Haverford College - Physics Department
Physics 101a: Classical and Modern Physics I
Regular Section (F. Crawford)
Fall 2002 Course Schedule/Syllabus

Lecture Schedule

Day	Date	Lecture Topics	Hecht Reading
M	Sep 2	Introduction; Length, Mass and Weight	*none*
W	Sep 4	Units; Graphs; Derivatives and Integrals	1.1 - 1.9, Appdx. F
F	Sep 6	Vector Calculus, Dot and Cross Product; Speed	2.1 - 2.4
M	Sep 9	Velocity; Vector Addition; Inertial Frames	2.5 - 2.9
W	Sep 11	*TBA*	*none*
F	Sep 13	Acceleration; Free Fall	3.1 - 3.7
M	Sep 16	Free Fall; Projectiles	3.8 - 3.10
W	Sep 18	Inertia; Momentum; Weight	4.1 - 4.5
F	Sep 20	Inclined Planes; Coupled Motions	4.6, 4.7
M	Sep 23	Friction; Translational Equilibrium	4.8, 4.9
W	Sep 25	Centripetal Acceleration; Circular Motion	5.1, 5.2
F	Sep 27	Law of Gravity; Gravity of Sphere; Terrestrial Gravity	5.3, 5.4
M	Sep 30	Kepler's Laws; Orbits	5.5, 5.6
W	Oct 2	**Midterm Exam #1 - in class**	*none*
F	Oct 4	Gravitational Fields	5.7, 5.8
M	Oct 7	Work; Conservative Forces	6.1
W	Oct 9	Kinetic and Potential Energy; Conservation of Energy	6.2 - 6.4
F	Oct 11	Escape Velocity; Power	6.5, 6.6
M	Oct 14	*Fall Break - no class*	*none*
W	Oct 16	*Fall Break - no class*	*none*
F	Oct 18	*Fall Break - no class*	*none*
M	Oct 21	Momentum; Impulse; Conservation of Momentum	7.1 - 7.4
W	Oct 23	Elastic and Inelastic Collisions	7.5
F	Oct 25	Two-dimensional Collisions	7.5
M	Oct 28	Rotational Displacement, Velocity, and Acceleration; Torque	8.1 - 8.5
W	Oct 30	Center of Gravity and Mass; Moment of Inertia	8.6 - 8.8
F	Nov 1	Rotational Kinetic Energy; Angular Momentum	8.9 - 8.11
M	Nov 4	Mass Density; Hydrostatic Pressure; Atmospheric and Gauge Pressure	9.1 - 9.4
W	Nov 6	Buoyant Force; Continuity Equation	9.5 - 9.8
F	Nov 8	Bernoulli's Equation; Viscous Flow	9.9, 9.10
M	Nov 11	Thermal Expansion; Ideal Gas Law	12.1 - 12.5
W	Nov 13	**Midterm Exam #2 - in class**	*none*
F	Nov 15	Phase Diagrams; Kinetic Theory	12.6, 12.7
M	Nov 18	Heat and Temperature; Specific Heat	13.1 - 13.4
W	Nov 20	Changes of State; Radiation, Convection, and Conduction	13.5 - 13.10
F	Nov 22	Thermodynamic Work; Heat and Internal Energy	14.1 - 14.2
M	Nov 25	Isothermal and Adiabatic Changes	14.3, 14.4
W	Nov 27	Carnot Engine; Efficiency	14.5, 14.6
F	Nov 29	*Thanksgiving Holiday*	*none*
M	Dec 2	Entropy; Microstates and Macrostates	14.7
W	Dec 4	Relativity Postulates; Simultaneity	26.1 - 26.3
F	Dec 6	Time Dilation; Length Contraction; Twin Effect	26.4 - 26.7
M	Dec 9	Relativistic Velocity Addition; Relativistic Momentum	26.8, 26.9
W	Dec 11	Relativistic Energy	26.10
F	Dec 13	Review - *all course work due today*	*none*

The **Final Exam** is a self-scheduled exam to be taken during final exam week (Mon Dec 16 to Sat Dec 21).