

STATE UNIVERSITY OF NEW YORK  
New Paltz, New York.

**General Physics 2 (Laboratory)**  
Course No. PHY212 (Sec. 2) (1 credit)  
Fall 2017

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## Course Description

The two hours of laboratory will give the student a better feeling of the principles taught in lecture classes of General Physics 2 (PHY202). Students should not expect the laboratory instructions\* to be a recipe for “correct” results. Instead, it will provide broad directions and methods of experimentation. Students must define their own specific directions of investigation and write a clear report describing what they did. The reports will not be graded but they will provide good reference material for the laboratory exams. The laboratory exams will be based on the experiments done during the semester.

## Grading Policy

The following weights will be assigned for the determination of the final course grade.

First lab. exam	30%
Second lab. exam	30%
Final lab. exam	40%

To be excused from an exam, the student must produce satisfactory written proof (e.g. doctor’s note) of inability to turn up. In case of a legitimate exemption for any exam (other than the final), the student will be required to take an alternate exam. In case of such exemption from the final exam, the student will receive an incomplete grade which must be completed (by taking the final exam) before the scheduled deadline next semester.

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\*Laboratory instructions are available at the instructor’s web page ([www.engr.newpaltz.edu/~biswast](http://www.engr.newpaltz.edu/~biswast)).

## Schedule

Date	Laboratory
8/30	Electrostatics
9/6	Electric fields
9/13	Ohm's law
9/20	<b>First lab. exam</b>
9/27	Resistors
10/4	Voltage sources
10/11	Capacitors
10/18	<b>Second lab. exam</b>
10/25	Magnetic fields
11/1	Current balance
11/8	AC RLC Circuit
11/15	Lenses
11/22	———— Thanksgiving ————
11/29	Demonstrations
12/6	<b>Final lab. exam (comprehensive)</b>

## Laboratory Reports

The following items must be included in a laboratory report.

### Object

This should be a one or two line statement. It could be identical to the one in the laboratory instructions unless you have added some components of your own to the standard experiment.

### Procedure

This should be a short description of the experimental methods in your own words.

### Data

Clear presentation of data is very important in an experiment. A tabular form is often used. The following is a typical data table.

Trial #	Measured quantity $x$	Measured quantity $y$	Measured quantity $z$	Computed quantity $a$	Computed quantity $b$	Error in $b$
1	...	...	...	...	...	...
2	...	...	...	...	...	...
3	...	...	...	...	...	...
4	...	...	...	...	...	...
Average					...	
Std. err.						...

For a specific experiment the number of measured quantities, the number of computed quantities and the number of trials will be different. The quantities for which you compute errors and averages will also be different.

## **Calculations**

Here you should state the formulas used to compute quantities in the data table and demonstrate the computations for at least one row of the table.

## **Conclusion**

This is a summary of the conclusions drawn from the data obtained.

## **Sources of error**

Here you should list what you think are the shortcomings of the experimental method that contribute to experimental errors. What you consider as sources of error will demonstrate your understanding of the experiment.

## **Administrative Addenda**

### **Student Learning Outcomes**

To acquire basic skills in handling experimental aspects of the phenomena of electricity, magnetism and optics.

### **Academic Integrity Policy**

[http://www.newpaltz.edu/ugc/policies/policies\\_integrity.html](http://www.newpaltz.edu/ugc/policies/policies_integrity.html)

### **Disability Resources**

[https://www.newpaltz.edu/drc/policy\\_procedure\\_manual.html](https://www.newpaltz.edu/drc/policy_procedure_manual.html)

### **Veterans Resources**

<http://www.newpaltz.edu/veterans>

### **Computer and Network Policies**

<https://sites.newpaltz.edu/csc/policies/acceptable-uses-and-privacy-policy/>

### **Deadlines**

<http://www.newpaltz.edu/events/academic.php>