Physics 170: Physics I
Fall 2012

Course description: In this course, you will learn about (1) physical phenomena (like gravity, friction, and standing waves); (2) the mathematical framework to analyze physical phenomena (like scalars, vectors, and the addition or multiplication of these quantities); (3) central concepts used to analyze physical situations (like conservation of energy, conservation of momentum, and simple harmonic motion); and finally (4) the procedures devised to attack physics problems in a methodical fashion.

The pace of this course moves fairly quickly. If you note the schedule at the end of this document, you will see that we cover approximately one chapter per week. The curriculum of this course is determined in such a manner that you should leave this course with a broad knowledge of a variety of physical phenomena, and a better understanding of how to view and approach physical problems. This is the reason most of you have been required by your majors to take this class. It is expected by the directors of your majors that we cover all of these topics and that you are exposed to all of these topics by the time you finish this course. Thus, this quick pace is necessary in order to cover the required course material and topics within the space of one semester. It is in your best interest to keep up to speed by **reading the sections in the text indicated in the schedule before you get to class**. In fact, there might even be a short quiz at the beginning of some classes to see if you have been keeping up with your reading.

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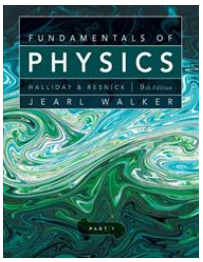
Office hours: M, Tu, W 1:00-2:00 pm; Thurs. 3:00 – 5:00 pm; also by appointment

Class Meeting: MWF 11:00-11:50 AM (Mer 112), Thurs. 2:00-2:55 PM (Recitation)

Textbook (required): Fundamentals of Physics, (9th Ed.) by Halliday, Resnick & Walker, (John Wiley & Sons, Hoboken, NJ, 2008) Vol. 1 (Ch 1-20). ISBN 0-470-04474-8 (With WileyPLUS)

Grading:
4 Exams: 15% each (60% total)
Homework: 5%
Final Exam (cumulative): 20%
Lab: 15%
Total: 100%



West Chester University General Education Goals:

This course strives to have students meet the following general education goals:

1. Ability to communicate effectively
2. Ability to employ quantitative concepts and mathematical methods
3. Ability to think critically and analytically

Attendance: Attendance is an important part of the class. After you miss more than three classes with no excuse, the instructor reserves the right to have each additional unexcused absence result in your course average being lowered by 2%. Excused absences are limited to those due to participation in University sanction events (see policy in the WCU undergraduate catalog) or those accompanied by written confirmation from a doctor, the Dean of Students, etc. Finally, whether your absence is excused or unexcused (or if you are late to class), you will be responsible for any material covered and any announcements that were made in class that day.

In-class exam policy: There will be four tests over the course of the semester. An unexcused absence on the day of a test will result of a grade of zero for that test. Excused absences are limited to those due to participation in University

sanction events (see policy in the WCU undergraduate catalog) or those accompanied by written confirmation from a doctor, the Dean of Students, etc. If you are sick, you MUST obtain a doctor's note BEFORE the day of the test. I do not give make up tests. If you have an excused absence on the day of one of the tests, additional problems on the test material will be put on your final exam. You may only miss one exam due to an excused absence. You are encouraged to bring a calculator to the exams, but the calculator cannot be a part of a cell phone, iPod, etc. (i.e., it must be ONLY a calculator). I also reserve the right to check student ID during the exams, so make sure to bring your WCU ID to all exams!

Final Exam Policy: The final exam is cumulative and mandatory. Missing the final exam will result in a zero for the exam unless EXTREME circumstances apply. Even in that case, extra questions will be added to the make-up final. You must bring your university ID to the final exam!

Homework: Homework assignments will be complete using the online WileyPLUS course supplement. A link to this site is on the webpage listed at the beginning of this syllabus. Homework assignments are due by 8:00 PM on the due dates, which are in the schedule at the end of this document. At 8:00 PM, the site will no longer accept homework submissions. I cannot change this, so PLEASE DO NOT ask for an extension. I will, however, drop the lowest homework grade. So, if you miss one assignment, or even two, it's not going to affect your grade drastically. Please do not dismiss the importance of homework assignments simply because they comprise only 5% of your total grade. (The reason for the homework being worth only 5% of your grade is due to student cheating on homework in previous semesters.) By doing the homework assignments you will be much better prepared for the exams, which all total comprise 80% of your grade!

