

Physics 100: “Elements of Physical Science”
Fall 2022
Section 01: Mon and Thu 12:30 PM - 1:15 PM in SECC 213

Instructor information:

Dr. Kiet Hoang

Office: SECC, Office 338

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Office hours: Mon 10:30 AM - 12:30 PM, Thu 8:30 AM - 10:00 AM Or By appointment (if those times don’t work)

Course Materials

- Textbooks:

[1] *Physics a Conceptual World View*, 7th edition, by Kirkpatrick and Francis

[2] *Conceptual Physics*, 13th edition, by Paul G. Hewitt

Textbooks are recommended but NOT required. An older version of these books was chosen to reduce costs to you as much as possible. Other versions are probably similar, but when referring to page numbers, the 13th edition will be used.

- a scientific calculator

Course Description: Elements of Physical Science (PHY 100) is an approved General Education Science Distributive Course. It is designed to address the Science General Education goals in the context of Physics. *It is not designed to serve as an introductory physics course for majors in any physical science field.* This course deals with fundamental physical principles such as force, motion, light, waves, and energy. These concepts describe how the Universe behaves on scales ranging from the nucleus of an atom to the way galaxies flow through the cosmos. We will touch on a broad range of topics and discuss how they affect our lives, often in ways we take for granted.

Course Web page: Syllabus and related material will be posted on D2L.

Grading:

The final grade for this course will be based on the following:

- Midterm exams: (60%) We will have four (4) in-class exams.
- Homework: 15%
- Final Exam: 25% A cumulative exam, which covers all the material in the course.

Letter grades will be assigned on the following scale. However, I reserve the right to adjust the weights of individual components, or the scale to account for unforeseen circumstances.

93 – 100 %	A	73 – 76 %	C
90 – 92 %	A–	70 – 72 %	C–
87 – 89 %	B+	67 – 69 %	D+
83 – 86 %	B	63 – 66 %	D
80 – 82 %	B–	60 – 62%	D–
77 – 79 %	C+	59% or lower	F

Attendance and Class participation: Both are important parts of the class. Attendance will be taken each lecture, and multiple absences will negatively affect your grade. To encourage attendance, some, but not all material in class will be posted. If you miss class due to an excused absence (see definition of an excused absence below), it will not hurt your grade.

Excused absences are limited to those due to participation in University-sanctioned 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 on a day when attendance was taken, you **MUST** obtain a doctor's note. 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.

Cell Phone Policy: I have a zero-tolerance cell phone policy. Cell phones should not be out in class, whether they are being used or not. If I see you using your cell phone, you will be asked to leave the class.

Homework: There will approximately ten homework assignments throughout the semester. Homework questions are listed under the "Content" section of D2L. Students **MUST** enter their answers to the homework under the Assessment → Quizzes section of D2L. Because the grading is automatic, all late homework assignments will receive a grade of zero. Homework assignments will not be accepted over email - no exceptions! The lowest percentage homework grade of the semester will be dropped. If you are sick on the day that a homework assignment is due, that homework will be the one that is dropped.

Reading: Students are expected to keep up with the reading in the books as the associated material is covered in class. Pop-quizzes may be given to enforce this.

West Chester University General Education Goals:

PHY 100 is an approved General Education course in the Sciences. The mandatory class discussions, use of mathematical formulae, and understanding of the interplay of a numerous of physical concepts are all designed to allow students to achieve the following General Education goals

1. *Primary Goal: Ability to think critically and analytically (Goal #3)*
2. *Secondary Goal: Ability to employ quantitative concepts and mathematical methods (Goal #2)*

Midterm exam dates and policy:

Exam dates are not set at the beginning of the semester because the pace of the course can vary. The dates of each test will be announced in class. An unexcused absence on the day of a test will result of a grade of zero for that test. If you have an excused absence on the day of one of the tests, the average of your other tests will be used as a substitute for the exam you missed. No make-ups will be given. 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)

Final Exam (Cumulative):

The final exam is 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.

Conduct: 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.

COURSE SCHEDULE: A tentative schedule for the course follows. Although I will endeavor to stick closely to the schedule as posted below, I reserve the right to modify it as needed over the course of the semester.

Outline of Course Coverage

<u>Week #</u>	<u>Topics</u>	<u>Textbooks*</u>	<u>Homework</u>
	Units & Conversion, Motion: Kinematics in 1-Dimension	[1] Ch 1 & Ch 2 [2] App. A & Ch3	Homework 1
	Motion: Kinematics in 2-Dimension, Vectors Newton's Laws	[1] Ch 3 [2] Ch2, Ch4, & Ch5	Homework 2
Week 4	Exam 1 (on material from HW 1 and 2)		
	Momentum and Energy	[1] Ch 6 & Ch 7 [2] Ch 6 & Ch7	Homework 3
	Gravity and Projectile Motion	[1] Ch 4 & Ch 5 [2] Ch 9 & Ch10	Homework 4
Week 7	Exam 2 (on material from HW 3 and 4)		
	Electrostatics & Electrodynamics	[1] Ch 20 & Ch 21 [2] Ch 22 & Ch23	Homework 5
	Magnetism & Electromagnetic Induction	[1] Ch 22 [2] Ch 24 & Ch25	Homework 6
Week 13	Exam 3 (on material from HW 5 and 6)		
	Properties of Light	[1] Ch 17 [2] Ch 19 (pp 334-9), Ch 26 (pp 456-460), Ch 27 (pp 473-4, 478-80), Ch 16 (pp 288-9), & Ch 30 (pp 530-5)	Homework 7
	Atomic and Nuclear Physics	[1] Ch 23, Ch 24 & Ch 26 [2] Ch 32 (pp 567-72), Ch 33, & Ch 34 (fission & fusion)	Homework 8
	Optics	[2] Ch 28 & 29	Homework 9
Week 15	Exam 4 (on material from HW 7, 8, & 9)		
Week 16	FINAL EXAM		

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.

Public Safety: 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 and to sign up, visit www.wcupa.edu/wcualert. To report an emergency, call the Department of Public Safety at 610-436-3311.

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 contact the OSSD which is located at 223 Lawrence Center. The OSSD hours of Operation are Monday – Friday 8:30 a.m. – 4:00 p.m. Their phone number is 610-436-2564, their fax number is 610-436-2600, and their email address is ossd@wcupa.edu. See the following website for more information: <http://www.wcupa.edu/ussss/ossd/default.aspx>.

E-Mail and Communication: 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.

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/>.