Instructor: Prof. Kumar Vemaganti
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http://www.min.uc.edu/~kumar/

Course page: http://blackboard.uc.edu


Goals: To study the fundamentals of the finite element method, with an emphasis on using ANSYS for 1-D & 2-D problems in mechanics.

Class: TH 11:00 – 12:15, 719 Swift

TA: Mr. Firoz Ali Jafri (jafrifs@yahoo.com)

Office hours: Mr. Jafri: See blackboard.
Prof. Vemaganti: 1:00 – 3:00 Tuesday, Thursday; 629 Rhodes.

Topics: (1) Introduction; Review of matrix algebra
(2) Spring element; Stiffness matrices; Assembly; Boundary conditions
(3) Bar & beam elements
(4) Local & global coordinate systems; Transformation of coordinates
(4) Linear static analysis; Modeling & verification
(5) Introduction to FE software ANSYS
(6) FE analysis of truss and frame structures
(7) Plane problems

Grading: 40%: Homework assignments
30%: Mid-term exam (02/05/04, in class)
30%: Final exam (03/16/04, 1:30 – 3:30)

Policies & other info: (a) Class attendance and punctuality are highly recommended.
(b) Late work will be accepted for a day after the due date (20% penalty).
(c) Assignments take time. Please plan ahead.
(d) Unless otherwise stated, all work is to be done independently.