

# ENGR 8102 Computational Engineering Elliptic Differential Equations Fall 2006 Syllabus

**Instructors:** Dr. Caner Kazanci *and* Dr. John Knox

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**Course website:** <http://eco.engr.uga.edu/8102/>

**Schedule:** 2:00pm-3:15pm Tuesdays and Thursdays, 316 Driftmier Engineering Center

**Office Hours:** 3:15pm-4:00pm Tuesdays and Thursdays, and anytime by appointment.

**Text:** *Numerical Methods for Engineers* by Steven C. Chapra and Raymond P. Canale

**Objective:** The formulation, analysis, and methods of solution of elliptic differential equations in engineering problems.

**Prerequisites:** MATH 8101

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

Topics	Dates
Introduction by Dr. Knox	Sept 26-Sept 28
One dimensional pseudo-flow	Oct 3-Oct 5
Matlab tools for Elliptic PDE solutions	Oct 10-Oct 13
Multidimensional flows with sources and sinks	Oct 17-Oct 19
Matlab tools for multidimensional Elliptic PDE solutions	Oct 31-Nov 2
Implementing boundary conditions (fixed potential, impermeable)	Nov 7- Nov 9

**Grading:** The course grade will be based on homework assignments. Homework's will be posted on the course website on Fridays, and they will be due Fridays by noon (the following week) in my mailbox.

**HW Policy:** You need to show all your work on solutions of all HW assignments. Grades will be assigned to correct solutions, not correct answers. Just a correct answer will be graded as 0/10 unless there is a solution in your paper that leads to this answer. On the other hand, a solution attempt based on a correct idea will definitely get partial credit even though the final answer might be wrong. 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.