Introduction to Finite Element Method  
MEC 539 - Fall 2012

Course Description:  
An introduction to the theory of finite element methods and their application to structural analysis problems. Matrix operations, force and displacement methods. Derivation of matrices for bars, beams, shear panels, membranes, plates, and solids. Use of these elements to model actual structural problems. Weighted residual techniques and extension of the finite element method into other areas such as heat flow and fluid flow. Laboratory sessions introduce use of the computer in solving finite element problems. Programs for the solution of force and displacement method problems are configured.

Grading Policy:  Grades are based on scores from Homework (20%), a Midterm Exam (25%), a Final Exam (35%), and a Project (20%).

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Lectures: Th 4:00PM - 6:50PM at CHEMISTRY 124

Office Hours: Mondays 3:00-5:00 pm (subject to change)  
Wednesdays 3:00-5:00 pm (subject to change)

Recommended References

2. Daryl L. Logan, “A First Course in the Finite Element Method”
3. George Buchanan,” Schaum's Outline of Finite Element Analysis”

Other References


**Academic Integrity Statement:**
Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/