MECH 5300/MECH 6300/MECH 6306: Advanced Mechanics of Materials
Prerequisite: MECH 3130 or equivalent
Fall 2016

Instructor: Hareesh Tippur, Professor of Mechanical Engineering, Auburn U, AL

Office: 1446 Wiggins Hall, Tel: 4-3327, email: htippur@eng.auburn.edu, Website: http://www.eng.auburn.edu/users/htippur/

Office Hours: Tu, Thu 11-12.

Tentative Course Outline
1. Introduction
2. Stress analysis
3. Strain analysis
4. Stress-strain relations
5. Strain energy and failure theories
6. Stress function approach for 2D problems
7. Axisymmetric problems - thick walled pressure vessels, shrink fits, rotating members
8. Stress concentration problems
9. Torsion
10. Bending of beams - asymmetric sections, curved beams
11. Energy Methods – deflections, statically indeterminate problems

Text Book:

Reference:

Grading and Evaluation Procedure:
Tests 40%, Homework 40%, Final Exam 20%
Above Class Average: A, B
Equal to or Below Class Average: C, D, F

- Class attendance is expected but not recorded. Late submission of assigned work, project report or make-up of examinations will be allowed only if accompanied by an approved AU excuse.

- For off-campus students, the homework and exam due dates are same as the ones for on-campus students.

- Graduate work load is higher than undergraduate counterpart.

Academic Honesty
All portions of the Auburn University Student Academic Honesty Code, as found in the Tiger Cub and defined in the SGA Code of Laws, Title XII, will apply in this class.

Accessibility:
It is the policy of Auburn University to provide accessibility to its programs and activities, and reasonable accommodation for persons defined as having a disability under Section 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act of 1990. Students who need special accommodations should make an appointment to see the instructor as soon as possible or contact the Student with Disabilities Program office at (334) 844-5943 (Voice/TT)

AU Academic Contingency policy:
If normal class and/or lab activities are disrupted due to illness, emergency, or crisis situation (such as an H1N1 flu
outbreak), the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials.