ENG ME309 Structural Mechanics **Spring 2015**

Prof. Raymond J. Nagem
110 Cummington St., Room 420
617 353-5925
nagem@bu.edu

Text: A. C. Ugural and S. K. Fenster, *Advanced Strength and Applied Elasticity*, Elsevier, 5th ed., 2012.

Week Beginning	Topics	Reading
1/19	Stress components	Secs. 1.1–1.7
1/26	Equilibrium equations, transformation of stress components	Secs. 1.8–1.16
2/2	Displacement field, strain components	Secs. 2.1–2.5
2/9	Constitutive laws, energy and co-energy	Secs. 2.6–2.14
2/16	Axisymmetric problems	Secs. 8.1–8.6
2/23	Torsion	Secs. 6.1-6.4
3/2	Energy principles	Secs. 10.1–10.8
3/9	Castigliano's theorem	"
3/16	Spring recess	
3/23	Rayleigh-Ritz method	Secs. 10.9–10.11
3/30	"	"
4/6	Matrix analysis of structures	Sec. 7.8, class notes
4/13	"	"
4/20	Finite element method	Secs. 7.6–7.10
4/27	"	"

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.