AE 731 - Elasticity Theory

Fall 20xx

Instructor:	Dr. Charles Yang	Time:	MW 5:35 – 6:50 pm
Department:	Aerospace Engineering	Place:	210 Wallace Hall
Email:		Office:	
Phone:		Office Hours:	TBD

How to use this syllabus: This syllabus provides you with information specific to this course, and it also provides information about important university policies. This document should be viewed as a course overview; it is not a contract and is subject to change as the semester evolves. Any changes to the syllabus will be uploaded to Blackboard and e-mailed to all students (at their e-mail address listed on Blackboard, make sure this is up-to-date).

Academic Honesty: Students are responsible for knowing and following the Student Code of Conduct http://webs.wichita.edu/inaudit/ch8_05.htm and the Student Academic Honesty policy http://webs.wichita.edu/inaudit/ch2_17.htm .

Course Description: In this course we develop the fundamental equations used to solve general solid mechanics problems. The theory of elasticity is used to determine stress, strain, and displacement fields in bodies. These formulations are useful in describing behavior in a large class of systems in civil, mechanical and aerospace engineering.

Definition of a Credit Hour: Success in this 3 credit hour course is based on the expectation that students will spend, for each unit of credit, a minimu.2 ph4 Tc -0.0hm Tw 0.(a)-14 (ss)]TJ 0 Tc 0 Tw 2.772 0 Td ( )
hours.

mes: Upon successful completion of this course, students will be

- Derive equations governing linear, isotropic solids
- Formulate stress analysis problems in 2D and 3D
- Analyze stress and strain states for small-strain problems
- Calculate stress and strain in cartesian, cylindrical, and spherical coordinates

Course Textbook: This is the textbook we will use for this course. Homework assignments will be given separately, so the edition number is not important. Note that chapter numbers from other versions may not align with the chapter numbers I use.

- Martin H. Sadd, Elasticity: Theory, Applications, and Numerics, Elsevier, Inc., 2014.

Other References: The textbook we use in this course provides a very good

- Timoshenko and Goodier, Theory of Elasticity
- Boresi, Elasticity in Engineering Mechanics

Prerequisites: Instructor's consent (previous experience in solid mechanics, AE333 and AE525, and differential equations, AE555, is advised).

Grading Policy: Homework (15%), Midterm 1 (25%), Midterm 2 (25%), Final (35%). Final grades follow a traditional scale of:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
93-100	90-93	87-90	83-87	80-83	77-80	73-77	70-73	67-70	63-67	60-63	0-.001 60.001-60

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necessary and appropriate for you. All information and documentation of your disability is confidential and will not be released by DS without your written permission.

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