

Physics for Citizens - Physics 100

Schedule & Syllabus for Spring 2012

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

Discussion Sections: M & F 1430-1520 in Watanabe Hall 415, voluntary

Laboratory: M or F 1530-1730, as registered, in 415 Watanabe Hall

Homework due on Friday of week assigned, before class

Week	Topic	Text section	Concept. Exer. #s	Problem #s
M 09 Jan	Introduction			
W 11 Jan	Overview, fundamentals	Ch 1	none	none
F 13 Jan	Fundamentals	Ch 1		
M 16 Jan	MLK Holiday			
W 18 Jan	Atoms, How things move	Ch 2 & Ch 3	Ch1-#27; Ch2- #32, #38	none
F 20 Jan	How things Move	Ch. 3		
F 20 Jan	First Discussion (2:30) and Labs (3:30)			
M 23 Jan	Why things move as they do	Ch 3 & 4	3-1, 18, 32; 4-2	3-10, 14; 4-12
M 30 Jan	Newton & why objects move	Ch 4 & 5	4-16, 34; 5-8, 18	4-16; 5-2
M 06 Feb	Work, energy, power	Ch 6	6-2, 38, 46	6-6, 18
M 13 Feb	Thermodynamics	Ch 7	7-6, 16, 34	7-4
M 20 Feb	Presidents Holiday			
W 22 Feb	MIDTERM 1 -- **calculator + 1 page of notes allowed**			
F 24 Feb	E&M	Ch 8		
M 27 Feb	E&M	Ch 8	8-3, 7, 22, 26	8-2
W 29 Feb	Climate change	Ch 9		
F 02 Mar	Climate Change	Ch 9	9-12, 33, 37, 48	9-2
M 05 Mar	Special Relativity	Ch 10	10-19, 22, 42;	10-8, 10
W 07 Mar	Special Relativity			
F 09 Mar	Cosmology	Ch 11		
M 12 Mar	Cosmology	Ch 11		11-12, 31
W 14 Mar	Quantum Idea	Ch 12	12-6, 26; 13-14, 22	12-2; 13-1
F 16 Mar	Quantum Idea	Ch 12		
M 19 Mar	Quantum Universe	Ch 13		
W 21 Mar	Quantum Universe	Ch 13		
F 23 Mar	Quantum Universe	Ch 13		
M-F 26-30 Mar	Spring break			
M 02 Apr	Review			
W 04 Apr	MIDTERM 2 -- ** calculator + 1 page of notes allowed**			
F 06 Apr	Good Friday Holiday			
M 09 Apr	Nuclear physics	Ch 14	14-12, 20, 32, 36, 37	14-4, 8
W 11 Apr	Nuclear Physics	Ch 14		
F 13 Apr	Nuclear Physics	Ch 14		
M 16 Apr	Fusion and fission	Ch 15	15-10, 12, 20, 26, 28	15-2
W 18 Apr	Fusion and Fission	Ch 15		

F 20 Apr	The Energy Challenge	Ch 16		
M 23 Apr	The energy challenge	Ch 16	16-20, 34, 36, 40	16-7, 8, 9
W 25 Apr	Quantum fields	Ch 17	17-10, 14	17-4
F 27 Apr	Quantum Field	Ch 17		
M 30 Apr	Quantum Fields	Ch 17		
W 02 May	Last class, review	Epilogue		

FINAL EXAM -- Monday 7 May, 1415-1615 ** calculator + 1 page of notes allowed **

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

Rental: text available at <http://hawaii.bookrenterstore.com>

Electronic: version at <http://www.coursesmart.com/0321662555/?a=1773944>

Library: 2 copies on reserve in Sinclair Library Wong AV Center, ask for Call Number: PC #524

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.

Teachers:

Prof. John Learned
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Back: <http://www.phys.hawaii.edu/~jgl/p100/p100.html>

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