Laboratory: Most weeks you will have a lab session. The tentative schedule of labs is listed at the end of this syllabus. You are to purchase a lab book with all the lab assignments from Dynamic Bookstore. The allotted laboratory time is only 2 hours, therefore, it is your responsibility to prepare for the lab session by reading the instructions BEFORE lab each week. At the end of the semester, your lab instructor will give your lab grades to me and I will record exactly what he/she provides. All lab issues are to be discussed with him/her.

Disability: West Chester University is committed to making accommodations for persons with disabilities. Please make your needs known by contacting your instructor and the Office of Students with Disabilities. Sufficient notice is needed in order to make the accommodations possible. The University desires to comply with the ADA of 1990.

Other Policy: For questions regarding Academic Dishonesty, the No-Grade Policy, Sexual Harassment, or the Student Code of Conduct, students are encouraged to refer to their major department's handbook, the Undergraduate Course Catalogue, the Rams Eye View, or the University Web Site. Please understand that improper conduct in any of these areas will not be tolerated and may result in immediate ejection from the class.

Intellectual Property Statement: The instructor for this course utilizes copyrighted materials under the "Freedom and Innovation Revitalizing United States Entrepreneurship Act of 2007" (Fair Use Act). Apart from such copyrighted materials, all other intellectual property associated with this course is owned and copyright protected by the instructor, including, but not limited to, lectures, course discussions, course notes and supplementary materials posted or provided to students authored by the instructor, assessment instruments such as quizzes and exams, and Power Point presentations. No recording, copying, storage in a retrieval system, or dissemination in any form, whether electronic or other format, by any means of the intellectual property of the instructor, either in whole or in part, is permitted without the prior written permission of the instructor. When such permission is granted, it must specify the utilization of the intellectual property and all such permissions and waivers shall terminate on the last day of finals in the semester in which this course is held.

Links and references to on-line resources provided by the instructor may lead to other sites. The instructor does not sponsor, endorse or otherwise approve of any information appearing in those sites, nor is responsible for the availability of, or the content located on or through, external sites. Apart from materials used in accordance with the Fair Use Act, the instructor takes no responsibility for material that is otherwise offered at web sites and makes no warranty that such material does not infringe any third party rights. However, should any of this type of material be present and this fact is brought to the attention of the instructor, they will remove references to it from course materials.

Physics 170, Fall 2012, Course Schedule

Schedule: (This schedule is tentative; I will try to follow it as closely as possible!)

