Department: Civil Engineering
Course Number: CE6332/5332
Title: Modern Methods in Engineering Computation

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Textbook: Applied Numerical Methods with MATLAB for Engineers and Scientists

Topics:

Implementation of numerical methods to the solution of various engineering & research problems of medium to high complexity requiring the implementation of numerical methods including:

a. Linear Algebra
b. Eigenvalues and Eigenvectors
c. Curve Fitting
d. Root Finding
e. Optimization
f. Differentiation and Integration
g. Ordinary Differential Equations
h. Others

Course Objectives:
The objective of this course is to provide students with the basic numerical analysis and programing skills that are critical to the development of a successful research project.

Class Schedule:
Meeting time: 1:30 p.m. – 2:50 p.m., TR

Projects:
Between five and eight projects will be assigned during class requiring the numerical solution of engineering/research problems using Matlab. The programs have to be developed individually although interaction and discussion with other classmates is acceptable and encouraged.

Grades:
Projects 100%