

MATH 4700/6700 Qualitative Differential Equations

Instructor: Caner Kazanci

Office: 525 Boyd Graduate Studies and 410 Driftmier Engineering Center, (706) 542 0863.

E-mail: caner@uga.edu

Course website: <http://www.math.uga.edu/~caner/09math6700>

Office Hours: 10:45am-11:30am Tuesdays and Thursdays, and anytime by appointment.

Text: Nonlinear Dynamics and Chaos, by *Steven H. Strogatz*.

Topics: Here's tentative schedule of topics to be covered:

Topics	Dates
Overview, Flows in the line	Aug 18-Aug 27
Bifurcations, flows on the circle	Sep 1-Sep 10
Linear systems, phase plane analysis	Sep 15-Oct 1
Limit cycles and bifurcations revisited	Oct 6-Oct 22
Lorenz equations, one-dimensional maps	Oct 27-Nov 17
Fractals and strange attractors	Nov 19- Dec 3

Grading: The course grade will be based on homework assignments (70%) and a final project (30%). Homework assignments will be posted on the course website each Thursday, and will be due the following Thursday. Please check the course website frequently to access homework assignments and additional course material. The project will consist of a presentation and a report. Groups of 2-4 students will form around mid semester, and each group will work on a project. It is your responsibility to check the website to get the HW assignments. No late HW will be accepted.

All academic work must meet the standards contained in "A Culture of Honesty". Students are responsible for informing themselves about those standards before performing any academic work.

Attendance: Attendance is required. If you miss any classes, it is your responsibility to get notes from your classmates and make up for the class you missed.

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.