

Detailed Schedule for ME 236 Engineering Mechanics I (Spring 2004) - REVISED

Class	Date	Topics	Readings	Assignments
1	Jan. 14	Introduction, systems of units	Sections 1.1 – 1.4	Problems 1.5, 1.12, 1.17
2	Jan. 16	Force vectors, vector components, unit vectors	Sections 2.1 – 2.8	Problems 2.3, 2.6, 2.16
3	Jan. 21	Resultant forces	Sections 2.1 – 2.8	Problems 2.31, 2.62, 2.67
4	Jan. 23	Vector dot products	Sections 2.9	Problems 2.117, 2.120, 2.132
5	Jan. 26	Equilibrium of a particle	Sections 3.1 – 3.4	Problems 3.1, 3.8, 3.23
6	Jan. 28	Equilibrium of a particle	Sections 3.1 – 3.4	Problems 3.42, 3.47, 3.54
7	Jan. 30	Moment of a force, vector cross product	Sections 4.1 – 4.2	Problems 4.2, 4.5, 4.13
8	Feb. 2	Moment of a force using cross product	Sections 4.3 – 4.4	Problems 4.20, 4.32, 4.42
9	Feb. 4	Force couples, resultant of force systems	Sections 4.5 – 4.6	Problems 4.54, 4.70, 4.80
10	Feb. 6	Force-couple systems	Sections 4.7 – 4.8	Problems 4.99, 4.109, 4.124
11	Feb. 9	Review Chapters 1-4		TBA
12	Feb. 11	Test #1 covering Chapters 1-4		
13	Feb. 13	Equilibrium of rigid bodies in 2D	Sections 5.3 – 5.4	Problems 5.19, 5.33, 5.57
14	Feb. 16	Equilibrium of rigid bodies in 3D	Sections 5.5 – 5.7	Problems 5.65, 5.72, 5.74
15	Feb. 18	Equilibrium of rigid bodies in 3D	Sections 5.5 – 5.7	Problems 5.83, 5.86, 5.97
16	Feb. 20	Trusses, two-force members, method of joints	Sections 6.1 – 6.3	Problems 6.1, 6.7, 6.23
17	Feb. 23	Method of sections	Sections 6.4	Problems 6.30, 6.35, 6.52
18	Feb. 25	3D trusses	Sections 6.5	Problems 6.55, 6.60, 6.65
19	Feb. 27	Frames and machines	Sections 6.6	Problems 6.66, 6.71, 6.92
20	Mar. 1	Dry friction: Coulomb friction law	Sections 8.1 – 8.2	Problems 8.1, 8.12, 8.18
21	Mar. 3	Review Chapters 5-6		TBA
22	Mar. 5	Test #2 covering Chapters 5-6		
23	Mar. 8	Systems with friction	Sections 8.2	Problems 8.38, 8.41, 8.56

24	Mar. 10	Friction on wedges	Sections 8.3	Problems 8.63, 8.66, 8.69
25	Mar. 12	Friction on screws and belts	Sections 8.4 – 8.5	Problems 8.87, 8.94, 8.103
26	Mar. 15	Center of mass, centroid of a body	Sections 9.1 – 9.2	Problems 9.9, 9.17, 9.38
27	Mar. 17	Composite bodies	Sections 9.3	Problems 9.46, 9.54, 9.76
28	Mar. 19	Distributed loads	Sections 9.5 – 9.6	Problems 9.109, 9.114, 9.118
29	Mar. 29	Area moments and products of inertia	Sections 10.1 – 10.4	Problems 10.2, 10.18, 10.22
30	Mar. 31	Composite areas	Sections 10.5	Problems 10.34, 10.44, 10.50
31	Apr. 2	Review Chapters 8-10		TBA
32	Apr. 5	Test #3 covering Chapters 8-10		
33	Apr. 7	Cartesian coordinates	Sections 12.1-12.2	Problems 12.3, 12.16, 12.46
34	Apr. 12	Curvilinear motion	Sections 12.4 – 12.5	Problems 12.70, 12.77, 12.96
35	Apr. 14	Path variables	Sections 12.7	Problems 12.99, 12.106, 12.108
36	Apr. 16	Path variables	Sections 12.7	Problems 12.120, 12.125, 12.133
37	Apr. 19	Cylindrical coordinates	Sections 12.8	Problems 12.150 12.155, 12.163
38	Apr. 21	Relative motion: cable-pulley systems	Sections 12.9	Problems 12.172, 12.183, 12.184
39	Apr. 23	Relative motion: cable-pulley systems	Sections 12.10	Problems 12.191, 12.196, 12.204
40	Apr. 26	Newton's second law	Sections 13.1 – 13.3	Problems 13.6, 13.13, 13.16
41	Apr. 28	Equation of motion	Sections 13.1 – 13.3	Problems 13.21, 13.25, 13.34
42	Apr. 30	Equation of motion	Sections 13.4	Problems 13.44, 13.49, 13.51
43	May 3	Equation of motion	Sections 13.5	Problems 13.55, 13.69, 13.75
44	May 5	Equation of motion	Sections 13.6	Problems 13.91, 13.99, 13.101
45	May 7	Review Chapters 12-13		TBA
		Test #4 covering Chapters 12-13		