West Chester University, Department of Physics

Physics 130 General Physics I Fall 2017

Prof. Kevin Aptowicz Room SSS-227 e-mail: kaptowicz@wcupa.edu

Lecture: Section 01: MWF 1:00 -1:50
Section 05: MWF 2:00 -2:50

Recitation: Section 91: T 3:00 – 3:50
Section 95: M 1:00 – 1:50

Office Hours: My office hours for Fall 2017 are:

M 9:30 – 10:30 Tu 10:00 – 12:00 W 9:30 – 10:30 F: 9:30 – 10:30

Textbook: Physics 5e by Walker (2016), Pearson. We will be using "Modified Mastering Physics" in this course, so be sure to register for a copy within the first week of classes.

Course Web Page: Located on D2L. Course information can be found here throughout the semester including the syllabus, lecture notes, and your overall grade.

Lecture Notes: The lecture notes are a critical tool for your learning experience and are required for class. They contain a summary of the relevant theories and related problems, which will be attempted in class. **They will be provided via D2L**, so be sure to download them. ***You are required to bring the lecture notes to class.*** The lecture notes will be uploaded no later than 5PM two days before you need them, or else a hard copy will be provided.

Content: We will study kinematics, force and motion, work and energy, momentum and collisions, rotational motion, oscillations, fluid dynamics, basic wave properties, states of matter and heat.

You should try to read the relevant sections in the text before coming to lecture.

West Chester University General Education Goals: PHY 130 is an approved course in the WCU General Education program. As such, it is designed to help students meet the following general education goals:

General Education Goal #2: Employ quantitative concepts and mathematical methods
General Education Goal #3: Think critically and analytically

More specifically, after successfully completing this course a student will be able to:

- Mathematically describe mechanical systems using the language of kinematics.
- Recognize concepts of physics in action in mechanical systems, including force, energy, momentum, angular momentum, harmonic motion, and wave phenomena.
- Analyze mechanical systems through visualization, modeling, algebra, as well as diagrammatic and graphical techniques.
- Combine the above elements in order to solve multi-part problems as well as formulate quantitative predictions for physical experiments.

These General Education Goals will be accomplished through in-class exercises, lab work, suggested homework problems, review exercises, a test, and several exams. These items will involve qualitative and semi-quantitative aspects as well as fully quantitative aspects.

My Goals: I hope to expand your knowledge of physics and how it relates to the world, further develop your analytical, conceptual and critical thinking skills and enable you to apply physics to real life and qualitative situations. I also hope you find at least one concept or application that excites or intrigues you.

Expectations: I expect you to engage the material, your peers and me both in and out of class and lab in physics related conversations. I do not expect you to love math in all of its intricacies, but do expect you to have a basic understanding of algebra, trigonometry and geometry. When problems with math arise, I expect you to seek assistance from your peers, the tutoring center or myself. I am happy to assist/review with you. You may find this course challenging and fast paced, but as long as you work diligently, you will succeed.

Guidelines for Office Hours: You set the agenda for office hours. Come with questions about the lecture, laboratory, reading, homework, exams, grading, or anything else of concern or interest. Attend in groups or as an individual. If you would like to discuss something in private, please make a separate appointment. When multiple people are present, people will alternate asking questions. Note: You must demonstrate some effort/thought process towards an answer on homework problems before coming to see me. "I have no idea where to begin" is not an acceptable opening statement.

Attendance: Students will be held responsible for all course materials missed due to class absences. Great efforts will be made on my behalf to ensure that class time is productive and beneficial for your learning. We will go through several examples with problem solving strategies. You are expected to attend all labs, see laboratory section for more details. The **discussion sections** will be used to work on problem set problems that students are struggling to complete.

Phone Policy: Cell phones should not be used during class time. If you do need to use your cellphone, please excuse yourself from the class and use the cellphone in the hallway. Return to class when you are finished. When in class, your focus should entirely be on the contents of the lecture. Students who repeatedly don't follow this policy could lose up to one letter grade.

