

**TIME (lectures):** M, W 6:00 PM – 7:20 PM. **Room:** 2009 SCI

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

ISBN: 978-0-07-733968-5

Webassign Access Card.

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**COURSE WEB PAGE:** WSU Blackboard

**OFFICE HOURS:** M and W: 4:00PM – 5:00 PM in Room 389, 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 not meet until the week of September 12.*

**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. **Homework assigned practice problems will be posted chapter by chapter on Blackboard as the course progresses.** These practice problems are intended to test your understanding of the course material and help prepare you for quizzes and exams. In the same way you practice at a sport or music to become good at it, you must work out problems to master basic physics. *It is imperative for you to solve these problems - and even more important to clearly understand the method of solution. It will be difficult to obtain a good grade in this course without making a conscientious effort to do all of the homework assignments.* 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 sections. It is the student responsibility to work on all the practice problems. In the quiz sections, particularly during (but not limited to) the weeks indicated by

asterisks, you will be given short quizzes which will have questions and problems similar to your homework assignments. There will be seven quizzes given during the semester. 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 individual make-up quizzes.**

**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. 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. 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 sanctions.** 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>.

**FINAL EXAM:** Final Exam will be held on **Tuesday, December 18, in Room 150 SCI.**

**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. You should change your password after you first login. Additional information is available in your WebAssign Student Guide. You will be allowed three attempts for each problem to get it right. After that you will receive 75% on the fourth attempt, 50% on the fifth, and 25% on the sixth attempt.

**IN CLASS RESPONSE SYSTEM (CLICKER):** i>Clicker2 remote ("Clicker") will be used to register attendance, as well as to ask questions to clarify some of the concepts during lectures. Note that i>Clicker2 with numeric capacity is required, not i>Clicker. Follow the directions on the Blackboard website for this course to enroll your clicker in this course. Registered clicker will be needed by Monday, September 10.

**GRADING:** Your course grade will be determined by your performance in the three in-class exams, the online homework, the quiz section grade, and a final exam. The scores for three in class exams for individual sections are going to be normalized. 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. 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 (WebAssign)	20 points
Clicker	20 points
<b>Total</b>	<b>600 points</b>

**EXTRA CREDIT:** You can receive extra credit (**3 points**) for attending a Planetarium show. **No other extra credit will be accepted.**

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 with the approval of the instructor 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 Student Due Process Policy of the University.

Selected excerpts from the Student Due Process Policy regarding disruptive behavior are presented below. These policies will be enforced during all academic activities relating to PHY 2140. Students who are disruptive during lectures, exams, or quiz sections will lose points from their final grade for the course. Repeat offenders may fail the course or be brought before the Dean of his or her College for further action.

### Wayne State University – STUDENT DUE PROCESS POLICY

#### 1.0 PREAMBLE

1. As provided by the Board of Governors in WSUCA 2.31.01, "Student Rights and Responsibilities," and as mandated by academic tradition, the students of Wayne State University possess specific rights and responsibilities. Students are expected to conduct themselves in a manner conducive to an environment, which encourages the free exchange of ideas and information. Students, as integral members of the academic community, have the right to the assurance that their rights are protected from arbitrary and capricious acts on the part of any other member of the academic community. This Student Due Process Policy is designed to assure that students who are alleged to have engaged in unacceptable conduct receive fair and impartial consideration as specified in this policy.

#### 4.0 PROHIBITED CONDUCT

The following conduct is subject to disciplinary action when it occurs on University premises, or in connection with a University course or University documents, or at a University-sponsored activity:

- 4.1 All forms of academic dishonesty.
- 4.3 Physical abuse of another person, or conduct which threatens or endangers another, or verbal or physical threats which cause reasonable apprehension of harm.
- 4.6 Disorderly behavior that interferes with activities authorized, sponsored, or permitted by the University such as teaching, research, administration, and including disorderly behavior that interferes with the freedom of expression of others.

#### 5.0 DISCIPLINARY SANCTIONS

Students found to have committed an act, or acts of misconduct may be subject to one or more of the following sanctions, which shall take effect immediately upon imposition, unless otherwise stated in writing, except as provided in this policy.

- 5.1 Disciplinary Reprimand. Notification that the student has committed an act of misconduct, and warning that another offense may result in the imposition of a more serious sanction.
- 5.2 Disciplinary Probation. A disciplinary status which does not interfere with the student's right to enroll in and attend classes, but which includes specified requirements or restrictions (as, for example, restrictions upon the student's representing the University in any extracurricular activity, or running for or holding office in any student group or organization) for a specific period of time as determined in the particular case.
- 5.3 Suspension. A denial of the privilege of continuing or enrolling as a student anywhere

within the University, and denial of any and all rights and privileges conferred by student status, for a specified period of time. At the termination of the suspension the student will be entitled to resume his/her education without meeting any special academic entrance requirements.

