

Principles of Physics I

Physics 1408-003

Spring 2010

Instructor	Dr. Hani Dulli
Time	MWF 11:00-11:50
Place	SC 112
Office	SC 120
Hours	MF 2:00 - 4:00 p.m. or by appointment.
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Texts: *Fundamentals of Physics*, 8th edition, by Halliday, Resnick, and Walker bundled with *WileyPLUS* student access kit (ISBN-9780470548967). The Laboratory Manual is bundled with the text for this spring.

Course Coverage: We will cover kinematics, mechanics, statics, rotation, fluids, and some thermodynamics.

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.

Learning Outcome	Assessment
Describe the basis of the scientific method	Ungraded pre- and post-tests, guided classroom discussion, in-class exams
Distinguish between a scientific theory and speculation	Ungraded pre- and post-tests, guided classroom discussion, in class exams
Quantitative understanding of energy and motion	Guided classroom discussions, lab exercises, homework, in-class exams

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. The website to go to is <http://edugen.wiley.com/edugen/class/cls157240/>. Make sure you get into the correct section of the course (Dr. Hani Dulli 1408-003 MWF 11-12). 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. The weight is kept small because we cannot verify who is responsible for your answers. The homework is the single best factor in determining how you do in the course.

Quizzes and Exams: There will be 5 short quizzes worth a total of 10% of the final grade. Only 4 quiz grades (2.5% for each) will count toward your final grade. Your lowest quiz grade will be dropped. Two in-class exams will be given during the semester. Each exam is worth 15% of the final grade. The final exam, which is worth 30% of the final grade, will be comprehensive. Questions from all studied chapters should be expected in this exam.

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 homework and exam grades. Recitation is a very important and potentially useful part of the course.

Assessments Summary

Homework	10%
4 Quizzes	10%
Exam 1	15%
Exam 2	15%
Final Exam	30%
Lab	20%

Total	100%
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Grading Scale: A 90-100%, B 80-89%, C 70-79%, D 60-69%, F <60%

Important Notes:

Any student who, because of a disabling condition, 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.

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TENTATIVE SCHEDULE

	W January 13 class 1 2 1-D Motion	F January 15 class 2 2 1-D Motion
M January 18 Martin Luther King Jr. Day	W January 20 class 3 2 1-D Motion	F January 22 class 4 2 1-D Motion
M January 25 class 5 3 Vectors	W January 27 class 6 3 Vectors - Quiz 1	F January 29 class 7 3 Vectors
M February 1 class 8 4 2- & 3-D Motion	W February 3 class 9 4 2- & 3-D Motion	F February 5 class 10 4 2- & 3-D Motion
M February 8 class 11 5 Force and Motion I	W February 10 class 12 5 Force and Motion I - Quiz 2	F February 12 class 13 5 Force and Motion I
M February 15 class 14 5 Force and Motion I	W February 17 class 15 Free Body Diagrams	F February 19 class 16 6 Force and Motion II
M February 22 class 17 6 Force and Motion II	W February 24 class 18 6 Force and Motion II	F February 26 class 19 Exam I (chapters 2-5)
M March 1 class 20 7 Kinetic Energy and Work	W March 3 class 21 7 Kinetic Energy and Work	F March 5 class 22 7 Kinetic Energy and Work
M March 8 class 23 8 Potential Energy	W March 10 class 24 8 Potential Energy - Quiz 3	F March 12 class 25 8 Conservation of Energy
M March 15 SPRING BREAK	W March 17 SPRING BREAK	F March 19 SPRING BREAK
M March 22 class 26 9 Momentum	W March 24 class 27 9 Momentum	F March 26 class 28 9 Momentum
M March 29 class 29 10 Rotation	W March 31 class 30 10 Rotation	F April 2 class 31 Exam II (chapters 6-9)
M April 5 Easter Holiday	W April 7 class 32 11 Rotational Dynamics	F April 9 class 33 11 Rotational Dynamics
M April 12 class 34 11 Rotational Dynamics	W April 14 class 35 12 Equilibrium - Quiz 4	F April 16 class 36 12 Equilibrium
M April 19 class 36 14 Fluids	W April 21 class 37 14 Fluids	F April 23 class 38 14 Fluids
M April 26 class 39 18 Heat	W April 28 class 40 18 Heat - Quiz 5	F April 30 class 41 18 Heat
M May 3 class 42 Review	W May 5 Study Day	Friday May 7 Final Exam 7:30-10 am