Problem Set: You will have one problem set per week, which can be found on Mastering Physics. The homework assignments will around 30 problems. The homework will be assigned on Monday by 5:00 pm and due 8 days later on Tuesday at 11:59 pm. You will have three attempts at each problem. Note: I will drop your lowest problem set grade.

Exams: There will be 5 in-class exams during the semester as well as a comprehensive final exam. All exams will be closed book. In the event a student is unable to take an exam as scheduled, discussion of the exam with those that have taken the exam is forbidden. If you will be unable to make it to an exam, you must contact me **before** the exam, and we will discuss how to proceed. Excused absences are limited to University-Sanctioned Events (which follow the Excused Absence Policy for University-Sanctioned Events as described in the West Chester University Undergraduate Catalog), and absences due to serious illness or injury (verified by a practicing MD, you must provide me with a phone number), or the death of family members (also to be verified.)

After an exam has been graded, I will provide the class average to give a gauge as to where you fall relative to your peers. However, there will be **no** curve applied to the grades.

Laboratory: The laboratory aspect of this course is integral to your understanding of this material. It is your chance to connect to the material covered in lecture to the real world which, let's face it, is what Physics is all about. Laboratory attendance is mandatory and unexcused absences are not acceptable and will result in failure of the course.

Grading: Your course grade is based on your problem set (20%), exams (10% each), lab (15%, and the final (15%).

A NOTE ON "CURVING" AND THINGS TO KEEP IN MIND: THERE IS NO CURVE ON THE EXAMS OR ANY OTHER ASSESSMENT ALONE. THE TOTAL GRADES IN THE END WILL BE "CURVED" AS DEEMED NECESSARY. **You must do well on all components of this course to do well in the course as a whole.**

A letter grade will be assigned based on performance in the course according to the following scale:

Grade	Quality Points	Percentage Equivalents	Interpretation
A	4.00	93-100	Excellent
A-	3.67	90-92	

B+	3.33	87-89	Superior
B	3.00	83-86	
B-	2.67	80-82	
C+	2.33	77-79	Average
C	2.00	73-76	
C-	1.67	70-72	
D+	1.33	67-69	Below Average
D	1.00	63-66	
D-	0.67	60-62	
F	0	< 60%	Failure

Refer to the Undergraduate Catalog for description of NG (No Grade), W, Z, and other grades.

Straight percentages will be given for all work, with the mid-semester and final grade based on overall class performance. Other considerations will influence your final grade including, class participation, class and laboratory attendance, and seeking timely guidance during office hours.

Tutoring: Tutoring for PHY 130 is offered by the Learning Assistance Center (LARC), 223 Lawrence Center, x2535. More information is available at: http://www.wcupa.edu/ussss/larc/. LARC tutoring is free of charge, but you must sign up at the beginning of the semester.

Peer tutoring may also be offered by physics majors during the semester. Check the Physics Department webpage, under "Students / Current Students / Physics Tutoring", a few weeks into the semester (http://www.wcupa.edu/_academics/sch_cas.phy/current.asp), or stop by the Physics Library, Merion 125, where the physics majors hang out. ***If you realize you need tutorial help, arrange it as soon as possible, and keep up with it. Delaying or missing tutoring appointments will lead to greater difficulty later.***

E-Mail and Communication: The best way to contact me is via e-mail. But, be aware that I will only read and respond to e-mails written in proper English, with correct grammar, spelling, and etiquette. Do not send me any e-mails addressed to "hey" or "yo," like you would text a buddy or close friend.

"It is expected that faculty, staff, and students activate and maintain regular access to University provided e-mail accounts. Official university communications, including those from your instructor, will be sent through your university e-mail account. You are responsible for accessing that mail to be sure to obtain official University communications. Failure to access will not exempt individuals from the responsibilities associated with this course."

