WINTHROP UNIVERSITY
PHYS 211 Course Syllabus
Department of Chemistry, Physics, Geology & the Environment

DATE	TOPIC	CHAPTER	ASSIGNMENTS
8-27W	Introductions, syllabus, Math test, Significant figures, Units, standards, SI system	1.1, 1.3,1.4	**Math &Physics Quiz**
8-29 F	Converting Units, order of magnitude, Reference frames	1.5-1.6 and 2.1	
9-3 W	Displacement, velocity, acceleration, Motion at constant acceleration, Free Fall	2.2-2.7	HW#1
9-5 F	**Recitation**: **problems solving** Variable acceleration, Vectors and Scalars-Vector Addition -Graphical	2.8,3.1-3.3	**Quiz 1**
9-8 M	Units Vectors, Vector Kinematics	3.3-3.6	
9-10 W	Projectile Motion, relative velocity	3.7-3.9	HW#2
9-12 F	**Recitation**: **problems solving,** Force & Newton's 1st Law, Mass	4.1-4.3	**Quiz 2**
9-15 M	Newton's 2nd Law, Newton's 3rd Law, Weight	4.4-4.6	
9-17 W	Free body diagrams –solving problems, Applications of Newton's Law-Friction-Uniform Circular Motion	4.7-4.8, 5.1-5.2	No Homework
9-19 F	**Exam 1**	**Chap. 1-4**	**No Quiz**
9-22 M	Dynamics of uniform Circular Motion, Highways banked, non-uniform Circular Motion	5.3-5.5	
9-24 W	Newton's law of universal Gravitation, vector form, Gravity near earth	6.1-6.3	HW#3
9-26 F	**Recitation**: **problems solving** Satellites and weightlessness, Kepler laws, type of forces in Nature	6.4-6.7	**Quiz 3**
9-29 M	Work done by a constant Force, scalar product of two vectors	7.1-7.2	
10-1 W	Work by Varying Force, Kinetic Energy	7.3,7.4	HW#4
10-3 F	Work Energy Principle, Conservative and non-conservative forces	7.4 ,8.1	**Quiz 4**
10-6 M	Potential Energy, Mechanical Energy and its conservation	8.2,8.3	
10-8 W	Using conservational mechanical energy, conservation of energy	8.4-8.6	**No Homework**
10-10 F	**Exam 2**	**Chap. 5-8**	**No Quiz**
10-15 W	Energy Conservation with dissipative Forces, Escape Velocity, Power Momentum and its relation to Force, Conservation of Momentum.	8.7,8.8	
10-17 F	Collisions and Impulse, Conservation of Energy	9.1-9.4	

10-20 M	Elastic Collisions in 1 Dimension, Inelastic Collisions	9.5,9.6	
10-22 W	Collisions in 2-3 D, Center of Mass (CM)	9.7-9.8	
10-25 F	CM and Translational Motion, Rotational Motion (Angular Quantities)	9.9, 10.1	**Quiz 6**
10-27 M	Vector Nature of Angular Quantities, Constant Angular Acceleration, Torque	10.2 - 10.4	
10-29 W	Torque and rotational Inertia, Solving Problems, Moment of Inertia	10.5-10.7	HW#6
10-31 F	**Recitation**: **problems solving** Rotational Kinetic and Translational Kinetic Energy	10.8,10.9	**Quiz 7**
11-3 M	Angular Momentum, Cross product, Torque as a vector	11.1,11.2	
11-5 W	Angular Momentum of a particle, Angular Momentum and Torque of System of particles, and for a rigid object conservation of Angular Momentum,	11.3-11.6	**No Homework**
11-7 F	**Exam 3**	**Chap 9-11**	**No Quiz**
11-10 M	Oscillations of a spring, SHM, Energy of SHO, SHM related to circular Motion, simple pendulum,	14.1-14.4	
11-12 W	Physical pendulum, damped harmonic Motion Forced Oscillations,	14.5-14.8	
11-14 F	**Recitation**: **problems solving** Wave motion: transverse and longitudinal wave	15.1-15.3	**Quiz 8**
11-17 M	The principle of superposition, Reflection and transmission,	15.4-15.8	
11-19 W	Interference, refraction, Standing waves, Resonance,	15.9, 15.10	**HW#7**
11-21 F	**Recitation**: **problems solving** Characteristics of Sound,	16.1-16.3	**Quiz 9**
11-24 M	intensity of sound, quality of sound and noise	16.4-16.5	
11-26W to11-28 F	**Thanksgiving Break - no classes**		
12-1 M	**Class evaluations** sources of sound, Interference of sound waves, Doppler effect, Applications	16.6-16.8	
12-3 W	Temperature: Atomic theory of matter, temperature, thermal equilibrium;	17.1-17.3	
12-5 F	**Exam 4**	**Chap 14-17**	
12-8	0^{th} Law of thermodynamics, thermal expansion, ideal gas law	**17.4-17-7**	