Class	Day	Date	Reading	Topic	Lab (Tuesday)	Homework due
1	M	Aug 27	Ch. 1	Intro & Meas. (1-1 to 1-7)	(Intro)	
2	W	Aug 29	Ch. 2	1D Motion (2-1 to 2-6)		
R	Th	Aug 30	Ch. 2	1D Motion (2-7 to 2-10)		
3	F	Aug 31	Ch. 3	Vectors (3-1 to 3-5)		Ch 1: 3,7,16,22,28,30
	M	Sep 3	No Classes	Labor Day	(Motion & Acc.)	
4	W	Sep 5	Ch. 3	Vectors (3-6 to 3-8)		Ch 2: 5,17,20,32,44
5	F	Sep 7	Ch. 4	2D & 3D Motion (4-1 to 4-4)		
6	M	Sep 10	Ch. 4	Motion (4-5 to 4-7)	(Freefall)	Ch 3: 2,10,22,29,44
7	W	Sep 12	Ch. 5	Forces & Mot. (5-1 to 5-6)		
8	F	Sep 14	Ch. 5	Forces & Mot. (5-7, 5-8)		Ch 4: 6,14,25,32,48,60,73
9	**M**	**Sep 17**	**Exam I**	**Chapters 1-4**	(No Lab)	
10	W	Sep 19	Ch. 5	Forces & Mot. (5-9)		
11	F	Sep 21	Ch. 6	Forces & Mot. (6-1 to 6-3)		Ch 5: 6,15,17,32,50,58
12	M	Sep 24	Ch. 6	Forces & Mot (6-4,6-5)	(Proj. Motion)	
13	W	Sep 26	Ch. 9	COM & Mom. (9-1 to 9-6)		Ch 6: 4,12,23,30,47
14	F	Sep 28	Ch. 9	COM & Mom. (9-7, 9-9)		
15	M	Oct 1	Ch. 7	KE & Work (7-1 to 7-5)	(Inclined Plane)	Ch 9: 4,12,21,28,40,51
16	W	Oct 3	Ch. 7	KE & Work (7-6 to 7-8)		
17	**F**	**Oct 5**	**Exam II**	**Chapters 5, 6, 9**		
	M	Oct 8	No Classes	Fall Break	(Fall Break)	
18	W	Oct 10	Ch. 8	PE & Cons. (8-1 to 8-5)		Ch 7: 3,10,15,19,24,30,35
19	F	Oct 12	Ch. 8	PE & Cons. (8-7, 8-8)		
20	M	Oct 15	Ch. 8	PE & Cons. (8-6, 7-9)	(Cons. of Mom.)	
21	W	Oct 17	Ch. 9	COM & Mom (9-8,-10,-11)		Ch 8: 2,7,22,28,39,43,53
22	F	Oct 19	Ch. 10	Rotation (10-1 to 10-7)		
23	M	Oct 22	Ch. 10	Rotation (10-8 to 10-10)	(Equilibrium)	
24	W	Oct 24	Ch. 11	Rotation (11-1 to 11-6)		Ch 10: 4,14,26,36,52,66
25	F	Oct 26	Ch. 11	Rotation (11-7 to 11-11)		
26	M	Oct 29	Ch. 12	Equilibrium (12-1 to 12-5)	(No Lab)	Ch 11: 7,24,29,41,58
27	W	Oct 31	Ch. 13	Gravity (13-1 to 13-5)		Ch 12: 11,21,22,32,37
28	F	Nov 2	Ch. 13	Gravity (13-6 to 13-8)		
29	M	Nov 5	Ch. 14	Fluids (14-1 to 14-5, 14-7)	(Archimedes)	Ch 13: 6,22,26,37,46,61
30	**W**	**Nov 7**	**Exam III**	**Chapters 7, 8, 10-13**		
31	F	Nov 9	Ch. 15	Oscillations (15-1 to 15-4)		
32	M	Nov 12	Ch. 15	Oscillations (15-5 to 15-9)	(Spring-Mass)	Ch 14: 2,10,18,20,26,32,47
33	W	Nov 14	Ch. 16	Waves I (16-1 to 16-5)		
34	F	Nov 16	Ch. 16	Waves I (16-9,-10,-12,-13)		Ch 15: 1,8,15,28,33,52,60
35	M	Nov 19	Ch. 17	Waves II (17-5,-6,-8,-9)		Ch 16: 12, 16,28,33,36,52
	W	Nov 21	No Classes	Thanksgiving Break		
	F	Nov 23	No Classes	Thanksgiving Break		
36	M	Nov 26	Ch. 18	1st Law (18-1 to 18-7)	(Standing Waves)	Ch 17: 16,18,26,52,56
37	W	Nov 28	Ch. 18	1st Law (18-9 to 18-11)		
38	F	Nov 30	Ch. 19	Kin. Th. (19-1 to 19-5,-8,-9)		Ch 18: 19,29,35,44,48
39	M	Dec 3	Ch. 20	Entropy (20-1 to 20-4)		Ch 19: 9,13,24,26,48,50
40	W	Dec 5	Ch. 20	Entropy (20-5 to 20-8)	(Lab Final)	
41	**F**	**Dec 7**	**Exam IV**	**Chapters 14-19**		
42	M	Dec 10		Review		Ch 20: 2,17,24,37