

1Physics 1A – Winter 2006 – Prof. David Kleinfeld

Week	Day	Date	Topic	Lecture Demonstration	Text Chapter	Homework (Problems from Text)		
1	M	9 Jan	Units; dimensional analysis; estimation		1	Ch 1 C: 5, 10		
	W	11	One-dimensional motion	Simultaneous fall Spaced weights	2	P: 1, 2, 6, 7, 16, 18, 27, 30, 33, 34, 42		
	F	13	Quiz on Basic Mathematics and Chapter 1				Ch 2 C: 8, 10 P: 2, 4, 6, 18, 21, 23	
2	M	16	UC Holiday			Ch 2		
	W	18	ILD: Kinematics 2 - Motion of Carts		2	C: 17		
	F	20	Vectors and two-dimensional motion	Ballistic cart	3	P: 24, 25, 27, 29, 30, 32, 35, 40, 42, 43, 46, 49, 51, 63, 65, 70		
3	M	23	Two-dimensional motion	Shoot the monkey	3	Ch 3		
	W	25	Newton's first and Second laws	Air track	4	C: 3, 12, 19		
	F	27	Quiz on Chapters 2 and 3				P: 2, 3, 12, 15, 18, 23, 25, 37, 40	
4	M	30	ILD: Newton's 1 st and 2 nd Law		4	Ch 4		
	W	1 Feb	Newton's third law	Inclined plane	4	C: 6, 7, 11		
	F	3	Applications of Newton's laws		4	P: 3, 4, 8, 9, 15, 18, 25, 36, 37, 42, 46, 47, 54, 56, 57, 68		
5	M	6	Work and energy	Conservation of energy track	5	Ch 5		
	W	8	Potential energy; COE	COE track; Springs	5	C: 5, 6		
	F	10	Quiz on Chapter 4				P: 2, 5, 9, 11, 13, 19, 20, 23, 25, 39, 46, 49	
6	MW	13 15	ILD: Conservation of Energy		5	Ch 6		
	WM	15 13	Momentum	Air track	6	C: 2, 7		
	F	17	Collisions	Newton's cradle; Rocket	6	P: 1, 5, 7, 8, 12, 15, 18, 20, 26, 30, 41		
7	M	20	UC Holiday			Ch 7		
	W	22	Rotational motion	Bicycle	7	C: 2, 5, 11		
	F	24	Quiz on Chapters 5 and 6				P: 1, 5, 10, 11, 12	
8	M	27	Applications of rotational motion	Cycloidal motion	7	Ch 7		
	W	1 Mar	ILD: Rotational Motion		7	P: 13, 14, 15, 17, 20, 22, 35, 37, 38		
	F	3	Applications of rotational motion	Loop-the-loop	7	Ch 8 C: 7, 16 P: 1, 3		
9	M	6	Orbital Motion	Rolling objects	7	Ch 8		
	W	8	Torque and center of mass	Bicycle; Center of mass	8	P: 7, 8, 9, 19, 29, 33, 34, 47, 51, 54		
	F	10	Rotational energy; Moment of inertia	Rolling Objects; Spin Stool	8			
10	M	13	Quiz on Chapters 7 and 8			Ch 9		
	W	15	Pressure, Archimedes principle	Crush the can; floating corks	9	C: 3, 6, 10		
	F	17	Bernoulli law; Viscosity	Large Venturi tube; Bernoulli instability	9	P: 3, 6, 7, 12, 17, 19, 44, 54, 62, 63		
11	W	22	Final Examination – from 11:30 AM to 2:30 PM					