AE 731

THEORY OF ELASTICITY

Fall 2002

Instructor :   Dr. K. S. Raju
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Office Hrs :   Mon, Wed, Fri → 10:30 a.m. - 12:00 p.m. or by appointment

Textbook :   Phillip L. Gould, (1994) *Introduction to Linear Elasticity*, Springer verlag, N.Y.

References: Timoshenko, S., and Goodier, J.N., (1970) Theory of Elasticity, McGraw-Hill Book Co., N.Y.
Pei Chi Chou and Nicholas J. Pagano, (1992) *Elasticity - tensor, dyadic, and engineering approaches*, Dover Publications, Inc., N.Y.
Boresi, A. P., and Sidebottom, O. M., *Advanced Mechanics of Materials*, 4th Edition, John Wiley & Sons, Inc.

Homework :   Homework problems from the textbook will be assigned during the class period.
Policy   Assignments are due at the beginning of the week. Students are encouraged to work independently on the assignments as they will prepare them for the exams. *Late homeworks will not be accepted.*

Solutions for assigned homeworks will be posted in a file at the library reserve desk every Tuesday.

Grading   :   Homework   20%
 Policy   Exam-I   25%
    Exam-II   25%
    Final Exam   30%

Grading
Scale :   The grading scale will be based on a standard scale: 90-100 (A), 75-89 (B), 60-75 (C), etc.

Syllabus:

1. Introduction, Tensors.
2. Stress
3. Displacements, Strain
4. Plane Stress & Plane Strain problems
5. Material Behavior
6. 2-D problem in rectangular coordinates
7. 2-D problem in polar coordinates
8. 3-D problems
9. Torsion of Prismatic Members