

CIVE 270 – Mechanics of Deformable Bodies – Winter 2017**Reference Text:** R.C. Hibbeler, *Mechanics of Materials*, 9th Edition in SI Units, Pearson, ©2014.**Lab Manual:** CIV E 270 – Mechanics of Deformable Bodies Laboratory Manual (Posted on eCLASS)

Week	Topic	Text Section	Assignment Problems ¹	Laboratory Cycle
Jan 8-14	Introduction, Shear Force and Bending Moment Diagrams	1.1-1.2 6.1-6.2	Set 1: Due Jan 24 6-5, 6-7, 6-31, 6-35, 6-39	No Lab Jan 8-14
Jan 15-21	Stress Strain Mechanical Properties of Materials Mechanical –Property Relationship	1.3-1.6 2.1-2.2 3.1-3.4, 3.6-3.7	Set 2: Due Jan 31 1-53, 1-66, 1-83, 1-84, 1-86	Lab No. 1: Shear Force and Moment Diagrams Jan 15-21
Jan 22-28		10.6	Set 3: Due Feb 7 2-8, 2-26, 3-29, 3-31, 10-34	Lab. No. 2: Tension Test Jan 22-28
Jan 29-Feb 4	Axial Load	4.1 – 4.6	Set 4: Due Feb 14 4-2, 4-12, 4-31, 4-47, 4-76	Lab. No. 3: Compression Test Jan 29-Feb 4
Feb 5 - 11	Torsion	5.1-5.5, 5.7	Set 5: Due Feb 28 5-10, 5-14, 5-16, 5-61, 5-111	Lab. No. 4: Axially Loaded Members Feb 5-11
Feb 12 - 18	Bending	6.3, 6.4, 6.10	Set 6: Due Mar 7 6-51, 6-58, 6-102, 6-158 6-164	Lab. No. 5: Torsion Feb 12-18
Feb 19 -25	Reading week	n/a	n/a	n/a
Feb 26-Mar 4	Transverse Shear Shear Flow in Built Up Members and Thin Walled Members	7.1, 7.2 7.3, 7.4	Set 7: Mar 14 7-12, 7-18, 7-32, 7-37, 7-61	Lab No 6: Bending Stresses Feb 26- Mar 4
Mar 5-11	Stress Transformations,	9.1-9.4	Set 8: Due Mar 21 9-7, 9-13, 9-45, 9-51, 9-52	Lab. No. 7: Bending Test Mar 5-11
Mar 12-18	Thin Walled Pressure Vessels State of Stress Caused by Combined Loadings	8.1, 8.2	Set 9: Due Mar 28 8-14, 8-26, 8-63, 9-63 9-71 (yes, 9-63 and 9-71 they are not typos)	Lab. No. 8: Mohr's Circle Mar 12-18
Mar 19-25	Deflections of Beams and Shafts	12.1-12.2, 12.4-12.5	Set 10: Due Apr 4 12-6, 12-41, 12-52, 12-61, 12-68	Lab. No. 9: Combined Stresses Mar 19-25
Mar 26-Apr 1	Buckling of Columns	13.1-13.3 13.5-13.6	Set 11: Due Apr 11 13-12, 13-28, 13-29, 13-40, 13-75	Lab. No. 10: Beam Deflection Mar 26-Apr 1
Apr 2-8	Indeterminate Beams	12.6-12.9	Set 12: Self study 12-103, 12-105, 12-118, - 12-120, 12-122	Lab. No. 11: Buckling of Columns Apr 2-8
Apr 9-12	General Review			No Lab Apr 9-12

Mark distribution:

Assignments	7 %
Laboratories	8 %
Mid-term	35 %
Final	50 %

Mid-term Exam: TBA**Final Exam:** April 28 2017

¹- Completed assignments have to be placed into the designated boxes on the 2nd floor of NREF before 4:00 p.m. on the due date. No late assignments will be accepted.