

**University of Southern California
Viterbi School of Engineering
Department of Aerospace and Mechanical Engineering**

AME 204 – Strength of Materials

Practical Information

Class number: Lec 28718
Number of Units: 3 units
Hour/Day: 12:30 p.m. – 1:50 p.m. TTh
Room: ZHS 352

Instructor: Dr. Y. D. Staelens
RRB 211
(213) 740-7754
staelens@usc.edu

Office Hours: TTh: 9:30 a.m. – 11:30 a.m.

Textbook: F. B. Beer, E. R. Johnston, Jr., J. T. DeWolf and D. F. Mazurek;
Mechanics of Materials, 7th Edition; McGraw-Hill Publication (2015)

Prerequisite: AME 201 or CE 205

TA's: William Edwards (wtedward@usc.edu)

Course Outline

- 1) Introduction – Concept of Stress
- 2) Stress and Strain – Axial Loading
- 3) Torsion
- 4) Pure Bending
- 5) Analysis and Design of Beams for Bending
- 6) Shearing Stresses in Beams
- 7) Transformation of Stress and Strain
- 8) Deflection of Beams
- 9) Energy Methods

Course Grading

The grading will be based on evaluation of the homework assignments given each week, the two 80-minute midterms and the 2-hour final. All homework assignments have the same weight (i.e. none are dropped) and there are no make-up homework assignments. The weight distribution for each category is given below:

Two Midterms exams (25% each)	50%
One Final exam	30%
Homework assignments	20%

At the end of the semester the grades will be normalized with respect to the average of the class. Natural groupings will be used to assign the final letter grade. The highest scoring group will receive an A, the next group an A- and so on.

Statement for Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to the instructor as early in the semester as possible. DSP is located in STU 301 and is open 8:30 AM - 5:00 PM, Monday through Friday. The phone number for DSP is (213) 740-0776.

Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that an individual will submit his or her own work unless otherwise allowed by an instructor, and the dual obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Should there be any suspicion of academic dishonesty, an automatic grade of F will be given for the given assignment or exam and students will be referred to the Office of Student Judicial Affairs and Community Standards for further review.

The Review process is described at:

http://www.usc.edu/student-affairs/SJACS/pages/students/academic_integrity.html

Class Rules

1. Lectures are not mandatory. No attendance will be taken but the material for midterms and final is the material covered during lectures.
2. Homework assignments will be handed out during the Thursday lecture and are due the following Thursday by 12:30 PM. (See last column of the course schedule for due dates of each homework).
3. No late homework will be accepted. **NO EXCEPTIONS!**

Course Schedule

Week	Date	Topic	Reading / Homework Due
1	25-Aug	Introduction - Concept of Stress	Chapter 1
	27-Aug		Chapter 1
2	1-Sep	Stress and Strain - Axial Loading	Chapter 2
	3-Sep		Chapter 2 / HW #1 due
3	8-Sep	Stress and Strain - Axial Loading	Chapter 2
	10-Sep		Chapter 2 / HW #2 due
4	15-Sep	Torsion	Chapter 3
	17-Sep		Chapter 3 / HW #3 due
5	22-Sep	Torsion	Chapter 3
	24-Sep		Chapter 3 / HW #4 due
6	29-Sep	Review and Questions	-
	1-Oct	Midterm #1	HW #5 due
7	6-Oct	Pure Bending	Chapter 4
	8-Oct		Chapter 4
8	13-Oct	Pure Bending	Chapter 4
	15-Oct		Chapter 4 / HW #6 due
9	20-Oct	Analysis and Design of Beams for Bending	Chapter 5
	22-Oct		Chapter 5 / HW #7 due
10	27-Oct	Shearing Stresses in Beams	Chapter 6
	29-Oct		Chapter 6 / HW #8 due
11	3-Nov	Review and Questions	-
	5-Nov	Midterm #2	HW #9 due
12	10-Nov	Transformation of Stress and Strain	Chapter 7
	12-Nov		Chapter 7
13	17-Nov	Deflection of Beams	Chapter 9
	19-Nov		Chapter 9 / HW #10 due
14	24-Nov	Energy Methods	Chapter 11
	26-Nov	NO LECTURE - THANKSGIVING	-
15	1-Dec	Energy Methods	Chapter 11
	3-Dec	Review and Questions	HW #11 due

Important Dates:

Midterm #1:	Thursday October 1 st 2015
Midterm #2:	Thursday November 5 th 2015
Final:	Tuesday December 15 th 2015 from 11am – 1pm
Last Day to drop class without mark of "W"	Friday September 11 th 2015
Last Day to drop class with mark of "W"	Friday November 13 th 2015

Note: The above schedule is tentative and is subject to change if needed.

(Last Update 08/05/2015)