

**TIME (for lectures):** M, W and F 10:40 PM – 11:35 PM. **Room:** 2009 SCI

**TEXT:** PHYSICS by Giambattista, Richardson and Richardson, McGraw-Hill.  
Second Ed.

ISBN: 978-0-07-733968-5

WebAssign Access Card.  
iClicker2.

**LECTURER:** Gavin Lawes

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**COURSE WEB PAGE:** WSU Blackboard

**OFFICE HOURS:** M and F: 12:00 PM – 1:00 PM in Room 391, Physics Building.

**LABORATORY:** PHY 2141 is the laboratory portion of PHY 2140. It is a co-requisite so you must be enrolled in both courses concurrently. The laboratory is a separate course with its own grades and procedures, which will be explained by your laboratory instructor. The experiments in PHY 2141 are designed to complement the material covered in PHY2140. Your Laboratory Manual is to be purchased separately at the University Bookstore. *Lab sections of PHY 2141 will likely not meet until the second full of classes the week of September 10<sup>th</sup>, 2012.*

**QUIZ SECTIONS:** Quiz sections meet once per week to provide you with an opportunity to ask questions, discuss lecture material, and work through assigned practice problems. Assigned practice problems will be posted chapter by chapter on Blackboard as the course progresses and may also be available through WebAssign (in addition to the for-credit problems). These practice problems are intended to test your understanding of the course material and help prepare you for quizzes and exams. It is important that you solve these problems to solidify your mastery of the material. The quiz instructors will solve some of the sample problems each week, but there may not be enough time to cover each and every assigned problem in quiz section. In these quiz sections you will periodically be given a short quiz on material covered in lecture the previous week. There will be seven quizzes given during the semester, during the weeks indicated by asterisks. The scores on your six best quizzes will be used to calculate your quiz section grade, which

contributes 60 points to the overall grade for the course. **There will be no make-up quizzes offered.**

**EXAMS:** There will be three 50 minute in class exams during the semester, as indicated on the course schedule. These exams will consist of multiple choice questions, including both conceptual and computational problems, and may have one or two long answer (free response) problems. Each exam will contribute 100 points towards your final grade in the course. You will be provided with a formula sheet prior to these exams. **There will be no make-up exams offered.** The lowest exam score will be replaced by half of your total score on the Final Exam if this improves your overall grade in the course. The final exam will incorporate both multiple choice and long answer/partial credit problems. You must bring your Wayne State ID to the exam and be prepared to present it to a proctor if asked during the exam. A group photograph of the class will be taken during each exam. No electronic devices other than a calculator are allowed at any time during the exams. **The use of any electronic device other than a calculator, including, but not limited to, cellular telephones, music players, or tablet computers, during the exam will be considered as academic misconduct resulting in immediate sanction. No graphing calculators are allowed.** More information on academic integrity can be found in a document prepared by the Office of Teaching and Learning, which can be downloaded from:

<http://www.otl.wayne.edu/pdf/AIB07Print.pdf>.

**ONLINE HOMEWORK:** The WebAssign online testing system (<http://webassign.net>) provides online homework submission and grading. The weekly homework assignments completed through WebAssign will contribute 20 points to your final grade in the course. If you buy the textbook in the campus store, it should include a WebAssign access card valid for two semesters. Access codes can also be purchased separately. More information is available on the WebAssign website. You should already be enrolled for the course in WebAssign with your **username and initial password** set to your six character WSU ID (e.g. "ab1234") unless you already had a WebAssign account. In this case, your login and password may be your six character WSU ID plus ".1" (e.g. "ab1234.1"). *The password for existing accounts was not changed.* You should change your password after you first login. Additional information is available in your WebAssign Student Guide.

**PARTICIPATION:** Short (single-question) quizzes will be interspersed throughout the lectures to gauge your mastery of the material. These quizzes will use the iClicker2 classroom response system for polling, so participating in these quizzes will require an iClicker2. Participation in these quizzes will count for 20 points. There is no deduction for incorrect answers. Information about registering the iClicker2 units will be posted on Blackboard. Points for participation will begin to accumulate on September 9<sup>th</sup>.

**BONUS POINTS:** Three bonus points will be awarded for attending a presentation at the WSU Planetarium. *There is no possibility for any additional bonus points.*

**GRADING:** Your course grade will be determined by your performance in the three in-

class exams, the online homework, the quiz section grade, classroom participation, and a final exam. The final exam will cover the material presented during the entire semester and contribute 200 points towards your final grade in the course. The same policies and procedures for the in-class exams will also apply for the final exam. The final exam will include one long-answer problem. Students in all PHY2140 sections will take the same final exam at the same time during the final exam period. The overall course grade will be determined on the basis of the following distribution:

Three in-class exams (100 points each)	300 points
Quizzes (best 6 of 7)	60 points
Final Exam	200 points
Online Homework	20 points
Classroom Participation	20 points
<b>Total</b>	<b>600 points</b>

Points accumulated	Percent	Grade
540-600	91-100	A
510-539	85-90	A-
480-509	80-84	B+
450-479	75-79	B
420-449	70-74	B-
390-419	65-69	C+
360-389	60-64	C
330-359	55-59	C-
300-329	50-54	D+
270-299	45-49	D
240-269	40-44	D-
0-239	0-39	F

**ADDITIONAL RESOURCES:** Additional help and support for this course is available in the *Physics Resource Center*, in room 172 Physics Building. This will open a few weeks after the beginning of the semester. In addition, both your quiz instructor and I will have regular office hours where we will be available to discuss any difficulties you may have with the course material.

