

# Physics 180L (1001/1002/1008) – Scientist & Engineering Physics Lab

## Spring 2012 – Syllabus

### General Information

Instructor: Brad Allured

Email: Charles@unr.edu

Office: LP 110

Mail box: Physics 2<sup>nd</sup> floor (Allured)

Office hours: TBD (and by walk-in/appointment)

Phone: 775-453-4652

Lab meeting time: Tuesday, 10AM-12PM (1001) / 1-3PM (1002) / 3-5PM (1008)

### Class Description and Objectives:

The purpose of the physics laboratory is to allow students to witness the concepts and physical laws that are introduced in lecture. You will also be exposed to elementary laboratory techniques. Every class will begin with a discussion introducing the procedures, concepts, formulas and instructions relevant to the experiment. Attendance and participation are mandatory (don't be late).

### Course Requirements:

#### *Lab Etiquette:*

- No FOOD/DRINKS/SMOKING/APPLYING of COSMETICS in the labs.
- Please silence your cell phone and turn off all “distractions.”
- You must clean up and shut off equipment after you are finished with your lab – Failing to do so will affect your grade.
- Please report all damaged equipment so it can be replaced.
- Be respectful of the equipment and everyone in the lab.
- Disruptive, vulgar, or habitually tardy individuals will not be tolerated.
- Maintain a neat lab notebook (see guidelines) and have it signed by me before leaving each class session.
- Be safe and have fun.

#### *Lab reports:*

- There will be 11 lab experiments during the semester. The lowest scored lab report will be dropped.
- You are expected to read the lab experiments for understanding before class.
- Lab reports are due to WebCampus by the beginning of the first class period after each experiment. Each pair of students will turn in a group report. A report 24 hours late will have its grade docked 20%. The grade will be docked an additional 10% for each week the report is late.
- Lab reports that contain copied or plagiarized material will be given a zero (or worse).
- You will receive no credit for a report on an experiment you did not complete (my signature in your notebook is your proof of completing an experiment).
- Illegible or unintelligible lab reports are unacceptable.
- Graphs may be hand-drawn (to scale) on graph paper or computer generated. Hand-drawn graphs on anything other than graph paper are unacceptable.
- Please follow the given format for the lab write-ups. This format can be found accompanying this syllabus on WebCampus.

#### *Attendance:*

You are required to attend all of the classes. If you must miss a lab due to an excused absence (illness, emergency or pre-arranged absence), you should arrange to make up the lab in a different section. In the “special cases,” talk to me. No more than two labs can be done in other lab sections, and if you miss three or more classes you will receive a failing grade for the semester. There are no mulligans, rewrites or makeups. You are expected to be in class (in body and mind) on time.

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### *Lab partners/groups:*

You will choose a lab partner for the semester with whom you will perform experiments and write lab reports... Choose wisely. Some experiments will be performed in larger groups, but reports may not be written by more than two people. In some cases, groups might change. You have the right to write individual reports. Putting your name on a report means you participated in the experiment and writing the report, and approve of the final product (you take responsibility for the grade you receive). The name of any group member who did not participate on a lab should not appear on that report.

### *Laboratory safety:*

Experimental work exposes the experimenter to various kinds of potential hazards (electric shock, burns, cuts...). Every person working in the laboratory should be aware of their surroundings so as to avoid possible injury to themselves or anyone else. Pay attention to what you are doing and be aware of your surroundings to avoid injury and/or damage to the equipment. Report any accident immediately.

### *Other stuff:*

- Believe it or not, I'm here to help, and want to see everyone succeed. Do not be shy about talking to me. If you have a problem, I'll work with you so we can find a solution. I've been in your place, and I can be a pretty understanding guy (from time to time).
- "Any student wishing to apply for academic accommodations or adjustments is requested to inform the instructor, or contact the Disability Resource Center (DRC, Thompson, Suite 101, phone 784-6000) directly, as soon as possible to arrange appropriate actions. The DRC will be able to answer any questions regarding accommodations or adjustments."
- "Your student fees cover usage of the Math Center (784-443 or [www.unr.edu/mathcenter](http://www.unr.edu/mathcenter)), Tutoring Center (784-6801 or [www.unr.edu/tutoring](http://www.unr.edu/tutoring)), and University Writing Center (784-6030 or [www.unr.edu/writing\\_center](http://www.unr.edu/writing_center)). These centers support your classroom learning; it is your responsibility to take advantage of their services. Keep in mind that seeking help outside of class is the sign a responsible and successful student."
- "All examinations, homework, and quizzes must be your own work: any act of plagiarism (cheating, piracy, theft, etc.). Plagiarism or otherwise obtaining grades under false pretenses constitute academic dishonesty according to the code of this university. Academic dishonesty will not be tolerated and penalties can include canceling a student's enrollment without a grade, giving an F for the course or for the assignment. For more details, see the UNR General Catalog."

### ***Schedule:***

| Date               | Experiment                             | Room (DMS) |
|--------------------|--|------------|
| <b>7 February</b>  | Orientation   Normal Distribution      | 212        |
| <b>14 February</b> | Understanding Motion I & II   Freefall | 212        |
| <b>21 February</b> | Force Table                            | 208        |
| <b>28 February</b> | Acceleration on Air-Track              | 212        |
| <b>6 March</b>     | Scalar Product                         | 208        |
| <b>13 March</b>    | Conservation of Momentum               | 212        |
| <b>20 March</b>    | <i>No Class – Spring Break</i>         | --         |
| <b>27 March</b>    | Uniform Circular Motion                | 210        |
| <b>3 April</b>     | Torque                                 | 212        |
| <b>10 April</b>    | Rotational Kinetic Energy              | 212        |
| <b>17 April</b>    | Standing Wave in Air                   | 212        |
| <b>24 May</b>      | Linear Harmonic Motion                 | 210        |