WINTHROP UNIVERSITY
PHYS 211 Course Schedule
Department of Chemistry, Physics, & Geology

Semester: Fall 2017 **Course:** PHYS 211 (001 & 002) - Physics with Calculus I
Professor: Dr. Fatima Amir
Office: 203, Sims, Office Hours: T 11:00-12:00, W 1:00 – 3:00, or by appointment.
Phone: 803-323 4935, E-mail: amirf@winthrop.edu

DATE	TOPIC	CHAPTER	ASSIGNMENTS
8-23 W	Introductions, syllabus, Math test, Significant figures, Units, standards, SI system	1.1, 1.3,1.4	
8-25 F	Converting Units, order of magnitude, Reference frames	1.5-1.6 and 2.1	
8-28 M	Displacement, velocity, acceleration	2.2, 2.3,2.4	
8-30 W	Motion at constant acceleration, Free Fall	2.5-2.7	HW#1
9-1 F	Variable acceleration, Vectors and Scalars-Vector Addition -Graphical	2.8,3.1-3.3	
9-6 W	Units Vectors, Vector Kinematics	3.3-3.6	HW#2
9-8 F	Projectile Motion, relative velocity	3.7-3.9	
9-11 M	Force & Newton's 1st Law, Mass	4.1-4.3	
9-13 W	Newton's 2nd Law, Newton's 3rd Law, Weight	4.4-4.6	HW#3
9-15 F	Free body diagrams –solving problems	4.7-4.8	
9-18 M	Applications of Newton's Law-Friction-Uniform Circular Motion	5.1-5.2	
9-20 W	Dynamics of uniform Circular Motion, Highways banked ,non-uniform Circular Motion	5.3-5.5	HW#4
9-22 F	Newton's law of universal Gravitation, vector form , Gravity near earth	6.1-6.3	
9-25 M	**Exam 1**	**Ch. 1-5**	
9-27 W	Satellites and weightlessness, Kepler laws, type of forces in Nature	6.4,6-5,6.7	**No Homework**
9-29 F	Work done by a constant Force, scalar product of two vectors	7.1-1.2	
10-2 M	Work by Varying Force, Kinetic Energy	7.3,7.4	
10-4 W	Work Energy Principle, Conservative and non-conservative Forces	7.4 ,8.1	HW#5
10-6 F	Potential Energy, Mechanical Energy and its conservation	8.2,8.3	
10-9 M	Problem solving using conservational mechanical energy, conservation of energy	8.4,8.5	
10-11 W	Energy Conservation with dissipative Forces	8.6	HW#6
10-13 F	Gravitational Potential Energy and Escape Velocity, Power	8.7,8.8	
10-18 W	**Exam 2**	**Ch. 6-8**	**No Homework**

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10-20 F	Momentum and its relation to Force, Conservation of Momentum	9.1,9.2	
10-23M	Collisions and Impulse, Conservation of Energy	9.3,9.4	
10-25 W	Elastic Collisions in 1 Dimension, Inelastic Collisions	9.5,9.6	HW#7
10-27 F	Collisions in 2-3 D, Center of Mass (CM)	9.7,9.8	
10-30 M	CM and Translational Motion, Rotational Motion(Angular Quantities)	9.9, 10.1	
11-1 W	Vector Nature of Angular Quantities, Constant Angular Acceleration, Torque	10.2 - 10.4	HW#8
11-3 F	Torque and rotational Inertia, Solving Problems, Moment of Inertia	10.5-10.7	
11-6 M	Rotational Kinetic and Translational Kinetic Energy	10.8,10.9	
11-8 W	Angular Momentum, Cross product, Torque as a vector	11.1,11.2	HW#9
11-10 F	Angular Momentum of a particle, Angular Momentum and Torque of System of particles, Angular Momentum and Torque for a rigid object	11.3-11.5	
11-13 M	conservation of Angular Momentum, Oscillations of a spring, SHM	11.6 , 14.1,14.2	
11-15 W	Energy of SHO, SHM related to circular Motion, simple pendulum, Physical pendulum, Damped harmonic Motion	14.3-14.7	HW#10
11-17 F	Forced Oscillations, Resonance Phases of matter, Density Pressure in fluids, Measurement of Pressure, Buoyancy	14.8 , 13.1-13.7	
11-20 M	**Exam 3**	**Chap.9-14**	**No Homework**
11-22 W-11-24 F	**Thanksgiving Break - no classes**		
11-27 M	Wave motion: transverse and longitudinal wave,	15.1-15.4,	
11-29 W	The principle of Superposition, reflection and transmission, Interference.	15.6-15.8	
12-2 F	Refraction, Diffraction-Sound	15.9-15.10, 16.1-16.7	
12-4 M	**Lab Exam**		
12-11 M	**Section 001 FINAL EXAM 11:30 am-2:00 p.m.**	**Ch. 1 - 16**	
12-7 TH	**Section 002 FINAL EXAM 8:00 am-10:30 am.**	**Ch. 1 - 16**	