

**PHYS 1408 Principles of Physics I Lab**  
**Spring 2009**  
**Texas Tech University**  
**Course Syllabus**

**Lab Instructor:** \_\_\_\_\_

**Section:** \_\_\_\_\_

**Lab Coordinator:**

Dr. D.A. Barlow

SC 116

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**Meeting Place:** SC 105

**Course Description:** Each meeting will consist of a laboratory experiment for general physics 1 followed by a one hour recitation section. Topics include measurement, kinematics, forces and gravity. The purpose of the recitation section is to help students master the necessary skills for the lecture portion of the class. The material for the recitation section may come from questions or problems in the lab manual, home work assignments from the lecture portion of the class or from the lab instructor.

**Text:** **Laboratory Manual Principles of Physics I**, ISBN: 9780470478516

**Grading:**

**Labs are worth 10 points each.** 8 points come from the lab report and recitation. Students will be graded on the completeness, neatness and accuracy of lab reports written for each lab. The lab instructor may ask that problems or questions from the recitation section to be handed in for grading as part the lab report. The remaining 2 points come from the pre-lab worksheet or quiz. The lowest lab grade will be dropped.

**Lab homework: There is a lab homework assignment worth 10 points. This assignment is to attend one of the physics departmental colloquiums.** These are held most Thursdays at SC 007. However, sometimes the talks are joint physics/EE events and are then held on Fridays in Langford Lab. Your instructor will give you a schedule for these talks. Students should regularly check the physics departmental website and/or look for postings in the science building hallway for upcoming talks as changes in the schedule often occur. **There will be a sign in roster available for students after the talk. Students must sign this roster to receive credit for attendance.** Normally colloquiums last around 75 minutes.

Total number of points for the lab course: **120**

**Pre-Lab worksheets or quizzes:**

Some labs will have a pre-lab worksheet which should be completed and turned in to the instructor before the start of the lab class meeting. Some labs will not have this pre-lab worksheet but rather the lab meeting will be preceded by a short quiz. These pre-lab quizzes will consist of 2 questions covering information in the lab instructions for that day's lab. Students should read the lab instructions for the upcoming lab to prepare for this quiz.

**Assessment**

To assist the department in determining effectiveness of the learning process in this course, a pre and post assessment exam might be given. One exam at the first lab meeting the other at the last. These exams will be given during the recitation portion of the lab.

**Lab activities in chronological order:**

1. Jan 12-16, Measurement mass and density
2. Jan 26-30, Introduction to motion
3. Feb 2-6, Force and motion
4. Feb 9-13, Force, mass and acceleration
5. Feb 16-20, Gravitational forces
6. Feb 23-27, Work and energy
7. Mar 2-6, Conservation of energy
8. Mar 9-13, Newton's third law and conservation of momentum
9. Mar 23-27, Rotational motion
10. Mar 30- April 3, Fluid Mechanics
11. April 6-10, Periodic motion
12. April 20-24, Standing waves in strings and air columns