

Schedule

Day	Section	Title	Pages	Problems	Due Date	
06/03	1.1	Introduction	P 1-2	none	06/07	
	1.2	Idealized Models	P 3	none	06/07	
	1.3	Standards and Units	P 3-7	none	06/07	
	1.4	Unit Consistency and Conversions	P 7-9	2, 5, 6	06/07	
	1.5	Precision and Significant Figures	P 9-11	17, 21	06/07	
	1.6	Estimates and Orders of Magnitude	P 11	24, 32	06/07	
06/04	1.7	Vectors and Vectors Addition	P 12-16	34, 36	06/07	
	1.8	Components and Vectors	P 16-21	42, 49	06/07	
	2.1	Displacement and Average Velocity	P 30-34	2, 12	06/07	
	2.2	Instantaneous Velocity	P 34-37	19, 20	06/07	
06/05	2.3	Average and Instantaneous Velocity	P 37-42	24, 25	06/07	
	2.4	Motion and Constant Acceleration	P 42-48	28, 32	06/07	
	2.5	Proportional Reasoning	P 48-51	41, 46	06/07	
	2.6	Freely Falling Objects	P 51-54	49, 52	06/07	
Lab #1						
06/06	2.7	Relative Velocity along a Straight Line	P 54-56	62, 63	06/10	
	3.1	Velocity in a Plane	P 68-71	none	06/10	
	3.2	Acceleration in a Plane	P 71-74	1, 5	06/10	
	3.3	Projectile Motion	P 75-85	8, 27	06/10	
06/10	3.4	Uniform Circular Motion	P 85-88	31, 38	06/11	
	3.5	Relative Velocity in a Plane	P 88-89	39, 43	06/11	
	4.1	Force	P 99-102	1, 4	06/11	
06/11	4.2	Newton's First Law	P 102-104	none	06/11	
	4.3	Mass and Newton's Second Law	P 104-109	9, 10	06/12	
	4.4	Mass and Weight	P 109-112	14, 18	06/12	
06/12	4.5	Newton's Third Law	P 112-116	24, 27	06/12	
	4.6	Free-Body Diagrams	P 116-118	28, 34	06/13	
	5.1	Equilibrium of a Particle	P 128-133	2, 9	06/13	
06/13	5.2	Applications of Newton's Second Law	P 133-137	18, 26	06/13	
	Lab #2					
	5.3	Contact Forces and Friction	P 137-145	33	06/17	
06/17	5.4	Elastic Forces	P 145-147	57	06/17	
	6.1	Force in Circular Motion	P 161-167	1, 2	06/17	
	6.2	Motion in a Vertical Circle	P 168-170	10, 14	06/17	
	6.3	Newton's Law of Gravitation	P 170-172	16, 17	06/18	
06/18	6.4	Weight	P 172-175	26, 29	06/18	
	6.5	Satellite Motion	P 175-180	34, 35	06/18	
	7.1	An Overview of Energy	P 188-192	none	06/18	
	7.2	Work	P 192-196	1, 9	06/19	
06/19	7.3	Work and Kinetic Energy	P 196-200	14, 20	06/19	
	7.4	Work Done by a Varying Force	P 200-203	25, 26	06/19	
	7.5	Potential Energy	P 203-208	30, 31	06/20	
06/20	7.6	Conservation of Energy	P 208-212	44, 46	06/20	
	7.7	Conservative and Non-conservative Forces	P 212-216	56, 57	06/20	
	7.8	Power	P 216-218	64, 72	06/20	
	Lab #3					
06/20	8.1	Momentum	P 231-234	1, 7	06/24	
	8.2	Conservation of Momentum	P 234-239	8, 9	06/24	
	8.3	Inelastic Collisions	P 239-243	22, 23	06/24	
	8.4	Elastic Collisions	P 244-248	32, 33	06/24	