ACADEMIC & PERSONAL INTEGRITY: It is the responsibility of each student to adhere to the university's standards for academic integrity. Violations of academic integrity include any act that violates the rights of another student in academic work, that involves misrepresentation of your own work, or that disrupts the instruction of the course. Other violations include (but are not limited to): cheating on assignments or examinations; plagiarizing, which means copying any part of another's work and/or using ideas of another and presenting them as one's own without giving proper credit to the source; selling, purchasing, or exchanging of term papers; falsifying of information; and using your own work from one class to fulfill the assignment for another class without significant modification. Proof of academic misconduct can result in the automatic failure and removal from this course. For questions regarding Academic Integrity, the No-Grade Policy, Sexual Harassment, or the Student Code of Conduct, students are encouraged to refer to the Department Undergraduate Handbook, the Undergraduate Catalog, the *Ram's Eye View*, and the University website at www.wcupa.edu.

STUDENTS WITH DISABILITIES: If you have a disability that requires accommodations under the Americans with Disabilities Act (ADA), please present your letter of accommodations and meet with me as soon as possible so that I can support your success in an informed manner. Accommodations cannot be granted retroactively. If you would like to know more about West Chester University's Services for Students with Disabilities (OSSD), please visit them at 223 Lawrence Center. The OSSD

hours of Operation are Monday – Friday, 8:30 a.m. – 4:30 p.m. Their phone number is 610-436-2564, their fax number is 610-436-2600, their email address is ossd@wcupa.edu, and their website is at www.wcupa.edu/ussss/ossd.

EXCUSED ABSENCES POLICY FOR UNIVERSITY-SANCTIONED EVENTS: Students are advised to carefully read and comply with the excused absences policy for university-sanctioned events contained in the WCU Undergraduate Catalog. In particular, please note that the "responsibility for meeting academic requirements rests with the student," that this policy does not excuse students from completing required academic work, and that professors can require a "fair alternative" to attendance on those days that students must be absent from class in order to participate in a University-Sanctioned Event.

REPORTING INCIDENTS OF SEXUAL VIOLENCE: West Chester University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment and to comply with Title IX of the Education Amendments of 1972 and guidance from the Office for Civil Rights, the University requires faculty members to report incidents of sexual violence shared by students to the University's Title IX Coordinator, Ms. Lynn Klingensmith. The only exceptions to the faculty member's reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. Faculty members are obligated to report sexual violence or any other abuse of a student who was, or is, a child (a person under 18 years of age) when the abuse allegedly occurred to the person designated in the University protection of minors policy. Information regarding the reporting of sexual violence and the resources that are available to victims of sexual violence is set forth at the webpage for the Office of Social Equity at http://www.wcupa.edu/_admin/social.equity/.

EMERGENCY PREPAREDNESS: All students are encouraged to sign up for the University's free WCU ALERT service, which delivers official WCU emergency text messages directly to your cell phone. For more information, visit www.wcupa.edu/wcualert. To report an emergency, call the Department of Public Safety at 610-436-3311.

ELECTRONIC MAIL POLICY: It is expected that faculty, staff, and students activate and maintain regular access to University provided e-mail accounts. Official university communications, including those from your instructor, will be sent through your university e-mail account. You are responsible for accessing that mail to be sure to obtain official University communications. Failure to access will not exempt individuals from the responsibilities associated with this course.

