

PRE-CLASS READINGS FROM PHYS 1000H COURSEPACK (URONE & HINRICKS)

Week	Date of class	Sections of the coursepack	Topics covered
1	Tues Sep 13 (18:00 – 18:50)	Course syllabus; 1.2	Required background for the course; Directions; Introduction to nature: Physical quantities and units
	Weds Sep 14 (10:00 – 11:50)	Appendix C 1.1; 1.4	Data in Appendix C; Introduction to physics; (A note about significant figures); The skill of making good approximations
2	Tues Sep 20	2.1 – 2.3	Kinematics in 1-D: Displacement; Vectors, scalars and coordinate systems; Time, velocity and speed
	Weds Sep 21	2.4 – 2.6	Acceleration; Motion equations for constant acceleration; Problem-solving basics for kinematics in 1-D
3	Tues Sep 27	2.7 – 2.8	Falling objects; Graphical analysis of 1-D motion
	Weds Sep 28	3.1 – 3.4	Kinematics in 2-D: An introduction; Graphical approach to vector addition/subtraction; Analytical approach to vector addition/subtraction; Projectiles
4	Tues Oct 4	3.5	Relative velocities
	Weds Oct 5	4.1 – 4.3	Dynamics: Force and Newton's laws: The concept of force; Newton's first and second laws
5	Tues Oct 11	4.4 – 4.5	Newton's third law; Normal force, tension force, etc.
	Weds Oct 12	4.6 – 4.7	Problem-solving strategies; Applications of Newton's laws: finding an unknown force or unknown acceleration
6	Tues Oct 18	5.1 – 5.2	Further applications of Newton's laws: Friction force; Drag force
	Weds Oct 19	5.3 Review 1 – 5	Material deformation; Review chapters 1 – 5
—	Oct 24–28	Reading Week	Reading Week
7	Tues Nov 1	6.1	Uniform circular motion and gravitation: Rotation angle and angular velocity
	Weds Nov 2	6.2 – 6.4	Centripetal acceleration; Centripetal force; Fictitious forces observed in non-inertial frames
8	Tues Nov 8	6.5 – 6.6	Newton's law of gravitation; Kepler's three laws
	Weds Nov 9	7.1	Work, energy, and energy resources: Work, the scientific definition
9	Tues Nov 15	7.2	The work-kinetic energy theorem for point-like objects
	Weds Nov 16	7.3 – 7.6	Potential energy (gravitation and spring force); Nonconservative forces; Conservation of energy
10	Tues Nov 22	7.7 – 7.9	Power; The human body; World energy use
	Weds Nov 23	8.1 – 8.3	Linear momentum and collisions: Linear momentum and force; Impulse; Conservation of linear momentum
11	Tues Nov 29	8.4	Elastic collisions in 1-D
	Weds Nov 30	8.5 – 8.6	Inelastic collisions in 1-D; Collisions in 2-D with no rotation
12	Tues Dec 6	Chapters 1 – 5	Review chapters 1 – 5
	Weds Dec 7	Chapters 6 – 8	Review chapters 6 – 8