

Phy 100: “Elements of Physical Science”

Fall 2013

Course description: 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.

Instructor: Dr. Robert Thornton

Office: Merion 129

rthornton@wcupa.edu

Office hours: M 3:00-4:00; Tu 1:00-2:00; Wed 3:00-4:30 p.m.; Fri 3:00 – 4:30 p.m.; also by appointment

Course Materials

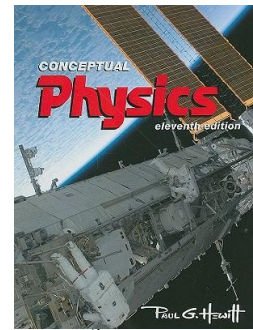
- *Textbook: Conceptual Physics (10 or 11th ed.)* by Paul G. Hewitt (strongly recommended but not required).

- a scientific calculator

- Turning Technologies Course ResponseCard RF LCD



10th edition



11th edition

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

Grading:

Tests (there will be 3 or 4): 50% total

Homework: 20%

Final Exam: 20%

Attendance/Class participation: 10 %

Total: 100%

Attendance and Class participation: Both are important parts of the class, and will be recorded beginning the second week of class using the Turning Technologies ResponseCard RF LCD clicker system (picture shown above). You can purchase these at the university bookstore; with the rebate, the device costs only \$20, and is the same device used in many other courses at West Chester. Given that attendance/participation comprises 10% of your final grade, make sure that you bring the clicker to every class, and that you check its battery life periodically. How does the ResponseCard contribute to your grade? I will pose several multiple choice questions to you each lecture period. Half of the 10% goes toward simply showing up and clicking ANY answer to the questions that are posed to the class. The other half of the 10% is reserved for getting the CORRECT answer. I do understand that on occasion something unforeseen will pop up and prevent you from attending class; therefore, at the end of the term I will drop five (5) days of class participation points. If you miss class due to an excused absence (see definition of an excused absence below), it is YOUR RESPONSIBILITY to meet with me to give you credit for participation points on the day you missed.

In order to earn class participation points with your ResponseCard, YOU must be the one entering responses with it. I have a zero tolerance policy for ANYONE who hands their ResponseCard to a classmate and tells that classmate to use it in class for them. I will periodically do a head count in class and compare it to the number of responses for that class period. If I catch anyone using multiple ResponseCards in a class, this will be construed as cheating, and all involved parties will lose all 10 percentage points for the semester attendance/participation 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.

Homework: There will approximately 7 or 8 homework assignments throughout the semester. Points will be deducted from assignments handed in late. Once assignment solutions are posted, no late assignments will be accepted. Homework assignments are due at the START (within the first 10 minutes) of class on the due date. Homeworks will not be accepted over email - no exceptions! If you are sick on the day that a homework is due, you must have a doctor's note for the homework not to be considered late.

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

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.

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

Mid-Semester 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 three tests, the average of your other two 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.

Outline of Course Coverage (might be revised as the semester progresses)

<u>Topics</u>	<u>Text*</u>	<u>Homework</u>
Units & Conversion, 1D motion	App. A & Ch3	Homework 1
Newton's Laws and Vectors	Ch2, Ch4, & Ch5	Homework 2
Test 1 (on material from HW 1 and 2)		
Momentum and Energy	Ch 6 & Ch7	Homework 3
Gravity and Projectile Motion	Ch 9 & Ch10	Homework 4
Test 2 (on material from HW 3 and 4)		
Electrostatics & Electrodynamics	Ch 22 & Ch23	Homework 5
Magnetism & Electromagnetic Induction	Ch 24 & Ch25	Homework 6
Test 3 (on material from HW 5 and 6)		
Properties of Light	Ch 26 (pp 496-499) Ch 27 (pp 515-6, 522-6) Ch 30 (pp 582-90)	Homework 7
Atomic and Nuclear Physics	Ch 32 (pp 636-626) Ch 33 Ch 34 (fission & fusion)	Homework 8

*Page numbers according to 10th edition of textbook

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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.