

# PHYS 211 Lab Syllabus and Schedule Fall 2017

**ALL course information is posted on Blackboard**

**PREREQUISITE(s):** PHYS211 Lab is part of a consolidated 4 credit course – See PHYS211 Course Syllabus for general course information and requirements for passing the course.

## ***A. Lab Handouts - Available on Blackboard.***

Students must print them out, read them and bring them to each lab session. Note that most labs have a “Prelab” that must be completed and handed in at the beginning of the lab period to receive the indicated points. The PHYS211 lab sessions include a 30-60 minute “Recitation Exercise” as well. Please look at the recitation portion of the lab in advance (this is required).

## ***B. Submission of Lab Reports (Weekly)***

- Students will have 1 week to complete their lab reports after doing a lab experiment. Students **must** upload their lab report to Blackboard, which uses the SafeAssign system. Let your TA know as soon as possible if you have any troubles with the submission (good reason to finish early!) It is your responsibility to ensure that the lab report was received, not the TAs responsibility, so if there is any doubt that it was submitted, email the TA and take a screen shot of the screen

## ***C. Passing the Lab Portion of the course***

You must receive a minimum of 60% of the total possible points in the lab to pass the lab portion of PHYS211. Failing the lab results in failing the entire PHYS211 course.

Reports are due ONE week after the lab session and must be handed in to your TA at the START of the lab session

Late reports will have points deducted as follows:

- Each day late will be a 4% deduction, up until 2 weeks late. Reports handed in after the beginning of lab will already be counted as 1 day late. Examples:
- 0-24 hours late: 4% deduction
- 24-48 hours late: 8% deduction
- 48-72 hours late: 12% deduction
- ... etc
- Reports received more than 2 weeks late will not be accepted

Missing the lab will result in 0 points. You can makeup a lab IF you contact the lab TA PRIOR to the lab and get her/his approval for legitimate reasons like family emergency, illness. Note: Documentation may be required.

#### **D. Grading of lab reports (out of 100 total possible points)**

1. 10 points for attendance in the lab
2. 12 points for the Pre-Lab Exercise that you must complete and handed in at the beginning of your Lab session.
3. 18 points for Theory section
4. 30 points for Data Collection (writing up the data you gathered in your lab report)
5. 30 points for Observations written in you lab report
6. Missing the lab is an automatic deduction of 10 points (Attendance). After discussion with your TA (and only with your TAs approval) you may still turn in the lab by getting data from one of your lab partners, but the maximum number of point may be reduced.

#### **E. LAB POLICIES INCLUDE:**

1. Be respectful of each other (this applies to Instructors, TA's and students). Some specifics include:
  - a. Follow the TAs instructions and the equipment setup described in the Lab Experimental document. Note: TAs can deduct points if students break lab equipment, don't follow instructions or are disruptive.
  - b. Use of cell phones/ tablets/ computers during lab is limited to lab related activities.
2. TA's can assign and change seat assignments to facilitate lab management.
3. The instructor and the university reserve the right to modify, amend, or change the lab syllabus (course requirements, grading policy, etc.) as the curriculum and/or program require.
4. If you feel there was an error in the grading of a lab report, discuss your specific questions with your TA, and if you are still unsatisfied, please contact the instructor. It is your responsibility to bring this to the TA and/or the professor's attention as soon as possible; complaints received months after-the-fact or after final grades are in will be given much less weight than those brought to our attention immediately.
5. You must be respectful of your fellow classmates and your TA; failure to do so may deduct in points from your final lab grade. Being disruptive includes leaving the lab before your TA declares the lab session to be finished. You are expected to remain in the lab room until your are let out or until the time for your lab section finishes. Leaving early is considered as disruptive - if this is problematic, please discuss with your TA and/or the instructor in advance.

## ***F. Lab Report Format/ Rules***

### 1. Academic Honesty

You should work together with your lab partners in taking and analyzing data, and you will find that discussing the experiment with your partners helps you to understand the results.

