ME 323 - MECHANICS OF MATERIALS

Schedule for Fall 2023

PER	*DATE*	*TOPIC*	*READING**	*HWK DUE*
1 M	21-Aug	Introduction; Static equilibrium	Chap. 1	
2 W	23-Aug	Normal stress and strain; Mechanical properties	Chap. 2	
3 F	25-Aug	Shear stress and strain – direct shear	Chap. 3	
4 M	28-Aug	Stress – introduction to design of deformable bodies	Chap. 4	
5 W	30-Aug	Stress and strain – general definitions	Chap. 5	
6 F	1-Sep	Axial members – determinate structures	Chap. 6	HW 1
M	**4-Sep**	***Labor Day – no class***		
7 W	6-Sep	Axial members – indeterminate structures	Chap. 6	
8 F	8-Sep	Axial members – planar trusses	Chap. 6	HW. 2
9 M	11-Sep	Axial members – thermal effects	Chap. 7	
10 W	13-Sep	Torsion members – stresses in circular bars	Chap. 8	
11 F	15-Sep	Torsion members – statically determinate structures	Chap. 8	HW 3
12 M	18-Sep	Torsion members – statically indeterminate structures	Chap. 8	
13 W	20-Sep	Beam stresses – equilibrium and flexural stresses	Chap. 10	
14 F	22-Sep	Beam stresses – flexural and shear stresses	Chap. 10	HW 4
15 M	25-Sept	Review		
W	***27 Sept***	***Examination 1, 8-10pm (no lecture on Wednesday)***		
16 F	29-Sep	Beam stresses – shear stresses	Chap. 10	
17 M	2-Oct	Shear force/bending moment diagrams - determinate structures	Chap. 9	
18 W	4-Oct	Beam deflections – statically determinate structures	Chap. 11	
19 F	6 -Oct	Beam deflections – statically indeterminate structures	Chap. 11	HW 5
M	**9-Oct**	***October Break - no class***		
20 W	11-Oct	Beam deflections – superposition methods	Chap. 11	
21 F	13-Oct	Energy methods – Castigliano's theorems	Chap. 16	HW. 6
22 M	16-Oct	Energy methods – Castigliano's theorems	Chap. 16	
23 W	18-Oct	Energy methods – Castigliano's theorems	Chap. 16	
24 F	20-Oct	Energy methods – Castigliano's theorems	Chap. 16	HW 7
25 M	23-Oct	Shear force/bending moment diagrams – indeterminate structures	Chap. 9	
26 W	25-Oct	Shear force/bending moment diagrams – indeterminate structures	Chap. 9	
27 F	27-Oct	Energy methods – introduction to finite element methods	Chap. 17	HW 8
28 M	30-Oct	Review		
W	**1-Nov**	***Examination 2, 8-10p.m. (no lecture on Wednesday)***		
29 F	3-Nov	Energy methods – introduction to finite element methods	Chap. 17	
30 M	6-Nov	Thin-walled pressure vessels – axial and hoop stresses	Chap. 12	
31 W	8-Nov	Stress transformation – principal /maximum shear stresses	Chap. 13	
32 F	10-Nov	Stress transformation – Mohr's circle	Chap. 13	HW 9
33 M	13-Nov	Stress transformation – absolute maximum shear stress	Chap. 13	
34 W	15-Nov	Stresses – combined loading	Chap. 14	
35 F	17-Nov	Stresses – combined loading	Chap. 14	HW 10
36 M	20-Nov	Stresses – combined loading	Chap. 14	
W	**22-Nov**	***Thanksgiving Vacation – no class***		
F	**24-Nov**	***Thanksgiving Vacation – no class***		
37 M	27-Nov	Failure analysis-stress theories	Chap. 15	
38 W	29-Nov	Failure analysis – stress theories	Chap. 15	
39 F	1-Dec	Failure analysis – buckling	Chap. 18	HW. 11
40 M	4-Dec	Practice with combined loadings and failure analysis		
41 W	6-Dec	Practice with combined loadings and failure analysis		
42 F	8-Dec	Review		
	TBA	***Final Examination***		

* Reading assignments from lecture book