Schedule

06/24	8.5	Impulse	P 248-251	37, 40	06/25
	8.6	Center of Mass	P 251-253	none	06/25
	8.7	Motion of the Center of Mass	P 253-254	49, 52	06/25
	8.8	Rocket Propulsion	P 254-256	54	06/25
06/25	9.1	Angular Velocity and Angular Acceleration	P 267-270	1, 3	06/26
	9.2	Rotation with Constant Angular Acceleration	P 270-272	12, 15	06/26
	9.3	Relationship between Linear and Angular Quantities	P 272-276	25, 27	06/26
06/26	9.4	Kinetic Energy of Rotation and Moment of Inertia	P 277-281	30, 38	06/27
	9.5	Rotation about a Moving Axis	P 281-284	47, 52	06/27
	10.1	Torque	P 294-297	1,2	06/27
		Lab #4			
06/27	10.2	Torque and Angular Acceleration	P 297-303	6,7	07/01
	10.3	Work and Power in Rotational Motion	P 303-305	18, 19	07/01
	10.4	Angular Momentum	P 305-307	22, 25	07/01
07/01	10.5	Conservation of Angular Momentum	P 307-311	28, 29	07/02
	10.6	Equilibrium of a Rigid Body	P 311-316	35, 39	07/02
	10.7	Vector Nature of Angular Quantities	P 317-319	none	07/02
	11.1	Stress, Strain, and Elastic Deformations	P 333-340	1, 2	07/02
07/02	11.2	Periodic Motion	P 340-343	24, 25	07/03
	11.3	Energy in Simple Harmonic Motion	P 343-345	31, 32	07/03
	11.4	Equations of Simple Harmonic Motion	P 346-351	38, 40	07/03
	11.5	The Simple Pendulum	P 351-354	47	07/03
07/03	11.6	Damped and Forced Oscillations	P 354-358	52	07/08
	12.1	Mechanical Waves	P 365-367	none	07/08
	12.2	Periodic Mechanical Waves	P 367-369	3, 4	07/08
	12.3	Wave Speeds	P 369-371	6, 9	07/08
		Lab #5			
07/04		no class			
07/08	12.4	Mathematical Description of a Wave	P 371-372	10, 12	07/09
	12.5	Reflections and Superpositions	P 373-374	none	07/09
	12.6	Standing Waves and Normal Modes	P 374-380	14, 17	07/09
	12.7	Longitudinal Standing Waves	P 380-384	25, 27	07/09
07/09	12.8	Interference	P 384-385	34	07/10
	12.9	Sound and Hearing	P 385-386	36	07/10
	12.10	Sound Intensity	P 386-389	39, 40	07/10
	12.11	Beats	P 389-391	48, 49	07/10
	12.12	The Doppler Effect	P 391-395	52, 55	07/10
07/10	13.1	Density	P 407-409	2, 4	07/11
	13.2	Pressure in a Fluid	P 409-416	12, 28	07/11
	13.3	Archimedes's Principle: Buoyancy	P 416-419	29, 33	07/11
		Lab #6			
07/11	13.4	Surface Tension and Capillarity	P 419-422	39, 40	07/15
	13.5	Fluid Flow	P 422-424	42, 43	07/15
	13.6	Bernoulli's Equation	P 424-427	none	07/15
	13.7	Applications of Bernoulli's Equation	P 427-430	47, 48	07/15
	13.8	Real Fluids: Viscosity and Turbulence	P 430-432	none	07/15
07/15	14.1	Temperature and Thermal Equilibrium	P 441-443	none	07/16
	14.2	Temperature Scales	P 443-446	1, 4	07/16
	14.3	Thermal Expansion	P 446-451	8, 11	07/16
	14.4	Quantity of Heat	P 451-454	22, 23	07/16
07/16	14.5	Phase Changes	P 454-457	31, 35	07/17
	14.6	Calorimetry	P 458-459	43, 44	07/17
	14.7	Heat Transfer	P 459-466	52, 53	07/17

Schedule

	14.8	Solar Energy and Resource Conservation	P 466-467	none	07/17
07/17	15.1	The Mole and Avogadro's Number	P 477-478	1,2, 6	07/18
	15.2	Equations of State	P 479-485	15	07/18
	15.3	Kinetic Theory of an Ideal Gas	P 486-492	18, 23	07/18
		Lab #7			
07/18	15.4	Heat Capacities	P 492-493	32, 34	07/22
	15.5	The First Law of Thermodynamics	P 493-501	38, 39	07/22
	15.6	Thermodynamic Processes	P 501-503	none	07/22
	15.7	Properties of an Ideal Gas	P 503-506	50, 52	07/22
07/22	16.1	Directions of Thermodynamic Processes	P 516-518	none	07/23
	16.2	Heat Engines	P 518-521	3, 8	07/23
	16.3	Internal Combustion Engines	P 521-523	10	07/23
	16.4	Refrigerators	P 523-525	14, 15	07/23
07/23	16.5	The Second Law of Thermodynamics	P 526-527	none	07/24
	16.6	The Carnot Engine: The Most Efficient Heat Engine	P 527-531	19, 22	07/24
	16.7	Entropy	P 531-535	26, 29	07/24
	16.8	The Kelvin Temperature Scale	P 535-536	none	07/24
07/24	16.9	Energy Resources: A Case Study in Thermodynamics	P 536-537	none	
		Review			
		Lab #8			
07/25		Final Exam			