

Principles of Physics I

Physics 1408-002

Fall 2009

Professor	Dr. David Lamp
Time	MWF 12:00-12:50
Place	SC 7
Office	SC 21/23
Hours	MTWRF 10am or open door or make an appointment
E-mail	David.Lamp@ttu.edu
Phone	(806) 742-3767 leave a message

Texts: *Fundamentals of Physics*, 8th edition, by Halliday, Resnick, and Walker bundled with *WileyPLUS* student access kit. Comparison shop this text; it is way expensive. It is available at all 4 bookstores in town and on-line, prices vary. Any version will do, we selected a loose leaf format for the bookstores (it is cheaper). The Laboratory Manual is bundled with the text for this fall.

Course Coverage: The course will cover material from the first 17 chapters in the text. We will cover kinematics, mechanics, statics, rotation, fluids, mechanical waves, and sound.

Grading Policy: The following scores will be accumulated during the semester: In-Class Quizzes; Labs; On-Line Homework; Exam 1; Exam 2; Exam 3; Final. The course grade will be based on the labs, on-line homework, three exams, and the final. **NO MAKEUP EXAMS WILL BE GIVEN.** The lowest grade of the 3 in-class exams and the final will be dropped. So, only the highest 3 of the 4 one-hour exams and final will count in determining your course grade. Each of these exams is worth 25% of the course grade. The remaining 25% comes from the lab section and on-line homework equally. Your letter grade will, tentatively, be determined according to the following scale: 50 D; 65 C; 80 B; 90 A.

Hour exam	25%	Drop the lowest of the four	25%
Hour exam	25%		25%
Hour exam	25%		25%
Final	25%		25%
1/2 Lab, 1/2 Homework	25%		25%
Total			100%

Labs: The lab portion of the course has a separate syllabus that you will receive in the lab. In short, do the lab, write up the lab, attend recitation, learn how to do the problems. Lab is a required portion of the course. Recitation will help you with problems which figures into your quiz grade, homework grade, and exam grades. Recitation is a very important part of the course.

Homework: Homework problems are assigned and graded on the web through the commercial site WileyPLUS. Once you are registered at that website you will be able to download the assignments. The assignments and due dates are posted. You will be able to retrieve the answers after the due date. Pay attention to the instructions on the homework website about how the homework is scored.

To access WileyPLUS you must register at www.wileyplus.com. Make sure you get into the correct section of the course. **1408-002 MWF 12-1** If you do not have a Student Access Kit (part of the text for the course), you will need to purchase one through the WileyPLUS website. This website is not at TTU and you should give yourself plenty of time to submit answers. Sometimes the network can be slow or down.

The value of the assigned homework problems is that they are the basis for the problems on your exams. Doing well on the homework is crucial to your success in the course. The single best indicator of success in the course is success with the homework. We've done the experimental study, you must do the homework in order to do well in the course. Do not let the small percentage weight delude you into thinking these homework problems are in some way optional. They are the single best factor in determining how you do in the course.

Exams: Three one-hour exams will be given. You may bring a 3x5 note card to the exams. This note card can be used to list any equations or words that help you in solving physics problems.

Final: A comprehensive final exam will be given. Each lecture section will give its own final exam. You may bring note cards to the final as well.

Exams and Final: The lowest of the 4 will be dropped. Thus if you miss exam 2, that exam will not count against you, rather your grade will be calculated from exams 1, 3, and the final. Alternatively if you get good 'A's on exams 1, 2, and 3, you could elect not to take the final with no penalty.

Course Goals: This course is intended to acquaint students with the basic laws of physics, to develop a better understanding of physical science in general, and help prepare you for other upper division science classes. To this end, the course will emphasize a mix of conceptual understanding and standard "end-of-chapter" homework solving skills.

Core Competency Statement: Students graduating from Texas Tech University should be able to: explain some of the major concepts in the Natural Sciences and to demonstrate an understanding of scientific approaches to problem solving, including ethics.

