

ENG ME309 Structural Mechanics**Spring 2011**

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Text: A. C. Ugural and S. K. Fenster, *Advanced Strength and Applied Elasticity*, Elsevier, 4th ed., 2003.

<u>Week Beginning</u>	<u>Topics</u>	<u>Reading</u>
1/17	Stress components	Secs. 1.1-1.7
1/24	Equilibrium equations, transformation of stress components	Secs. 1.8-1.16
1/31	Displacement field, strain components	Secs. 2.1-2.5
2/7	Constitutive laws, energy and co-energy	Secs. 2.6-2.14
2/14	Axisymmetric problems	Secs. 8.1-8.6
2/21	Torsion	Secs. 6.1-6.4
2/28	Energy principles	Secs. 10.1-10.8
3/7	Castigliano's theorem	"
3/14	Spring recess	
3/21	Rayleigh-Ritz method	Secs. 10.9-10.11
3/28	"	"
4/4	Matrix analysis of structures	Sec. 7.8, class notes
4/11	"	"
4/18	Finite element method	Secs. 7.6-7.10
4/25	"	"
5/2	"	"

Grading: 2 examinations, each worth 30% of final grade.
10 homework assignments, together worth 20% of final grade.
Structural design project, worth 20% of final grade.