CALIFORNIA STATE POLYTECHNIC UNIVERSITY
MECHANICAL ENGINEERING DEPARTMENT
SPRING 2016

CLASS	ME219 SECTION 01 (CRN 31966) STRENGTH OF MATERIALS
TEXT	MECHANICS OF MATERIALS, **7th Edition** F.P. Beer, E.R. Johnston, J.T. DeWolf, D.F. Mazurek McGraw Hill
INSTRUCTOR	M. IZADI Room 222, Bldg. 9 Phone: 909-869-2548
CLASS HOURS	Tu & Th : 1:00 PM - 2:15 PM
OFFICE HOURS	Tu & Th : 10:30 AM - 12:30 PM
PRE-REQUISITES	C- or better in ME218 and ME224L

GRADE DISTRIBUTION		
	Home Work Assignments	5%
	Quizzes	55%
	Final	40%

15 min. Quiz will be given every Thursday. Dates will be announced in class.
Minimum of 6 Quizzes and the lowest score will be dropped.

ABSOLUTLY NO MAKE-UPS.

Homework will be assigned on a weekly basis, and will be collected a week following the day of the assignment. The assignments should be submitted at the start of the class on the due date. All homework problems should contain ***Chapter Number, Problem Number, Equations, Sketches and Free-Body-Diagrams***, if applicable.

The answers should be placed in a box with appropriate units.

This class is fairly difficult and challenging. To be successful student need to allocate 6 to 8 hours per week to do the homework assignment. Student should focus on the understanding of the concepts and logics of the materials presented in class. Each and every assigned problem should be approached systematically through the logical application of those basic concepts. Memorizing a formulas or a recipe to do the homework is worthless. Discussion and collaboration on homework is highly recommended, **copying is not!**

FINAL EXAM	Thursday June 7, 11:30 AM – 1:30 PM (Normal Schedule Date)

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Proposed Course Outline: ME 219 - Strength of Materials

DATE		TOPICS	TEXT	HOMEWORKS
March	29	Review Chapters 1-6 Eccentric Loadings Shear and Bending Diagrams Shear Stresses in Beams	 4.7-4.8 5.1-5.3 6.1-6.4	 CH 4: 117,118,121,123,124,146 CH 5: 12,22,24,31,44,45,53,59,60,74,77,81,82,87 CH 6: 13,17,18,21,22,31,35
	31	Holiday		
April	05	Mohr's Circle, Principal Stresses, Max. Shear and Their Planes	7.1-7.2	CH.7: 5,11,15,19,23,25,26,34,35,39,54,55,56,57
	07	Thin Walled Pressure Vessels	7.6	98,100,102,105,112,114,117,120,122,124
	12	Principal Stresses in Beams Shaft Design	8.1 8.2	CH 8: 1,3,5,7,9,10,11,13,14 15,16,18,19,20,23,25,27,29
	14	Combined Loading	8.3	31,37,38,39,40,43,46,47,51,57,69,75
	19	Deflection of Beams	9.1	CH 9: 3,4,6,7,9,10,11,12,13,14,16,18
	21	Indeterminate Beams	9.2	19,20,21,22,24,25,26,28,29,31,32
	26	Singularity Functions	5.4	CH 5: 98,99,101,102,105,106,108,114,115,117
	28	Beams Deflection with Singularity Functions	9.3	CH 9: 35,36,41,42,45,47,49,52,53,55,56,57
May	03	Superposition Method	9.4	65,66,67,68,71,72,73,75,77,78
	05	Application to Indeterminate Beams	9.4B	79,80,82,83,86,89,90,91,92,93
	10	Stress Transformation (3D)	7.4	CH 7: 66,68,69,70,71,72,73,74,75
	12	Strain Transformation	7.7-7.8	128,129,132,133,136,139,140,143
	17	Strain Measurement	7.9	144,145,146,150,152,154,156
	19	Strain Energy Work Energy Method	11.1-11.2 11.5	CH 11 9,11,16,20,23,24,25,27,28,29,31,33 58,60,61,62,63,65,66,67,72,73,75
	24	Castigliano's Theorem & Design	11.7-11.9	83,84,86,87,90,92,94,95,96,97,99,109, 111,112,114,115
	26	Stability of Elastic Columns (Buckling)	10.1	CH 10: 9,11,13,14,15,16,17,18,19,21,22,24,25
	31	Columns with Eccentric Loading	10.2	29,30,32,34,35,36,39,45,47,50
June	02	Column Design, Empirical Eqs. (AISC)	10.3-10.4	57,59,60,65,66,68,77,78,95,99,103,105, 113,115,116

Course Review (Tuesday June 7, 1:00 to 3:00 PM) Attendance Optional