Class Session	Date	Activity
1	Monday, Aug 28	Lecture: 1-1, 1-2, 1-3, 1-4, 1-5
2	Tuesday, Aug 29	Lecture: 1-7, 1-8, 2-1, 2-2, 2-3
3	Wednesday, Aug 30	Lecture: 2-4, 2-5, 2-6
4	Friday, Sept 1	Lecture: 2-7
	Monday, Sept 4	Labor Day
5	Tuesday, Sept 5	Recitation: Problem Set #1
6	Wednesday, Sept 6	Lecture: 3-1, 3-2, 3-3
7	Friday, Sept 8	Lecture: 3-4, 3-5
8	Monday, Sept 11	Lecture: 4-1, 4-2, 4-3
9	Tuesday, Sept 12	Recitation: Problem Set #2
10	Wednesday, Sept 13	Lecture: 4-4, 4-5
11	Friday, Sept 15	Lecture: 5-1, 5-2, 5-3
12	Monday, Sept 18	Lecture: 5-4, 5-5, 5-6
13	Tuesday, Sept 19	Recitation: Problem Set #3
14	Wednesday, Sept 20	Lecture: 5-7, 5-8, 6-2
15	Friday, Sept 22	**Exam #1: Chapters 1-4**
16	Monday, Sept 25	Lecture: 6-2, 6-3, 6-4
17	Tuesday, Sept 26	Recitation: Problem Set #4
18	Wednesday, Sept 27	Lecture: 6-5
19	Friday, Sept 29	Lecture: 7-1, 7-2
20	Monday, Oct 2	Lecture:7-3, 7-4
21	Tuesday, Oct 3	Recitation: Problem Set #5
22	Wednesday, Oct 4	Lecture: 8-1, 8-2
23	Friday, Oct 6	**Exam #2: Chapters 5-6**
	Monday, Oct 9	Fall Break
	Tuesday, Oct 10	
24	Wednesday, Oct 11	Lecture: 8-3, 8-4
25	Friday, Oct 13	Lecture: 9-1, 9-2, 9-3
26	Monday, Oct 16	Lecture: 9-4, 9-5
27	Tuesday, Oct 17	Recitation: Problem Set #6
28	Wednesday, Oct 18	Lecture: 9-6, 9-7
29	Friday, Oct 20	Lecture: 10-1, 10-2, 10-3
30	Monday, Oct 23	Lecture: 10-4, 10-5, 10-6
31	Tuesday, Oct 24	Recitation: Problem Set #7
32	Wednesday, Oct 25	Lecture: 11-1, 11-2
33	Friday, Oct 27	**Exam #3: Chapters 7-9**
34	Monday, Oct 30	Lecture: 11-3, 11-4
35	Tuesday, Oct 31	Recitation: Problem Set #8
36	Wednesday, Nov 1	Lecture: 11-6, 11-7
37	Friday, Nov 3	Lecture: 13-1, 13-2, 13-4

38	Monday, Nov 6	Lecture: 13-5, 13-6
39	Tuesday, Nov 7	Recitation: Problem Set #9
40	Wednesday, Nov 8	Lecture: 14-1, 14-2, 14-3, 14-4
41	Friday, Nov 10	Lecture: 14-6, 14-7
42	Monday, Nov 13	Lecture: 14-8, 14-9
43	Tuesday, Nov 14	Recitation: Problem Set #10
44	Wednesday, Nov 15	Lecture: 15-1, 15-2, 15-3
45	Friday, Nov 17	**Exam #4: Chapters 10-13**
46	Monday, Nov 20	Lecture: 15-4, 15-5, 15-6
47	Tuesday, Nov 21	Recitation: Problem Set #11
	Wednesday, Nov 22	Thanksgiving Break
	Friday, Nov 24	
48	Monday, Nov 27	Lecture: 16-1, 16-2, 16-3
49	Tuesday, Nov 28	Recitation: Problem Set #12
50	Wednesday, Nov 29	Lecture: 16-4, 16-5, 16-6
51	Friday, Dec 1	Lecture: 17-1, 17-2
52	Monday, Dec 4	Lecture: 17-4, 17-5, 17-6
53	Tuesday, Dec 5	Recitation: Problem Set #13
54	Wednesday, Dec 6	Lecture: 18-1, 18-2
55	Friday, Dec 8	**Exam #5: Chapters 14-16**
56	Monday, Dec 11	Course Review