B+ 85-89, B 80-84, C+ 75-79, C 70-74, D+ 65-69, D 60-64 F 0-59.

Exams: *Tentative* dates and topics for these exams are:

Exam 1	Wednesday, September 19	Chapter 1
Exam 2	Wednesday, October 31	Chapters 2 & 3
Exam 3	Monday, November 26	Chapter 7
Final	Friday, December 14, 2:00PM	Comprehensive

Thursday October 4 is the last day to drop a course or withdraw without a grade of "WF" being recorded. There will be no make-up exams. In case that you miss an exam because of documented reasons of illness, family emergency, or participation in a University sponsored event, if you have contact me immediately and provide me with the documentation, then the grade of the missed exam will be substituted by the grade of the final exam.

Homeworks: A homework assignment (of approximately 1 or 2 problems) will be assigned at each class and it will be collected at the next class. There will be no make-up homeworks. In case that you are unable to attend the class, during the day that you turn in homework, because of a documented reason of illness, family emergency or of participation in a University sponsored event, if you have contact me immediately and provide me with the documentation, then the grade of your missed homework will be dropped.

Attendance: Regular class attendance is important. Consistent with the USC Undergraduate Bulletin, a grade penalty may be applied to any student missing more than 4 classes.

Academic Honesty: Cheating and plagiarism will not be tolerated in this course. You may discuss homework problems with others, but do not copy solutions from another student or from a book. Violations of this policy will be dealt with a matter consistent with University regulations.

Cell phone policy: Turn off cell phones during class and exam period.