

# ELEMENTARY DIFFERENTIAL EQUATIONS

## CLASS ANNOUNCEMENT FOR SPRING SEMESTER

MATH 355

3 HOURS CREDIT

9:10-10:25 Tuesdays and Thursdays

PREREQUISITE: CALCULUS 3 (MATH 227)

INSTRUCTOR: DR. ROBERT GARDNER

LSU in Shreveport will offer Elementary Differential Equations (Math 355) in the Spring Semester of 1992. The class will meet on Tuesday and Thursday mornings from 9:10 to 10:25 and carries 3 hours of credit. The class is a standard introduction to ordinary differential equations for those majoring in mathematics and several other technical fields.

First and higher order linear differential equations will be covered in depth along with their applications. In fact, **applications** will be both a motivating factor and a goal. First order equations will be applied to mechanics, thermodynamics, chemistry and population dynamics problems. Second order equations will be applied to simple harmonic (oscillatory) motion, damped and forced oscillatory motion, resonance phenomena and electric circuit problems. Other applications may be considered which are more closely related to the interests of the class, depending on the composition of the class.

Students will be evaluated based on their performance on 3 in class tests, homework assignments, and a final. The text to be used is *Introduction to Ordinary Differential Equations*, 4th edition, by Shepley L. Ross, published by John Wiley. The tentative course outline is:

Chapter 1 : Differential Equations and their Solutions

Chapter 2 : First Order Equations

Chapter 3 : Applications of First Order Equations

Chapter 4 : Higher Order Linear Differential Equations

Chapter 5 : Applications of Second Order Differential Equations

Chapter 6 : Series Solutions

If the demand exists, a follow up class (Math 445, Differential Equations) will be offered in the Fall of 1992 covering systems of linear differential equations, Laplace transforms, nonlinear differential equations, and boundary value problems. Partial Differential Equations will be offered in the Spring of 1993.

If you have any questions concerning this class, please call Dr. Robert Gardner of the LSUS Mathematics Department, 422 Bronson Hall at 797-5131.