ME/EGR 611

SPRING, 2009

BOUNDARY ELEMENT METHODS IN ENGINEERING

Time : MWF 10:00am-10:50am Place: FPAT 267

Instructor : T. W. Wu Office: RGAN 169, 257-6336 X80644

e-mail: timwu@engr.uky.edu

Office Hours: Anytime you can catch me.

Reference Books:

No textbook is required for this class, and handout will be provided. But if you are interested in reading further, you can order the following books from the publisher directly or from the web page **http://www.witpress.com**

Boundary Element Acoustics, Fundamentals and Computer Codes, edited by T. W. Wu, WIT Press, 2000.

Boundary Elements An Introductory Course, by C. A. Brebbia and J. Dominguez, 2nd Edition, McGraw-Hill, 1998.

Boundary Element Techniques, by C. A. Brebbia, J. C. F. Telles, L. C. Wrobel, Springer-Verlag, 1984.

Course Outline: Introduction, One-Dimensional Examples, Preliminary Mathematics, Boundary Integral Equations for the Laplace Equation, Interior and Exterior Pontential Problems, Boundary Element Approximations, Numerical Integration, 3-D Problems, Poisson Equation, Acoustic Wave Equation, Indirect Formulations, Axisymmetric Formulations, Hypersingular Integral Equations.

Grading: Two Exams (30%), Two Projects (60%), Homework (10%)

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