

Fall 2006
EML 6653
APPLIED ELASTICITY

Class Room:	ENG 003	Time:	3-6 Fridays
Instructor:	Autar K. Kaw, Professor	Office:	ENC 2215
Telephone:	813-974-5626	E-mail:	kaw@eng.usf.edu
Office Hours:	11:00-11:50AM TTh or drop by or call 813-974-5626 or e-mail		
Web Site:	www.eng.usf.edu/~kaw/class/elasticity		

Required Text Book: Advanced Strength and Applied Elasticity by Ugural and Fenster, PTR, Fourth Edition.

Objectives: Apply the fundamentals of elasticity to engineering problems. Comparison with solutions obtained by using elementary strength of materials in solving engineering problems will be emphasized. Practical problems will be solved and advantages of using particular methods will be illustrated.

Pre-Requisites: Strength of Materials or Mechanics of Materials or equivalent.

Course Grade:

Short quizzes (mostly every class for first 20 to 30 mins) – 50 pts

Exam 1, October 20, 2006 - 25 pts

Exam 2, December 8, 2006 – 25 pts

Every quiz/exam is closed book –closed notes. Formula sheets will be given to you.

Grading Scale:

Grade A+ is 95-100 (4.00)	Grade A is 90-94 (4.00)	Grade A- is 86-89 (3.67)
Grade B+ is 83-85 (3.33)	Grade B is 80-82 (3.00)	Grade B- is 76-79 (2.67)
Grade C+ is 73-75 (2.33)	Grade C is 70-72 (2.00)	Grade C– is 66-69 (1.67)
Grade D+ is 63-65 (1.33)	Grade D is 60-62 (1.00)	Grade D- is 56- 59 (0.67)
Grade F is 0- 55 (0.00).		

Go to – <http://acad.usf.edu/grades.html> for further information about the new grading policy.

Make-up Policy: NO make-up tests OR quizzes will be given. However, in the event of a serious illness (physician's statement documenting severity of illness required), death in the family or other legitimate, documented, verifiable emergency resulting in the absence from a schedule test, a student may be given the same grade for the missed test as average of other tests. NOTIFICATION OF ABSENCE MUST BE GIVEN PRIOR TO THE COMMENCEMENT of the scheduled examination

or test to me. Do not presume that your reasons for missing an examination or test are acceptable unless authorization is given to you.

Course Schedule:

1. Analysis of Stress
2. Analysis of Strain
3. Stress-Strain Equations
3. Two Dimensional Problems in Elasticity
4. Criteria for Material Failure
5. Axisymmetrically Loaded Members
6. Energy Methods
7. Special Topics – Thermal Stresses, Finite Difference, Finite Elements, Boundary Element Methods

Follow Below for Third Edition

Article no.	Assigned H.W	Suggested H.W
1.1 to 1.10, 1.15	1.8, 1.14, 1.16, 1.29	1.1, 1.2, 1.5, 1.22
2.1 to 2.9, 2.13	2.2, 2.9, 2.23, 2.28	2.3, 2.8, 2.32
3.1 to 3.7, 3.10	3.3, 3.5, 3.7, 3.11	3.7, 3.12, 3.16, 3.32
8.1 to 8.8	8.3, 8.16, 8.27, 8.31	8.2, 8.10, 8.24, 8.30
1.11 to 1.13	1.30, 1.33, 1.38, 1.42	
2.10 to 2.12	2.39, 2.43, 2.44, 2.45	
4.1 to 4.6, 4.9	4.2, 4.5, 4.12, 4.17	4.4, 4.6, 4.8, 4.10
10.1 to 10.3, 10.10	10.23, 10.24, 10.25, 10.26	
Special Topics (class notes) <i>Thermal Stresses, Finite Difference, Finite Elements, Boundary Element Methods</i>	To be announced	To be announced

Follow Below for Fourth Edition

Article no.	Assigned H.W	Suggested H.W
1.1 to 1.11, 1.16	1.9, 1.18, 1.23, 1.39	1.1, 1.2, 1.6, 1.29
2.1 to 2.10, 2.14	2.2, 2.9, 2.25, 2.26	2.3, 2.8, 2.35
3.1 to 3.8, 3.11	3.5, 3.10, 3.13, 3.18	3.19, 3.23, 3.40
8.1 to 8.8	8.3, 8.16, 8.29, 8.34	8.2, 8.10, 8.25, 8.33
1.12 to 1.14	1.40, 1.43, 1.49, 1.53	
2.11 to 2.13	2.43, 2.48, 2.49, 2.52	
4.1 to 4.7, 4.10	4.3, 4.6, 4.13, 4.18	4.5, 4.7, 4.9, 4.11
10.1 to 10.3, 10.11	10.30, 10.32, 10.33, 10.34	
Special Topics (class notes) <i>Thermal Stresses, Finite Difference, Finite Elements, Boundary Element Methods</i>	To be announced	To be announced