UNIVERSITY OF CALIFORNIA AT BERKELEY
Department of Civil Engineering
Fall 2017

Structural Engineering,
Mechanics and Materials
Professor: S. Li

CE30/ME85 – Introduction to Solid Mechanics
Section II

Date	Class #	Topic	Readings	Homework	Notes
8/23	1	Introduction and Review of vector algebra	Chapter 1		
8/25	2	Force and monents (1)	Chapert 2	HW1 (S)	
8/28	3	Force and moments (2)	Chapter 2 & 3	HW2 (S)	
8/30	4	Forces and moments (3)	Chapter 2 & 3	HW2 (S)	
9/1	5	Statics: Equilibrium (1)	Chapter 3 & 4		HW1 (In)
9/4	6	Holiday	Chapter 3 & 4		
9/6	7	Equivalent force-moment systems	Chapter 3 & 4	HW3(S)	
9/8	8	Equilibrium of Rigid Bodies	Chapter 4		HW2 (In)
9/11	9	Friction force	Chapter 4	HW4 (S)	
9/13	10	2D Trusses (method of joints)	Chapter 6	HW4 (S)	
9/15	11	2D Trusses (method of sections)	Chapter 6		HW3 (In)
9/18	12	Frames and machines	Chapter 6	HW5 (S)	
9/20	13	Distributed force: Centroids	Chapter 5	HW5 (S)	
9/22	14	Distributed force: Moment of Inertia	Chapter 7		HW4(In)
9/25	15	Internal forces and stress	Chapter 8	HW6(S)	
9/27	16	Stresses (1)	Chapter 8	HW6 (S)	
9/29	17	Stresses (2)	Chapter 9		HW5 (In)
10/2	18	Deformation and strain	Chapter 9	HW7 (S)	
10/4	19	Stress-strain relation	Chapter 9	HW7 (S)	
10/6	20	Deflection of bars	Chapter 9		HW6 (In)
10/9	21	Static indeterminacy	Chapter 9	TBA	
10/11	22	Torsion of circular shafts (1)	Chapter 10	TBA	
10/13	23	Torsion of circular shafts (2)	Chapter 10	HW8 (S)	HW7 (In)
10/16	24	Midterm exam (through lecture 21)			
10/18	25	Torsion of circular shafts	Chapter 10	HW8 (S)	
10/20	26	Pure bending	Chapter 11		
10/23	27	Bending of beams (1)	Chapter 11	HW9 (S)	
10/25	28	Bending of beams (2)	Chapter 12	HW9 (S)	

Date	Class #	Topic	Readings	Homework	Notes
10/27	29	Bending with axial loads	Chapter 11		HW8 (In)
10/30	30	Shear stress in beam (1)	Chapter 13	HW10 (S)	
11/1	31	Shear stress in beam (2)	Chapter 13	HW10 (S)	
11/3	32	Shear stress in beam (3)	Chapter 13		HW9 (In)
11/6	33	Deflection of beam (1)	Chapter 15	HW11 (S)	
11/8	34	Deflection of beam (2)	Chapter 15	HW11 (S)	
11/10	35	Transformation of stress	Chapter 14		HW10 (In)
11/13	36	Mohr's cirlce (1)	Chapter 14	HW12 (S)	
11/15	37	Mohr's cirlce (2)	Chapter 14	HW12 (S)	
11/17	38	Mohr's cirlce (3)	Chapter 14		HW11 (In)
11/20	39	Stability and Column Buckling (1)	Chapter 16	HW13 (S)	
11/22	40	Thanksgiving holiday			
11/24	41	Thanksgiving holiday			
11/27	42	Column Buckling (2)	Chapter 16	HW13 (S)	HW12 (In)
11/29	43	Column Buckling (3)	Chpater 16	HW13 (S)	
12/1	44	Final Review		HW13 (S)	
12/5	45	RRR week Office Hour			HW13 (In)
12/7	46	RRR week Office Hour			
12/0	47	RRR weak Office Hour			End of Instruction
12/12	48	Final Exam	8am-11am		

Required Textbook: Statics and Mechanics of Materials, by Beer et. al. Second Edition, McGraw-Hill, 2016.

Time and location: MWF 1-2pm, 390 Herst Mining Building;

Home work: The **homework** assignment during a regular week are assigned at each Friday through class email system, and they are due on the next Friday (a week after).

There is one midterm examination, as shown in the outline, and a final exam. All exams will be closed book written exam with an instructor provided equation sheet.

Course grade is from three aspects of your performance : Homework 40%, Midterms 20%, Final 40%.

Limited **Collaboration** is permitted on homework assignments. You may discuss the homework with each other but may not show your written work to others. Similarly, the use of solution keys or solution sets of any type is expressly forbidden. Misconduct on examinations will likewise be reported to the Student Conduct Office and result in a failing grade for the course.

Office Hours: Prof. Li (Email: li@ce.berkeley.edu; Phone: 510-642-5362)
M: 2:30 – 3:30 pm and WF: 2:30-4:00 pm; 783 Davis Hall;

Discussion Session and GSIs:
TA 1: Mr. Benjamin Worsfold Bulter Email: benjamin_worsfold@berkeley.edu;
Discussion Session: Monday: 5:00-6:00 pm, 502 Davis Hall;
Discussion Session: Thursday: 4:00-5:00 pm, 544 Davis Hall;
Office Hours (504 Davis Hall):
MWF: 8:00 am - 11:00 am;

TA 2: Mr Yuxi Xie; Email: yuxi_xie2017@outlook.com;
Discussion Session: Tuesday: 5:00-6:00 pm, 502 Davis Hall;
Discussion Session: Thursday: 5:00-6:00 pm, 544 Davis Hall;
Office Hours (504 Davis Hall):
M/Tu/W: 3:00 pm - 5:00 pm;

TA 3: Ms. Tina Li; Email: xycwoc@berkeley.edu;
Discussion Session: Wednesday: 5:00pm-6:00 pm, 502 Davis Hall;
Office Hours (504 Davis Hall):
Monday: 10:00 am - 11:30 pm and Tuesday 11:30 am – 1:00pm

Reader1: Mr. Chao Wang; Email:chao_wang@berkeley.edu;
Office: 538 Davis Hall;

Reader2: Mr. Kenzo Horiuchi; Email:k.horiuchi@berkeley.edu;
Office: 538 Davis Hall;

Class web-page is in Bcourse