

## ENGR 51 Dynamics

Fall 2007

### Tentative Calendar (subject to change) for 8<sup>th</sup> edition of the Textbook

Week	Date	Topic (Lecture Number)	Reading	Homework
1	8/21	Introduction to Dynamics (11-1), Kinematics of particles in rectilinear motion (11-2, 11-2E)	11.1-5, Appendix A	<b>#1 due 8/28</b> 11: 20, 30, 48, 55, 109, 126, 133
	8/23	Kinematics of particle system (11-3, 11-3E), Curvilinear motion in rectangular coordinates (11-4, 11-4E)	11.6, 11.9-12	
2	8/28	Curvilinear motion in other coordinates (11-5, 11-5E, 11-5E2)	11.13-14	<b>#2 due 9/6</b> 11: 143, 170 12: 10, 126, 38, 72
	8/30	Kinetics of particle: FMA method (12-1, 12-1E, 12-1E2, 12-1E3)	12.1-6	
3	9/4	Angular momentum (12-2, 12-2E, 12-2E2)	12.7-10	<b>#3 due 9/18</b> 13: 14, 21, 27, 69, 73, 193
	9/6	Work, Kinetic Energy, and power (13-1, 13-2, 13-2E, 13-2E2)	13.1-4	
4	9/11	<b>Test 1(11-12)</b>		<b>#4 due 9/27</b> 13: 121, 146, 155, 172 14: 5, 22, 31, 41
	9/13	Potential energy (13-3, 13-3E)	13.5-8	
5	9/18	Impulse and momentum(13-4, 13-4E, 13-4E2)	13.10-11	<b>#5 due 10/9</b> 15: 12, 17, 45, 48, 61, 63, 70
	9/20	Impact (13-5, 13-6, 13-6E, 13-7, 13-7E)	13.12-15	
6	9/25	Particle systems Kinetics (14-1, 14-1E, 14-2, 14-2E, 14-2E2)	14.1-9	<b>#6 due 10/18</b> 15: 78, 84, 96, 112, 113, 121
	9/27	Rigid body translation and rotation (15-1, 15-2)	15.1-5	
7	10/2	<b>Test 2(13-14)</b>		<b>#7 due 10/25</b> 15:170, 176, 177, 251
	10/4	Relative velocity (15-3, 15-3E, 15-3E2)	15.6	
8	10/9	Instant center (15-4, 15-4E, 15-4E2)	15.7	<b>#8 due 11/6</b> B: Download* 16: 6, 11, 39, 59, 69
	10/11	<i>No Class -- Flex Day</i>		
9	10/16	Relative acceleration (15-5, 15-5E, 15-5E2, 15-5E3)	15.8-9	<b>#9 due 11/8</b> 16: 80, 96, 100, 123
	10/18	Rotating reference frame (15-6, 15-6C)	15.10-11	
10	10/23	Rotating reference frame (15-6E, 15-6E2)		<b>#10 due 11/15</b> 17: 10, 17, 23, 29, 34
	10/25	Mass moment of inertia (16-1, 16-2, 16-2E)	Appendix B.1-B.5	
11	10/30	<b>Test 3(15.1-15.11)</b>		<b>#11 due 11/20</b> 17: 60, 63, 81, 85
	11/1	FMA in rigid bodies (16-3, 16-3E, 16-3E2, 16-3E3)	16.1-7	
12	11/6	Constrained plane motion (16-4, 16-4E, 16-4E2, 16-4E3, 16-4E4)	16.8	<b>#12 due 12/4</b> 17: 88, 96, 102, 131
	11/8	Work and Energy in rigid bodies (17- 1, 17-1E, 17-1E2)	17.1-7	
13	11/13	Work and energy in rigid bodies (17-1E3, 17-1E4)		<b>#13 due 12/11</b> 15: 184, 253, 236 18: 7, 45, 147
	11/15	Impulse and Momentum in rigid bodies (17-2, 17-2E, 17-2E2, 17-2E3)	17.8-10	
14	11/20	Rigid bodies impact (17-3, 17-3E)	17.11-12	<b>#13 due 12/11</b> 15: 184, 253, 236 18: 7, 45, 147
	11/22	<i>No Class – Thanksgiving</i>		
15	11/27	<b>Test 4(16-17.10)</b>		<b>#13 due 12/11</b> 15: 184, 253, 236 18: 7, 45, 147
	11/29	Impact (17-3E2)		
16	12/4	3-D kinematics (15-7, 15-7E, 15-7E2)	15.12-15,	<b>#13 due 12/11</b> 15: 184, 253, 236 18: 7, 45, 147
	12/6	3-D kinetics (18-1, 18-1E, 18-2, 18-2E)	B.6-8, 18.1-4	
17	12/11	3-D kinetics FMA (18-3)	18.5-8	<b>#13 due 12/11</b> 15: 184, 253, 236 18: 7, 45, 147
	12/13	Review		
18	12/18	<b>Final Exam 4:30-6:30pm</b>		

**Notes:** Weekly assignments are due every Thursday, except A8 due 10/16 and none due 11/22.

\* This problem will be made available for download on WebCT