## Spring 2011

## ENG ME580 Theory of Elasticity Prof. Raymond J. Nagem 110 Cummington St., Room 420 617 353-5925 nagem@bu.edu

Text: R. J. Atkin and N. Fox, An Introduction to the Theory of Elasticity, Elsevier, 4th ed., 2003.

Week Beginning	Topics	Reading
1/17	Kinematics of deformation	Secs. 1.1–1.3
1/24	Strain tensors	Secs. 1.4–1.8
1/31	Stress tensors	Secs. 1.9–1.12
2/7	Constitutive laws, energy equation	Secs. 1.13–2.9
2/14	Fundamental solutions	Secs. 3.1–3.8
2/21	Infinitesimal theory	Secs. 4.1–4.9
2/28	Point force solutions	4.9 - 4.13
3/7	Torsion	Secs. 6.1–6.10
3/14	Spring recess	
3/21	Torsion	Secs. 6.1–6.10
3/28	Antiplane strain	Secs. 5.1–5.2
4/4	Plane strain	Secs. 5.3–5.11
4/11	н	11
4/18	P- and S-waves	Secs. 7.1–7.6
4/25	Reflection at boundaries	Sec. 7.7
5/2	Rayleigh waves	Sec. 7.8

## References

S. P. Timoshenko and J. N. Goodier, *Theory of Elasticity*, McGraw-Hill, 1987.

G. Temple, Cartesian Tensors, Dover, 2004.