

330:155g Finite Element Analysis

Nageswara Rao Posinasetti

Catalog Description

- Fundamental concepts of the finite element method for linear stress and deformation analysis of mechanical components. Development of truss, beam, frame, plane stress, and plane strain elements. Practical modeling techniques and use of general-purpose codes for solving practical stress analysis problems.
- Prerequisite: 330:170.

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Course web page

- www.uni.edu/~rao/Course11.htm

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Address: <http://www.unl.edu/~rao/Courses11.htm>

University of Northern Iowa

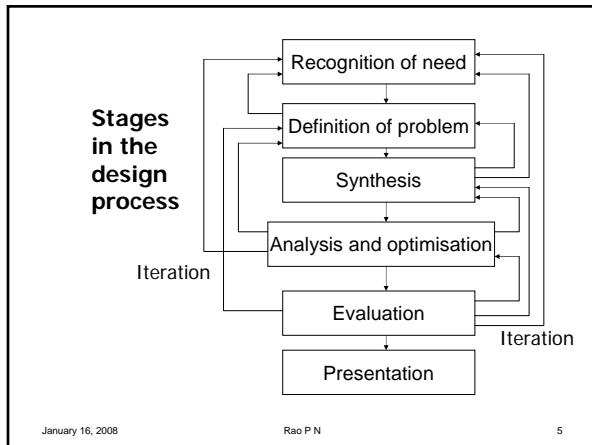
Fall 2006 Course
330:155 (g), Finite Element Analysis

Schedule	M 6.00 to 8.50 pm evening
Class Room	ITC Rm 24
Professor	Dr. P. N. Rao

Course syllabus	Solutions to Quiz 1
Grades	
Solutions to Exam 1	

Mail to: P.N.Rao
Last Modified: 02/07/2006

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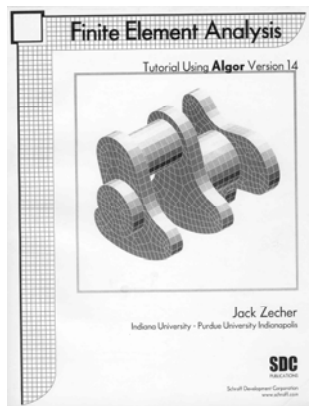
Course Objectives

- The main objective of the course is to provide the student with an understanding of the various concepts related to the application of finite element analysis procedures using any commercially available software.

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Textbook

- Zecher Jack, Finite Element Analysis Tutorial Using Algor Version 14, SDC Publications, 2003, ISBN 1-58503-112-7



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Reference

- Robert D. Cook, David S. Malkus, Michael E. Plesha, Robert J. Witt, Concepts and Applications of Finite Element Analysis, 4th Edition, ISBN: 0-471-35605-0, John Wiley, 736 Pages, October 2001
- Saeed Moaveni, Finite Element Analysis: Theory and Applications with ANSYS, 2nd Ed., ISBN: 0-13-111202-3, Prentice Hall, 2003, 840 pp

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Lectures

- The scheduled class is used for
 - Instructional Lectures
 - Demonstrations
 - Lab Activities

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FEM/CAD Software

- Algor
- AutoCAD
- Autodesk Inventor
- Pro-Engineer

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Evaluation

Attendance, observed performance, attitude, etc.	10%

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Observed Performance

- It includes such factors as problem solving ability, initiative, attitude, attendance, and punctuality.

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Evaluation

Attendance, observed performance, attitude, etc.	10%
Home work assignments	35%

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Target dates

- It is important to finish the homework and assigned readings on time.
- Late assignments may be penalized or not accepted.
- Students who hand in their assignment late more than once will have points deducted.

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Evaluation

Attendance, observed performance, attitude, etc.	10%
Home work assignments	35%
Design Project	15%

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Design Project

- An individual project with in the domain of interest to the individual student.
- A comprehensive report need to be submitted electronically.

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Evaluation

Attendance, observed performance, attitude, etc.	10%
Home work assignments	35%
Design Project	15%
Midterm examination	15%
Final Examination	25%

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Examinations

- Comprehensive mid-term and final examinations may be given.
- Content of examinations will be taken from assigned text readings.

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Grading

Percentage range	Grade	Percentage range	Grade
95 – 100	A	90 – 94	A-
87 – 89	B+	84 – 86	B
80 – 83	B-	77 – 79	C+
74 – 76	C	70 – 73	C-
67 – 69	D+	64 – 66	D
60 – 63	D-	< 60	F

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