**However, you should record your own data, and the lab reports that you turn in must be your own work in your own words. You cannot copy or paraphrase ANY portion of your partner's reports, doing so will be considered plagiarism.** Please refer to the section on Academic Misconduct in the NIU Student Code of Conduct. It is available on line at [http://www.stuaff.niu.edu/judicial/24430jo\(body\).pdf](http://www.stuaff.niu.edu/judicial/24430jo(body).pdf)

2. Lab reports **MUST BE TYPED**; no hand written/scanned lab reports will be accepted.

3. Lab reports consist of a Data Collection and Observation sections (Problem Solving Labs) and Theory, Data Collection and Observation sections (Experimental Labs). A full format of your lab reports are as follows (5 or 6 sections):

#### **Section 1: Title and name**

1. Your name
2. Date (when you did the lab)
3. Names of your lab partners (correct spelling of first and last names required)
4. Lab section (e.g. "Section Z, 27:00 PM Saturday" etc.)
5. Title of lab you are reporting on

#### **Section 2: Theory (Experimental Lab only)**

1. State the physics theory, objectives and formulas that are explored in this lab using your own words.
2. Comment on how the results of your experiment compare to the theory/objective of the lab. One paragraph is sufficient.

### Section 3: Raw data

Tables must have a title and appropriate units (meters, seconds, etc.) Example:

#### Amplitude and Period as a function of Mass

Run	Mass (grams)	Amplitude (meters)	Period (seconds)
1	50	0.0020	30.0
2	100	0.0037	32.4
3	150	0.0069	31.9

### Section 4: Results

1. Use Excel or the equivalent to produce all graphs
2. Graphs must be titled with labels and units on the axes. Use captions wherever appropriate.
3. Show all equations (using equation editor in Word or the equivalent) that are used to produce the tables and graphs, and any “number crunching” that you do

### Section 5: Discussion

1. Answers to questions given in the lab manual. These answers should be a paragraph in length. Failure to write complete sentences and paragraphs with justification for your answers will result in point deductions. Each skipped question will also result in deductions.
2. Calculation of and/or discussion of errors

### Section 6: Conclusions

1. Please let the TA know what you enjoyed or did not enjoy about this lab.
2. Was the theory from the lab material and course verified, or not?
3. State whether you learned something useful, whether you think it was a success, or whether things could be improved in future iterations. This section can be as long or brief as you would like, but is required

Sections (for lab, all in Faraday 103):

211A: Wednesday 6-8:50 pm **Nicholas** ([namato@niu.edu](mailto:namato@niu.edu))

211B: Monday 6-8:50 pm **Casey** ([chennessy@niu.edu](mailto:chennessy@niu.edu))

211C: Wednesday 9-11:50 am **Deblina** ([ddas@niu.edu](mailto:ddas@niu.edu))

211D: Friday 12-2:50 pm **Deblina** ([ddas@niu.edu](mailto:ddas@niu.edu))

211E: Wednesday 12-2:50 pm **Nicholas** ([namato@niu.edu](mailto:namato@niu.edu))

**SCHEDULE (subject to change)**

<b>Week 1 (8/28)</b>	<b>Pre-assessment test. You are obligated to show up. Beyond attendance, it doesn't affect your grade, and you don't need to prepare for it. Also lab introduction (syllabus, rules, lab report writing, expectations)</b>
<b>Week 2 (9/4)</b>	<b>NO LABS</b>
<b>Week 3 (9/11)</b>	<b>Error and vector analysis introduction (no lab report or prelab, but you must show up and stay for the recitation)</b>
<b>Week 4 (9/18)</b>	<b>Electric fields</b>
<b>Week 5 (9/25)</b>	<b>Electrostatics</b>
<b>Week 6 (10/2)</b>	<b>Circuits, Ohm's Law, Resistors, Kirchhoff Rules</b>

<b>Week 7 (10/9)</b>	<b>Magnetic fields / Compass</b>
<b>Week 8 (10/16)</b>	<b>Faraday's Law</b>
<b>Week 9 (10/23)</b>	<b>Full recitation (going over first two exams). No lab (but attendance required)</b>
<b>Week 10 (10/30)</b>	<b>Mirrors, reflection and refraction</b>
<b>Week 11 (11/6)</b>	<b>Thin lenses</b>
<b>Week 12 (11/13)</b>	<b>Spectroscopy</b>
<b>Week 13 (11/20)</b>	<b>NO LABS (TURKEY WEEK!)</b>
	<b>Happy Thanksgiving!</b>
<b>Week 14 (11/27)</b>	<b>Photoelectric effect</b>
<b>Week 15 (12/4)</b>	<b>Post-assessment test. You are obligated to show up. Beyond attendance, it doesn't affect your grade, and you don't need to prepare for it. You should use this time to also talk to your TAs about the final exam and to ask questions</b>

