**CIV E 395 SYLLABUS**

COURSE NAME: Civil Engineering Analysis- CIV E 395
DETAILS: 3 hour lectures, 1/1 hour Lab sections
TERM: Fall

COURSE DESCRIPTION

\*3.5 (fi 8) (either term, 3-0-2/2) The formulation of partial differential equations for modeling civil engineering

problems. Introduction to analytical and numerical solution techniques.

The objective of this course is to learn how to formulate, solve, and interpret the solutions of continuum

based mathematical models of civil engineering problems.

At the end of the course you will be evaluated on:

1. your knowledge of standard solution methods for basic linear ordinary and partial differential equations;

2. your ability to set up numerical solution procedures for ordinary and partial differential equation problems;

3. your understanding of the qualitative differences between the basic types of ordinary and partial

differential equations;

4. your understanding of the physical relevance and mathematical requirements for boundary and initial

conditions for the basic ordinary and partial differential equation problems;

5. your ability to formulate continuum based mathematical models from basic physical principles.

REQUIRED MATERIAL

(Mandatory) There is no required text for this course. Supplementary course materials, assignments, solutions, and course marks will be posted on eClass.

(Recommended) EN PH 131 (Mechanics), MATH 201 (Differential Equations) and CIV E 295 (Numerical Methods) textbooks may be helpful.

Recommended reference:

Greenberg, M.D. 1998. Advanced Engineering Mathematics. Prentice Hall

LECTURE CONTENT