**WITHDRAWAL DEADLINE:** The deadline to withdraw from the course will be Saturday, November 10<sup>th</sup>, 2012. **Any course withdrawal request on Pipeline after this date will be automatically denied.**

**ACADEMIC INTEGRITY:** All forms of academic dishonesty are forbidden in this class. Specific examples of academic dishonesty include cheating during exams as well as 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. All forms of academic dishonesty will be

prosecuted to the fullest extent as outlined in the Wayne State University Student Code of Conduct, which can be downloaded from the University website.

**STUDENT DISABILITY SERVICES:** If you have a documented disability that requires accommodations, you will need to register with Student Disability Services (SDS) for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TDD only). Once you have your accommodations in place, I will be glad to meet with you privately during my office hours to discuss your special needs. Student Disability Services' mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University. Please be aware that a delay in getting SDS accommodation letters for the current semester may hinder the availability or facilitation of those accommodations in a timely manner. Therefore, it is in your best interest to get your accommodation letters as early in the semester as possible.

**TENTATIVE CLASS SCHEDULE** (Subject to change; \* indicates weeks in which quizzes will be given in quiz section)

<u>Week</u>	<u>Date</u>	<u>Day</u>	<u>Lecture Topic</u>	<u>Reading Assignment</u>
1	Aug 29	W	Charge, Coulomb's Law	16.1-16.3
	Aug 31	F	Electric Field	16.4
2	Sept 3	M	<b>HOLIDAY</b>	
	Sept 5	W	Motion of charges, electrostatics	16.5-16.6
	Sept 7	F	Gauss' Law, Potential Energy	16.7-17.1
3*	Sept 10	M	Electric potential, Charge motion	17.2-17.4
	Sept 12	W	Capacitors	17.5-17.6.
	Sept 14	F	Energy storage, current, emf	17.7-18.2
4*	Sept 17	M	Kirchhoff's Rules, Circuits	18.4-18.5
	Sept 19	W	Circuits	18.6-18.8
	Sept 21	F	Electrical measurements, RC circuits	18.9-18.10
5	Sept 24	M	REVIEW FOR EXAM 1	16-17

	<b>Sept 26</b>	<b>W</b>	<b>EXAM 1 (Chapters 16 and 17)</b>	
	Sept 28	F	Magnetic field, magnetic force	18.11-19.2
6*	Oct 1	M	Motion in electric/magnetic fields	19.3-19.5
	Oct 3	W	Magnetic force and torque	19.6-19.7
	Oct 5	F	Motion emf, generators	19.8-20.2
7	Oct 8	M	Faraday's and Lenz's Laws	20.3-20.4
	Oct 10	W	Inductors and resistors	20.8-21.1
	Oct 12	F	AC circuits, EM radiation	21.2-22.1
8*	Oct 15	M	EM radiation	22.2-22.4
	Oct 17	W	EM radiation	22.5-22.6
	Oct 19	F	EM radiation, rays	22.7-23.1
9	Oct 22	M	Reflection and Refraction	23.2-23.3
	Oct 24	W	REVIEW FOR EXAM 2	18-22
	<b>Oct 26</b>	<b>F</b>	<b>EXAM 2 (Chapters 18-22)</b>	
10*	Oct 29	M	Reflection, images	23.4-23.6
	Oct 31	W	Mirrors	23.7-23.8
	Nov 2	F	Lenses and microscope	23.9, 24.4
11	Nov 5	M	Interference	25.1-25.2
	Nov 7	W	Thin films, double slit	25.3-25.4
	Nov 9	F	Diffraction	25.5-25.7
12*	Nov 12	M	Quantization of em radiation	25.8, 27.1-3
	Nov 14	W	Atomic data and models	27.4-27.6
	Nov 16	F	REVIEW FOR EXAM 3	23-25
13	<b>Nov 19</b>	<b>M</b>	<b>EXAM 3 (Chapters 23-25)</b>	

	Nov 21	W	<b>NO CLASS</b>	
	Nov 23	F	<b>NO CLASS</b>	
14	Nov 26	M	Atomic energy levels	27.7
	Nov 28	W	Waves and particles	28.1-28.5
	Nov 30	F	Hydrogen atom	28.6-28.9
15*	Dec 3	M	Tunneling, nuclei	28.10-29.2
	Dec 5	W	Radioactivity	29.3-29.5
	Dec 7	F	Special relativity	26.1-26.8
16	Dec 10	M	Review for Final	

**FINAL EXAM: December 18<sup>th</sup>, (1:20 PM) 2009/2025 SCI (Cumulative)**  
**\*\*\*\*\*ROOM IS SUBJECT TO CHANGE\*\*\*\*\***

**TIPS FOR SUCCEEDING IN INTRODUCTORY PHYSICS:**

There are a number of best-practices that are strongly correlated with achieving a high grade in introductory physics courses. These include:

- 1. Attend lectures and quiz sections.** Regular class attendance is strongly associated with student success.
- 2. Read the preface in the textbook.** In the preface, the authors have given you their best advice on how to use the text successfully.
- 3. Complete the assigned reading.** This material should ideally be read both before and the class lecture. Make sure you read the “Master the Concepts” section at the end of each chapter. This provides a helpful summary of the material covered in this chapter.
- 4. Put in the required time.** A typical suggestion is that students should work at least 2 hours outside of the classroom for every hour of lecture. This includes time spend before class getting familiar with the material and after class reviewing the material.
- 5. Practice your problem solving skills.** Do the assigned homework, do the extra credit problems, and do supplemental problems from the textbook.
- 6. Master the concepts.** It is important to understand the concepts underlying the equations covered in this course. Since a formula sheet will be provided for exams, there is no need to memorize these equations. The challenge is in understanding how to apply them to solve specific problems.
- 7. Attend office hours.** This will be most effective if you have specific problems that have arisen as you work through your assigned reading and weekly problems.