- 5.4 Expulsion.
- 5.5 Restitution.
- 5.6 Transcript disciplinary Record.
- 5.7 Other Sanction.

10.0 PRELIMINARY PROCEDURE

10.1 When a faculty member is persuaded that academic dishonesty has occurred, the faculty member may, without using the mechanism of filing a charge, adjust the grade downward (including downgrading to a failing grade) for the test, paper, or other course-related activity in question, or for the entire course.

**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 a suggested quiz week)

<u>Week</u>	<u>Date</u>	<u>Day</u>	<u>Lecture Topic</u>	<u>Reading Assignment</u>
1	08/29	W	Electric Charge, Coulomb's Law	16.1-16.3
2	09/03	M	Labor Day, No Classes	
2	09/05	W	Electric Field, Motion of Charges, Electrostatics	16.4-16.6
3*	09/10	M	Gauss's Law, Potential Energy, Electric Potential	16.7-17.3
3	09/12	W	Charge Motion, Capacitors and Dielectrics, Energy Storage	17.4-17.7
4	09/17	M	Electric Current, EMF	18.1-18.2
4	09/19	W	Ohm's Law, Kirchoff's rules, DC Circuits	18.4-18.6
5*	09/24	M	Power & Energy in Circuits, RC Circuits	18.8-18.10
5	09/26	W	Review for Exam I	16-17

6	10/1	M	1 Hour Exam 1 (Ch. 16-17)	16-17
6	10/3	W	Magnetic Fields and Forces; Motion in Electric and Magnetic Fields	18.11-19.5
7*	10/8	M	Magnetic Force and Torque, Motional EMF, Generators	19.6-20.2
7	10/10	W	Faraday's Law, Lenz's Law, Inductors and Resistances	20.3-20.4 20.8-20.11
8	10/15	M	AC Circuits, Electromagnetic Radiation	21.2-22.1
8	10/17	W	Electromagnetic Radiation, Rays	22.5-23.1
9*	10/22	M	Review for Exam II	
9	10/24	W	1 hour Exam II (Ch. 18-22)	18-22
10	10/29	W	Reflection and Refraction, Images	23.2-23.6
10	10/31	M	Mirrors	23.7-23.8
11*	11/05	W	Lenses and Microscopes	23.9, 25.4
11	11/07	M	Interference, Thin Films, Double Slit	25.1-25.4
12	11/12	W	Diffraction	25.5-25.7
12	11/14	M	Quantization of EM Radiation	25.8, 27.1-3
13*	11/19	W	Atomic Data and Models, Atomic Energy Levels	27.4-27.7
13	11/21	M	Review for Exam III	23-25
14	11/26	W	1 Hour Exam III	23-25
14	11/28	M	Principle of Relativity, Simultaneity, Time Dilation, Mass and Energy	26.1-26.8
15*	12/03	W	Waves and Particles, Hydrogen Atom, Lasers	28.1-28.5
15	12/05	M	Tunneling, Nuclei, Radioactivity, Biological Effects	28.6 - 29.2
16	12/10	W	Catch-Up, Review for Final	
16	12/12	M	Study Day – No Classes	
	12/18	M	Final Exam 150 SCI Tuesday 1:20-3:50	

### TIPS FOR SUCCEEDING IN INTRODUCTORY PHYSICS:

There is no “secret” to succeeding at Introductory Physics. The things you must do to achieve your best results are amazingly clear. The following traits/habits are common to most students who excel in the introductory physics course.

1. **Come to class.** Regular class attendance is the thing that is most associated with student success. Perhaps this is obvious, but many students do not show up and wonder why they are doing poorly.
2. **Get a book.** Read it. Use it. There are LOTS of very good hints and ideas in the Preface. Most students do not read the Preface, but in it the authors have given you their best advice on how to use the text successfully.
3. **Actually read the text.** This is preferably done before the class lecture. Make sure

you read the “Master the Concepts” section at the end of each chapter – it is critical to summarize what you’ve learned.

4. **Put in the time.** You should be spending at least 2 hours outside of the class for every hour of lecture. This is at least 6 hours per week.

5. **Practice, practice, practice.** Do the assigned homework, do WebAssign, and do additional book problems. You can watch Michael Jordan play basketball for 3 hours a day, every day, and you will never get better at basketball.

6. **Strive for understanding.** Many students feel if they just “get the answer” from a TA, they have accomplished the task. This is incorrect. You have accomplished your task when you truly understand the problem, how to set it up, how to solve it, and what it is asking.

7. **Attend your instructor’s office hours.** This will be most effective if you bring your book and your homework problems and ask him/her to help you identify your “sticking points.” Statements like, “I don’t get any of it,” will not be helpful.