PHY 1200
Physics of Everyday Life – Fall 2018
Syllabus

Instructor: Alberto Rojo
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Office: 186C MTSC
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Office hours: T/TH 1:00-2:00PM

Textbooks:
There is no textbook required for this course. We will use the notes that you can download from
https://files.oakland.edu/users/rojo/web/p120/Schedule.htm

Recommended Texts:
- Paul G. Hewitt, Conceptual Physics. The bookstore ordered the 11th edition but you can also use previous ones. Also I will distribute notes and send them by Moodle.
- D. Macauley *The Way Things Work* (occasional reference)
- L. Bloomfield *How Things Work* (occasional reference)
- L. Kirkpatrick & G. Wheeler *Physics A World View* (occasional reference)

Course Prerequisites and goals:
The essential prerequisite is *curiosity* and a desire to learn.
The goal is to learn some science, and find that doing so can be both enjoyable and useful.

Course Structure:
In Physics 120, *The Physics of Everyday Life*, we will have some emphasis on learning by experiment combined with listening to lectures. The intended audience is students interested in natural phenomena in the world around us and in the working of the fruits of technology. Although no prior training in physical science is assumed, I will try to achieve a qualitative and, insofar as possible, a quantitative understanding of the systems we study. We will achieve this, I hope, by direct experiment, and by learning some basic principles--not by mathematical analysis.

Since we will do some experiments, which are performed in class, *attendance is mandatory*, and will be recorded. The primary record of a student's work will be the Laboratory Notebook, which includes notes, diagrams, graphs, results, and interpretation.

Required Work
- Attend ALL classes. Arrive promptly and stay the entire period.
- Perform all laboratory work.
- Complete all homework and return in the indicated date.
- Keep a (3-ring) Laboratory Notebook with brief reports of each lab
- Take all tests.
- Explore, be attentive and interactive, pose questions to each other and figure things out.

Grading
25% Laboratory Notebook. This notebook will be due a week before the end of class.
15% Homework and Quizes.
30% Tests. There will be two midterms and a final exam.
30% Attendance.

Up to 1 absence per term (with cause) will be permitted.
Each additional missed class will decrease the overall grade by 3%.

Grading will NOT be on a curve.
The final grade will be computed according to the chart on the right.

Letter Grade	Percent scale
A	96-100
A-	88-95
B+	80-87
B	73-79
B-	69-72
C+	64-68
C	60-63
C-	57-59
D+	53-56
D	50-52
F	<50

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Class & Exam Dates	Subject/Experiment	Readings & Review	Homework HWs are due the posted dates
September 6	Class 1: Soap Bubbles	Surface Tension Notes	
September 11	Class 2: Surface Tension		Class 1 HW
September 13	Class 3: Air Pressure	Pressure Notes	Class 2 HW
September 18	Class 4: Density & Buoyancy		Class 3 HW
September 20	Class 5: Material & Atoms	Atomic Structure Notes	Class 4 HW
September 25	Class 6: Static Electricity	Static Electricity Notes	Class 5 HW
September 27	Class 7: Batteries	Batteries	Class 6 HW
October 2	Class 8: Circuits		Class 7 HW
October 4	Class 9: Series and Parallel	Series/Parallel Notes	Class 8 HW
October 9	Class 10: House Wiring		Class 9 HW
October 11	Class 11: Ohm's Law		Class 10 HW
October 16	Midterm Review		Midterm HW
October 18	**Midterm I**		
October 23	Class 12: Magnetism		Class 11 HW
October 25	Class 13: Relays & Buzzers		Class 12 HW
October 30	Class 14: Motors		Class 13 HW
November 1	Class 15: Speaker		Class 14 HW
November 6	Class 16: Bernoulli Effect		Class 15 HW
November 8	Class 17: Waves and Sound		Class 16 HW
November 13	Class 18: Physics of Music		Class 17 HW
November 15	Midterm Review		
November 20	**Midterm II**		
November 22	**Thanksgiving**		
November 27	Class 19: Reflection	Light	
November 29	Class 20: Refraction		
December 4	Art And Physics		
December 6	Final Review		
Dcember 11	**Final Exam** 12:00 - 3:00 **Math & Sci 376**		