

Physics 1521—General Physics II Laboratory  
Spring, 2014  
High Point University  
Syllabus

**Professor:** Dr. Aaron Titus, 361 Congdon Hall, atitus@highpoint.edu, 336-841-4668, @physicslogos.  
<http://physics.highpoint.edu/~atitus/>

PHY 1521 is a 1-credit lab course that must be taken concurrently with PHY 1520. There is a separate syllabus for PHY 1520.

**Lab:** Section 01: 11:55 AM – 1:55 PM, Section 02: 2:00 – 4:00 PM, in Rm. 130 Congdon Hall.

**Office Hours:** TTH 3 PM – 5 PM.

**Course Description:** A laboratory to accompany PHY 1520. Topics include measurement, error analysis, graphical interpretation and curve fits, video analysis, and computer data acquisition interfaces and sensors. Applications are congruent with topics covered in PHY 1520. One credit.

**Textbook(s):** RealTime Physics Active Learning Laboratories, Modules 3 (Electricity and Magnetism) and 4 (Optics) by David Sokoloff published by John Wiley & Sons.

**Course Web Site:** <http://physics.highpoint.edu/~atitus/courses/phy1521/>

**Lab Reports:** Each week, a post-lab assignments will be collected on WebAssign. It will be due by Wednesday (48 h after lab ends). Section 01 class key is `highpoint 9664 7397`. Section 02 class key is `highpoint 3306 0628`.

**Notebook:** You will be given numerous handouts. I expect you to use a 3-ring binder. I expect to see all of your lab handouts neatly organized in the notebook. It should include printouts of curve fits, data, or anything else created during lab. I will do random notebook checks and will include these checks as part of the grade for lab reports

**Grading Scale (min% weighted average):** A+ (97), A (93), A– (90), B+ (87), B (83), B– (80), C+ (77), C (73), C– (70), D+ (67), D (63), D– (60), F (<60). We reserve the right to decrease the minimum scores if it is appropriate.

**Grade Determination:** Weekly pre-lab and post-lab assignments (40%), lab organization (10%), and a lab practical (50%). The lowest pre-lab and post-lab assignment will be dropped. Lab organization will be based on the organization of your lab notebook and the ability of your lab group to consistently put away your lab equipment. Each time that your group does not put away the lab equipment, each person in the group will lose 1% of this portion of the grade.

**Accommodations:** Students who require classroom accommodations due to a diagnosed disability must submit the appropriate documentation to Disability Support in the Office of Academic Development, 4th Floor Smith Library. Students' needs for accommodations must be made at the beginning of a course. Accommodations are not retroactive.

**Attendance:** Attendance in lab is required. The laboratory exercises are intended to help you learn concepts used in the lecture course. So, attending lab regularly will greatly improve your understanding of the lecture course material. An absence will be counted as a zero for that lab. If you miss ONE lab, you may be put on attendance probation, and if you miss TWO labs you may be withdrawn from the course.

**Lab Practical:** Saturday, 4/26/14, 12:00 PM – 3:00 PM (Section 01) and 4:00 PM–7:00 PM (Section 02). The lab practical is determined by the university's final exam schedule. The lab practical may not be taken at any other time. Please plan your travel accordingly. The lab practical will include both multiple choice questions and lab tasks. You will be given a handout with more information on the format of the lab practical and how to prepare for it.

**Course Conduct:** Out of courtesy and respect for your professor and fellow classmates, please refrain from using cell phones (for any purpose) during the lab. Also, computers may only be used for class activities such as taking notes, investigating a topic, doing homework, collecting data, etc. Facebook, Twitter, and other social networking sites are not allowed during class. Talking on the phone, reading and sending texts, and checking voicemail is prohibited in the lab.

**Honor Code:** The High Point University Honor Code asserts that:

- Every student is honor-bound to refrain from conduct which is unbecoming of a High Point University student and which brings discredit to the student and/or to the University;
- Every student is honor-bound to refrain from collusion;
- Every student is honor-bound to refrain from plagiarism;
- Every student is honor-bound to confront a violation of the University Honor Code;
- Every student is encouraged to report a violation of the University Honor Code.

My obligation is to promote academic integrity and to enforce the University Honor Code. This obligation includes appropriately interpreting the Honor Code, promoting conditions favorable to academic integrity, and reporting violations of the Honor Code.

I encourage collaboration during the lab. In fact, you will work in lab groups. You should share the responsibilities so that all members of the group learn to use lab sensors, general lab equipment, and software. All members should participate in doing calculations, making measurements, and doing curve fits so that all members are prepared for the final lab practical.

You must do your own work on the lab practical. You may not look at another person's exam, experimental setup, or computer files. You may not use any other resource except your lab notebook. You may not store programs or equations in your calculator, and you may not use data stored in your calculator on an exam. Calculators may only be used to input numerical values and perform calculations. You may not use any other computer software except that which is required for the lab practical, such as Logger Pro or Tracker.

Violation of the honor code will be handled according to procedures outlined in the *Faculty Handbook*.

**Schedule:** A tentative schedule of experiments is given in Table ??.

Table 1: Tentative Schedule of Experiments

Experiment No.	Date	Experiment
1	1/13	Standing Waves (handout)
2	1/27	Young's Double Slit (handout)
3	2/3	Introduction to Light (RealTime Physics, Optics Lab 1)
4	2/10	Reflection and Refraction (RealTime Physics, Optics Lab 2)
5	2/17	Geometric Optics – Lenses (RealTime Physics, Optics Lab 3)
6	2/24	Geometric Optics – Mirrors (RealTime Physics, Optics Lab 4)
7	3/10	Batteries and Bulbs (RealTime Physics, E&M Lab 4)
8	3/17	Current (RealTime Physics, E&M Lab 5)
9	3/24	Voltage (RealTime Physics, E&M Lab 6)
10	3/31	RC Circuits (RealTime Physics, E&M Lab 8)
11	4/7	Magnetism (RealTime Physics, E&M Lab 9)
12	4/14	Hydrogen Spectrum