Expected Learning Outcomes: Upon successful completion of this course, students will be able to:

Describe the basis of the scientific method.

Distinguish between a scientific theory and speculation.

Explain at a quantitative level the fundamental elements of energy and motion.

Methods for Assessing the Expected Learning Outcomes: The expected learning outcomes for the course will be assessed through: non-Graded Pre- and Post-Tests, Guided Classroom Discussion, Lab Exercises, Homework, In-class Exams, and the Final.

Important Notes:

Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office at 335 West Hall or 806-742-2405.

The faculty is strongly committed to upholding standards of academic integrity. These standards, at the minimum, require that students **never** present the work of others as their own.

Strategy for Success:

- Be prepared! Study your notes and read the material in the text *before* we cover it in class. This will help you keep up, will make for more productive classroom interaction, and will help keep you prepared for those unannounced in-class quizzes that will make up part of your semester grade.
- Begin all homework assignments as soon as possible. The assignments take time and thought. The homework isn't graded separately, but the quizzes and test questions are based on the problems you do in the homework. Homework is essential to pass.
- Build a study group or join one. Students helping each other is very effective. Do not join a study group because you all share an interest in a football team or a particular flavor of music. You need a mix of strong and weak students.
- Once you can work through a problem with your notes, book, study group, etc., write the question down on a blank sheet of paper and then try to rework it entirely on your own a day or so later.
- Never wait until the night before a test to "begin" studying.
- The course schedule is fast. Don't get left behind.
- Come see your instructor when you get stuck--that's why they pay me the big bucks! I am always willing to help anyone who tries.
- There are also TAs, SI instructors, and help sessions available. Avail yourself of all resources.

TENTATIVE SCHEDULE FOR Fall 2009 1408-002

		F August 28 class 1 Syllabus Pre-test
M August 31 class 2 1 Measurement	W September 2 class 3 2 1-D Motion	F September 4 class 4 2 1-D Motion
M Sept 7 No class LABOR DAY	W September 9 class 5 2 1-D Motion	F September 11 class 6 3 Vectors
M September 14 class 7 3 Vectors	W September 16 class 8 4 2- & 3-D Motion	F September 18 class 9 4 2- & 3-D Motion
M September 21 class 10 4 2- & 3-D Motion	W September 23 class 11 Exam I	F September 25 class 12 5 Force and Motion I
M September 28 class 13 5 Force and Motion I	W September 30 class 14 6 Force and Motion II	F October 2 class 15 6 Force and Motion II
M October 5 class 16 7 Kinetic Energy and Work	W October 7 class 17 7 Kinetic Energy and Work	F October 9 class 18 7 Kinetic Energy and Work
M October 12 No class FALL BREAK	W October 14 class 19 8 Potential Energy	F October 16 class 20 8 Conservation of Energy
M October 19 class 21 9 Momentum	W October 21 class 22 9 Momentum	F October 23 class 23 9 Momentum
M October 26 class 24 Exam II	W October 28 class 25 10 Rotation	F October 30 class 26 10 Rotation
M November 2 class 27 11 Rolling	W November 4 class 28 11 Rolling	F November 6 class 29 12 Equilibrium and Elasticity
M November 9 class 30 12 Equilibrium and Elasticity	W November 11 class 31 13 Gravity	F November 13 class 32 13 Gravity
M November 16 class 33 14 Fluids	W November 18 class 34 14 Fluids	F November 20 class 35 Exam III
M November 23 class 36 15 Oscillations	W November 25 No class THANKSGIVING BREAK	F November 27 No class THANKSGIVING BREAK
M November 30 class 37 15 Oscillations	W December 2 class 38 16 Waves I	F December 4 class 39 16 Waves I
M December 7 class 40 17 Waves II	W December 9 Last class 40 17 Waves II	
	W December 16 Final 1:30-4:00	