ASU College of Liberal Arts & Sciences
ARIZONA STATE UNIVERSITY

Department of Mathematics and Statistics

COURSE ANNOUNCEMENT

FALL 2008

MAT 598 (APM 501)

Ordinary Differential Equations

Instructor:	**Hank Kuiper**
Time:	**2:00 - 3:15 Monday & Wednesday**
Location:	**Durham Lang & Lit 243**
Class Number:	**87089**
Credits:	**3**

Course Description: This is course offers an introduction to the theory of ordinary differential equations. After a quick introduction to the computation of solutions to first order linear systems with constant coefficients, we will look at existence, uniqueness and continuation of solutions for general first order systems, phase plane diagrams, linearized stability, stable and unstable manifolds, the Hartman-Grobman theorem, omega limit sets, the Poincaré-Bendixson theorem, Lyapunov functions, and some elementary bifurcation results (in particular, Hopf bifurcation).

Textbooks: *Differential Equations – Introduction and Qualitative Theory* (3rd ed.) by Jane Cronin.

The Qualitative Theory of Ordinary Differential Equations – An Introduction by Fred Brauer and John Nohel.