

PHYSICS 2140

COLLEGE PHYSICS 2

FALL 2013

An introduction to electricity, magnetism, optics, and atomic physics. Covers topics on the physics part of the MCAT exam.

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Office Hours:	3:00 - 4:00 MW or by appointment.	Web Page:	WSU Blackboard

Textbook: *Physics, second edition* by Giambattista, Richardson, & Richardson, McGraw Hill Higher Education, 2010.

WebAssign: WebAssign (webassign.net) is an online homework system. A two-semester WebAssign access card is included in the price of a new textbook purchased at the B&N campus bookstore, or can be purchased separately at the bookstore, or can be purchased online at the WebAssign site. If you pay online, make sure to select the correct textbook: Giambattista, Richardson, and Richardson, second edition.

Your UserID is your AccessID. The institution is wayne. Your initial password is your first initial and up to 7 characters of your last name. Please change your password to something you can remember.

Lectures: 6:00 - 7:20pm MW, Room 2009 Science Hall

Quiz Sections: Quiz sections are an important part of this course. They allow you to meet together in small groups to ask questions, discuss material, and discuss the assigned problems. During the semester, 6 quizzes will be given. The best scores plus attendance will be used for 50 points of your total.

Homework: There are graded and ungraded homework problems. The graded problems must be done on WebAssign (<http://webassign.net>). The homework problems assigned for this course, graded and ungraded, are posted on BlackBoard.

While the ungraded problems will NOT be collected and graded, it is expected that you will devote time to understanding and solving these problems. In the same way that you must practice to become proficient at a sport or musical instrument, you must work problems in order to master basic physics. Furthermore, the exam problems will be based on the assigned homework, both graded and ungraded.

Labs: You are required to take the laboratory (2141) along with this course. The experiments provide reinforcement for the material in the course. You will receive a separate grade for the lab, following the policies presented by your lab instructor. The lab manual is available on BlackBoard. The first meetings of your lab section is during the week of Sept. 9 - 13.

Exams: There will be three midterms and a final exam. The midterm exams will be given during a lecture period (55 min.). The lowest exam score can be replaced by half of your score on the final exam if greater. There are no makeup exams. You MUST bring your Wayne State ID to

the exams and present it to a proctor when asked. Exams are closed book. A simple, standalone calculator is allowed -- standalone excludes calculators on smart phones and graphing calculators. No other electronic devices are allowed.

Grading: Grades will be determined by the three class exams, the final exam, the WebAssign problems, and the quizzes as follows:

First Exam	100	Sep. 23
Second Exam	100	Oct. 21
Third Exam	100	Nov. 18
Final Exam	200	Dec. 17, 1:20 -- 3:50pm
Quizzes	50	
Graded WebAssign Problems	50	
Extra Credit Planetarium Sessions	3	Only announced sessions count!

The grade scale is as follows:

A	90 -- 100%	540 -- 600
A--	85 -- 90%	510 -- 540
B+	80 -- 85%	480 -- 510
B	75 -- 80%	450 -- 480
B--	70 -- 75%	420 -- 450
C+	65 -- 70%	390 -- 420
C	60 -- 65%	360 -- 390
C--	55 -- 60%	330 -- 360
D+	50 -- 55%	300 -- 330
D	45 -- 50%	270 -- 300
F	<45%	<270

Additional Resources: You can get additional help with this course in the *Physics Resource Center* located in the Physics Building, room 172. More information will be posted on BlackBoard when scheduling is done. This course may have a *Supplemental Instructor*, and details will be announced when available. My office hours are listed at the top of the syllabus.

Withdrawals: The last day to withdraw with tuition cancellation is Sep. 11. The last day to withdraw is Nov. 9.

Academic Integrity: All forms of academic dishonesty are forbidden. Specific examples of academic dishonesty include cheating during exams or changing test answers for re-grading. Continuing to write after the exam time is up will result in the grade of zero for that exam. Academic dishonesty will be pursued following the policies of Wayne State's Student Code of Conduct, available from the University website.

COURSE OUTLINE

WEEK DAY DATE TOPIC

CHAPTER.SECTION

1	W	8/28	Electric Charges, Coulomb's Law	16.1-16.5
2	M	9/2	Labor Day Holiday	
	W	9/4	Van De Graaff, Oscilloscope, Gauss's Law	16.5-17.3
	Su	9/8	Homework #1 Due at 11:59 pm	
3	M	9/9	Capacitance and Capacitors	17.4-17.7
	W	9/11	Electric Current and Resistance	18.1-18.6 (omit 18.3)
	Su	9/15	Homework #2 Due at 11:59 pm	
4	M	9/16	Circuit Analysis	18.7-18.11
	W	9/18	Review of Chapters 16 to 18	
	Su	9/22	Homework #3 Due at 11:59 pm	
5	M	9/23	FIRST EXAM (CHAPTERS 16-18)	
	W	9/25	Magnetic Fields and Forces	19.1-19.4
	Su	9/29	Homework #4 Due at 11:59 pm	
6	M	9/30	Current Loops and Torques	19.5-19.8 (omit 19.9-19.10)
	W	10/2	Motional EMF, Faraday's Law, Lenz's Law	20.1-20.4 (omit 20.5-20.7)
	Su	10/6	Homework #5 Due at 11:59 pm	
7	M	10/7	Inductance, LR Circuits	20.8-20.10
	W	10/9	Electromagnetic Waves	22.1-22.4 (omit 22.2)
	Su	10/13	Homework #6 Due at 11:59 pm	
8	M	10/14	Energy and Polarization in Waves	22.5-22.8
	W	10/16	Review of Chapters 19, 20, and 22	
	Su	10/20	Homework #7 Due at 11:59 pm	
9	M	10/21	SECOND EXAM (CHAPTERS 19, 20, and 22)	
	W	10/23	Reflection and Refraction of Light	23.1-23.4 (omit 23.5)
	Su	10/27	Homework #8 Due at 11:59 pm	
10	M	10/28	Mirrors and Thin Lenses	23.6-23.9
	W	10/30	Interference	25.1-25.5 (omit 25.2)
	Su	11/5	Homework #9 Due at 11:59 pm	
11	M	11/4	Diffraction	25.6-25.9 (omit 25.10)
	W	11/6	Quantization	27.1-27.4
	Su	11/10	Homework #10 Due at 11:59 pm	
12	M	11/11	Spectroscopy and Energy Levels	27.4-27.7 (omit 27.8)
	W	11/13	Review of Chapters 23, 25, and 27	
	Su	11/17	Homework #11 Due at 11:59 pm	
13	M	11/18	THIRD EXAM (CHAPTERS 23, 25, and 27)	
	W	11/20	Quantum Physics	28.1-28.4
14	M	11/25	The Hydrogen Atom	28.5-28.9 (omit 28.8 and 28.10)
	W	11/27	Thanksgiving Recess	
	Su	12/1	Homework #12 Due at 11:59 pm	
15	M	12/2	Nuclear Physics	29.1-29.4
	W	12/4	Biological Effects of Radiation and Particle Physics	29.5-30.3 (omit 29.6-29.8)

Su 12/8 Homework #13 Due at 11:59 pm
16 M 12/9 [Review for Final, all chapters covered](#)
17 **Tu 12/17 FINAL EXAM: 1:20 -- 3:50 pm**

[Robert Harr](#)
Aug. 27, 2013