

SUNY Geneseo, Department of Physics and Astronomy  
**PHYS 125: Analytical Physics II**  
Syllabus, spring 2015

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Summary Course Website: <http://www.geneseo.edu/~mclean/Analyt2/>  
Full Course Website in [mycourses.geneseo.edu](http://mycourses.geneseo.edu)

**Learning Outcomes:**

This course covers four main areas: wave phenomena (including light), electricity, magnetism, and the use of integrals in physics. In this class you should become familiar with the concepts in these four areas, and proficient at solving elementary problems. For the most part, the style of problem solving will be very similar to Analytical Physics I.

**Times and places:**

Lectures:            in Newton 214, Mon, Wed, and Fri, 12:30–1:20pm  
Exams:              in Newton 202, three Thursdays during the term, 6:30–8:30pm  
Final:                in Newton 214 on Thu, May 7, 12:00–3:00pm  
Labs:                 separate course PHYS 126 or PHYS 116 is a co-/per-requisite  
Office hours:        Mon 1:30–3:00pm, Tue 1:30–3:00, Wed 1:30–3:30

I am also available at other times; see the schedule on my web site. Just stop by my office, or contact me by phone or email to ensure that I'll be there.

**Required materials:**

Textbook: *Fundamentals of Physics, 10<sup>th</sup> ed. (2014)*, by Halliday, Resnick, and Walker  
Access to WebAssign: Online homework system; available bundled with textbook  
Class Key is **geneseo 7442 1716**

Calculator: A scientific calculator that handles logarithms. A graphing calculator is NOT required for this course (although they seem to be popular).

Laptop: Required for exams. Borrowing is likely to cause you trouble.

**Recommended materials:**

Access to TopHat: In-class response system that you can access through texting, app, or web browser. The course code is 424134, although you are unlikely to need that.

**Required coursework (with fraction of final course grade):**

28% Homework: Generally due at 11:59pm each Wednesday, with some variation  
48% Tests: 3 evening tests, each 2 hours long and evenly weighted  
24% Final Exam: A comprehensive test, with emphasis on the last quarter of the course  
??% A few “No-Risk” Quizzes, announced at least one class in advance.

Each quiz replaces 5% of the following test, but only if the quiz score is better than the test score. Thus quizzes can **only** improve your grade.

**Computer Based Homework:**

Homework will be administered through the WebAssign system. Instructions for accessing this online system are available from the instructor. If there is a system-wide problem with the network, due dates may be extended. However, individual computer difficulty is not accepted as an excuse, as there are sufficient college-provided options to serve as a backup.

**Exam Schedule:**

Exam 1:	Thu, February 12	7:00 – 9:00pm	in Newton 202
Exam 2:	Thu, March 12	7:00 – 9:00pm	in Newton 202

Exam 3: Thu, April 21 7:00 – 9:00pm in Newton 202  
 Final: Thu, May 7 12:00 – 3:00pm in Newton 214

**General Comments:**

If you must miss a test for a college-sanctioned reason, contact me **before** the exam. If you miss a test due to an emergency, contact me **as soon as possible** and **with documentation**. Absences not handled in this way may result in a zero for missed work! For each test, scores may be scaled up to adjust for test difficulty. There will be no overall “curve” for the course grades. See my web site for more details on my grading policy. If you need to return materials to me outside of class, your best option is to bring it to my office. Slide it under my door if I’m not in. Email will be used to send information, and is a good way to contact me. For urgent matters, please call my office phone; voice mail will get significantly faster response than email.

**Help available:**

This course involves covering a lot of material, so the pace will be relatively fast. If you have problems with the homework, it should be a warning to take immediate remedial action. If you find yourself getting into difficulties, do something about it—quickly! There are several resources available to you if you need help.

- The Physics Learning Center, in ISC 214, is staffed by physics majors. Check the schedule at <<http://physics.geneseo.edu/~pogo/Tutors/Tutors.htm>>.
- I have regular office hours, and am happy to meet with you at other times as well.
- If you need help with math, you might find the Math Learning Center in 332 South Hall helpful. They have a web page at <<http://www.geneseo.edu/math/mlc>>.
- SUNY Geneseo will make reasonable accommodations for persons with documented physical, emotional or learning disabilities. Students should consult with the Office of Disability Services (106A Erwin, 245-5112) and their individual faculty regarding any needed accommodations as early as possible in the semester. Further information is available at <<http://disability.geneseo.edu/>>.

**Expected Schedule**

No lecture on Fridays Feb. 13, Mar. 13, and Apr. 24, due to exams the previous evenings.

WEEK OF...	Lecture Topics	WebAssign HW due Weds	Test on Thurs
Jan. 19 (only WF)	Ch. 16: Waves — I	(none)	
26	Ch. 17: Waves — II ( <i>Sound</i> )	0(M) & 1(F)	
Feb. 2	Ch. 35: Interference	2	
9 (only MW)	Ch. 21: Electric Charge	3	Exam 1
16	Ch. 22: Electric Fields	4	
23	Integration Over Objects	5	
Mar. 2	Ch. 23: Gauss’ Law	6	
9 (only MW)	Ch. 24: Electric Potential	7	Exam 2
16 (no class)	SPRING BREAK		
23		8	
30	Ch. 25: Capacitance	9	
Apr. 6	Ch. 26: Current and Resistance	10	
13	Ch. 28: Magnetic Fields	11	
20 (only MW)	Ch. 29: Magnetic Fields from Currents	12	Exam 3
27	Ch. 30: Induction	13	
May 4 (only M)		14	
7 (Th)	Final Exam		