

Physics for Citizens - Physics 100

Schedule & Syllabus for Fall 2014

See below for schedule, text, grading, expected student outcomes, and instructor's information

Lecture: M+W+F 1330-1420 in Physical Sciences Lecture Room 217,

Attendance required

Homework due on Monday of week after assigned, before class

<i>Week</i>	<i>Topic</i>	<i>Text section</i>	<i>Concept. Exer. #s</i> <i>Homework</i>	<i>Problem #s</i> <i>Homework</i>
1:	Introduction			
	Overview, fundamentals	Ch 1	Ch1-#27	none
	Fundamentals	Ch 1		
2:				
	Atoms,	Ch 2 & Ch 3	Ch2- #32, #38	none
	How things Move	Ch. 3		
3:				
	How things Move	Ch. 3	3- 19, 32;	3-10,
	Why things move as they do	Ch 4		

4:	Newton & why objects move	Ch4	4- 15, 25;	4-6, 16;
	Newton's Universe	Ch5	5-8, 18	5-2
5:		Ch 6	6-2, 34, 43	6-6, 16
	Work, energy, power			
6:				
	Thermodynamics	Ch 7	7-3, 16, 34	7-4
7:	<u>M MIDTERM 1 -- **calculator + 1 page of notes allowed**</u>			
	Electricity &			
	Magnetism	Ch 8	8-3, 8, 22, 26	8-2
8:	E&M	Ch 8		
	Waves, Light	Ch 9	9-14, 33, 37, 48	9-2
	Climate Change	Ch 9		

9:	Special Relativity	Ch 10	10-19, 22, 42;	10-8
	Cosmology	Ch 11		
10:	Cosmology	Ch 11	11-11,12;	
	Quantum Idea	Ch 12	12-6, 26	12-2
11:		Ch 13	13-2, 22	13-1
	Quantum Universe	Ch 13		
12:	Review			
<u>W MIDTERM 2 -- ** calculator + 1 page of notes allowed **</u>				
	Nuclear physics	Ch 14		
13:		CH 14	14-12, 20, 36	14-11
	Nuclear Physics	Ch 14		
14:		Ch 15	15-10, 20, 28	15-2
	Fusion and Fission	Ch 15		

15:		Ch 16	16-20, 34, 36, 41	16-7
	The Energy Challenge	Ch 16		
16:		Ch 17		17-4
	Quantum Field	Ch 17		
F	Last class, review	Epilogue		

FINAL EXAM -- 12/15/2014, 2:15- 4:15 pm * calculator + 1 page of notes allowed *

This Schedule is subject to Change

Text: Physics Concepts and Connections, 5th ed. by Art Hobson, Addison-Wesley 2010

Grades: 10% homework

20% each midterm

50% final exam

Physics 100 Student Learning Outcomes

Students are expected to understand the important physics concepts, the context in which they were developed, and their connections to society. This includes

- 1) understanding of the scientific process
- 2) ability to apply physics concepts
- 3) ability to use and understand quantitative data

The ultimate goal is for students to be able to think critically about issues involving physics as citizens in a technological society.

Teacher:

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Office hours: M and W before class, or by appointment