

Syllabus CVEG 5383

Finite element methods

Instructor name: R. Panneer Selvam

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You can call me to my office number and if I am not there please send an email with a number to contact you. I will either email you or contact you by phone. I can use skype whenever it is necessary to see and talk.

Course Description:

Energy and digital computer techniques of structural analysis as applied to conventional forms, space trusses, and frames. Prerequisite: CVEG 3304 with a grade of C or better.

Required Textbook:

Include ISBN

Text Book: Chandrupatla, T.R. & Belegundu, A.D. (2012), **Introduction to Finite Elements in Engineering**, Prentice Hall

Course Goals/Objectives:

Learn to be proficient in the following topics:

1. *Understanding of finite element application in engineering*
2. *Methods to solve large system of equations as relate to engineering problems*
3. *Application of FEM to analyze 2D elasticity and potential problems.*
4. *Use of graphic visualization and grid generation in FEM*
5. *Discussion in the use of FEM for design and their limitations*
6. *Introduction to commercial software and the trend in the industry*

Course Requirements:

Assignments: Assignments for each week would be due by midnight every Sunday

Projects: No projects for this class

Exams: Three in class exam and one final exam will be given for this class. The exams will be part in class and part take home. The in class exams need to be proctored.

Presentations: None

Evaluation Procedures:

In-class exams 3 @ 100 ea.	= 300
Final Exam	= 100
Assignments	= 100
Total	<hr/> = 500

A 90%+, B 80 to 89%, C 70 to 79%, D 60 to 69%, F 59 or less

Academic Honesty Policy:

- The University of Arkansas strives to be a center of academic excellence. As part of our Statement of Ethics, the University strives to preserve academic honor and integrity by repudiating all forms of academic and intellectual dishonesty, including cheating, plagiarism and all other forms of academic dishonesty. Academic dishonesty is unacceptable and is subject to a disciplinary response.
- Students who are caught cheating or committing plagiarism may be given a failing grade in the course by the professor and may be subject to dismissal or further discipline.
- Plagiarism is often misunderstood as referring only to passing off another's writing as one's own. The definition also extends to ideas and arguments taken from others' work without proper citing of the original source. It is also not permissible to construct papers or reports by merely "cutting and pasting" and then just citing another's work. In writing for homework or projects, you should read and learn, process information through your mind, relate ideas, and then express your take on the material you've read **in your own words**. Cite the references where you found your information. If you do use someone else's words, do so sparingly, use quotation marks, **and** cite.

The complete Academic Integrity Policy is available at the Provost and Vice Chancellor for Academic Affairs web site, <http://provost.uark.edu>.

Inclement Weather Policy:

Not applicable.

Class Procedures

The students can contact me through my email, office phone and skype. For skype if the students arrange a time to talk to me by email or phone. Then only I can keep the skype active.

In case of late assignments or taking the exam they need to work with me for extension or alternate dates. Unless previous permission is not worked out, late assignment will not be considered for grade. The extensions are based on individual situations.

Schedule:

Course Units/Calendar Table

Week	Chapters & Lectures Covered	Assignments, projects, papers, quizzes and exams	Due by Date (All homework assignments are due each Sunday, 11:55 PM CST)
1 5/30 to 6/4	Chapters p1-p31 Lectures 1, 2	<ul style="list-style-type: none"> • Assignment #1: p16#1 & p31 #2 class notes • 	HW#1-Due 6/4
2 6/5 to 6/11	Chapters: Lectures: 3-8	<ul style="list-style-type: none"> • Assignment # 2: p29#3,p37#4,p49#5 • 	HW#2-Due 6/11
3 6/12 to 6/18	Chapters: Lectures: 9-14	<ul style="list-style-type: none"> • Assignment # 3: p49#6-GS, p67#7, p79#8-hand input • Exam #1 	HW#3-Due 6/18 Take Exam #1-this week
4 6/19 to 6/25	Chapters: Lectures: 15-20	<ul style="list-style-type: none"> • Assignment #4: p80-#9,#10, p103-#11-12-culvert • 	HW#4-Due 6/25
5 6/26 to 7/2	Chapters: Lectures: 20-25	<ul style="list-style-type: none"> • Assignment #5: p107-#13 • Exam #2 	Exam#2-Take it this week-say 7/2 or before
6 7/3 to 7/9	Chapters: Lectures: 26-31	<ul style="list-style-type: none"> • Assignment #5: p110-#14, #15-flow over cylinder, #16-square cylinder, p123-#17-square-torsion • 	HW#5-Due 7/9
7 7/10 to 7/16	Chapters : Lectures:32-36	<ul style="list-style-type: none"> • Exam #3 	Exam#3-Take it before 7/16
8 7/17 to 7/20	Chapters: Visual analysis Lectures:37	<ul style="list-style-type: none"> • Read each chapter • Watch corresponding lectures • Final Exam 	Final exam this week-7/17 or last day?

Caveat: changes to syllabus

“The above schedule and procedures in this course are subject to change in the event of extenuating circumstances.”