Physics 251 University Physics I, Fall 2012
Tu-Th 11:30 AM-12:50 PM, Wesselkamper 120
M 1:30-2:20 PM Henry Hall 109

Instructor: Eric Dodson Office: Wesselkamper 110
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Office hours: M, Tu, Th: 3:00-4:00 PM; F: 11:30-12:30
And by appointment

Text : R. Knight, *Physics for Scientists and Engineers*, 3rd ed.

Prerequisites: MA210, Concurrent enrollment in PHY251L is assumed

Content: This course is the first part of a yearlong introductory physics sequence focusing on the application of physical principles, logical reasoning and mathematical analysis needed to understand a broad range of natural phenomena. Topics include classical mechanics, fluids and thermodynamics

Grading: The course will be graded on a curve with the following breakdown

Homework	10%
Quizzes	20%
Midterms	50%
Final Exam	20%

Website: TBA

Homework: Homework will be collected each week (excluding weeks with midterms). I encourage you to work together on homework, but you must turn in your own work. Remember the main purpose of the homework is to help you understand the material and prepare for the midterms.

Quizzes: A ten to fifteen minute quiz will be given promptly at the beginning of class on selected classes (To be announced the previous class day). Each student's lowest quiz score will be dropped at the end of the semester

Midterms: Three midterms will be given. Our midterms will consist of twenty multiple choice problems worth three points apiece and two twenty point problems that will be graded for partial credit. The midterms will be closed book, closed notes. A formula sheet will be provided.

Midterm I	Thursday, September 20
Midterm II	Thursday, October 18
Midterm III	Thursday, November 15

Final Exam: Date and Time: TBA
The final exam will be comprehensive

Helpful advice: Come to class every day. Read the assigned sections from the textbook before class. Ask questions. Get an early start on the homework and come get help if you get stuck. Try to work the homework problems using only the formula sheet. Stay on top of the material (Don't cram). If you are having difficulty come see me ASAP Physics is not a spectator sport, the only way to get better is to practice.

The table below shows the proposed schedule of the material to be covered and the associated chapters from the textbook

Week	Topic(s)	Chapter(s)
1	Units, Coordinate Systems, Position, Velocity, Acceleration, 1-D kinematics	1,2
2	Motion with constant acceleration, Graphical analysis of 1-D motion, Vectors	2,3
3	2-D kinematics, Projectile motion	4
4	Projectile motion (cont.), Trajectories, Midterm 1	4
5	Newton's Laws, Free-body-diagrams, Weight and mass	5,6,7
6	Friction, Circular Motion	6, 8
7	Work, Kinetic Energy, Potential Energy	10,11
8	More energy, Power, Midterm 2	10,11
9	Center of Mass, Momentum, Collisions, Impulse	9
10	Rotational kinematics, Moment of Inertia, Torque, Rotational Dynamics	12
11	Statics, Angular Momentum	12
12	Simple Harmonic Motion	14
13	Fluids	15
14	Temperature, Specific Heat, Ideal Gas Law, Phase Changes	16
15	Laws of Thermodynamics	17-19

Use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes. Student who cannot comply with this rule will be asked to leave. Please refer any questions to the Dean of Natural Sciences/Mathematics