

# Physics 2514

## Introductory Lecture

P. Gutierrez

Department of Physics & Astronomy  
University of Oklahoma

# Announcement

**Discussion Sections  
will not meet  
this week**

# Instructor

- Instructor information
  - Instructor: Dr. P. Gutierrez
  - Office: NH 339
  - Phone: 325-3961 ext. 36339
  - Email: [pgutierrez@ou.edu](mailto:pgutierrez@ou.edu)
    - On subject line put P2514:
    - Homework questions post on D2L forum under the discussion menu or take advantage of office hours.
    - Grade issues should be directed to your TA.
  - Course information: available on D2L at <http://learn.ou.edu>
  - Office Hours: MW 3:00 to 4:30 PM & Fri 4:00 to 5:00 PM

# Course Materials

- **Course materials**
  - Textbook: **Physics for scientist and engineers by R.D. Knight** (ActivPhysics Online, an interactive applet based tutorial at [www.aw-bc.com/knight](http://www.aw-bc.com/knight))
  - Optional: **Student Workbook**. (Useful for developing intuition about concepts and equations covered in lecture and the textbook.)
  - Other required: **Mastering Physics student access card**
  - Other required: **H-ITT Remote Control Clicker**

# Grading

## ● Grading

- Reading quizzes: 5%
- Lecture (*Clicker*): 5% will use 2/3 of maximum points possible to normalize score
- Homework: 22%
- Recitation: 13% will drop lowest grades
- Semester Exams: 3 Exams 11% each (total 33%)
- Final Exam: 22%

**IMPORTANT: PHYSICS IS DIFFICULT**, in order to succeed requires significant effort. Do homework by yourself, ask for help when needed, and make sure you read the textbook.

**IMPORTANT: Exams will cover all assigned material plus all material covered in class.**

**Grade summary will be posted on D2L.**

# Grading

- **Grading scale**

- A: 100% to 90%
- B: 89% to 80%
- C: 79% to 70%
- D: 69% to 60%
- F: 59% to 0%

Scores will be calculated to 3 significant figures, then rounded-off to 2 significant figures for the final grade calculation.

**IMPORTANT:** Cheating on exams will result in a grade of **F** for the course. Other cheating will have grade penalties, which will be left to my discretion.

**Grade of Incomplete:** I will follow the current University regulations concerning the grade of I and dropping of courses.

# Exam Schedule

Semester Exams will be in the evening 7:00 to 9:00 PM in this room on the dates given below.

The final exam is set by the University to be Thursday 12 May 7:30 to 9:30 PM in this room.

Exam 1	Wed. February 16, 2011	7:00 PM to 9:00 PM
Exam 2	Wed. March 23, 2011	7:00 AM to 9:00 PM
Exam 3	Wed. April 20, 2011	7:00 AM to 9:00 PM
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Final Exam	Thurs. May 12, 2011	7:30 PM to 9:30 PM

All questions on the exam will be multiple choice. The exams will be composed of a selection of conceptual and quantitative questions. In addition, exams will cover all assigned material plus all material covered in class.

# Course Outline

I will follow the textbook as far as subject matter is concerned, at the rate of approximately one chapter per week.

This semester we will cover mechanics i.e. the science of motion. This material is covered in chapters 1 through 15.

- Introduction to motion
- Kinematics
- Dynamics—forces and Newton's laws of motion
- Conservation laws of energy & momentum
- Work & energy
- Newton's theory of gravity
- Rotation of rigid bodies
- Oscillations
- Fluids and elasticity

# Registration

Need to register for Mastering Physics and the H-ITT remote control (clicker)

- **Mastering Physics registration**
  - Can start to register now. Follow instructions included with access kit.
  - Go to <http://www.masteringphysics.com>
  - Your Login Name is your: **4+4** If the login name not 4+4 of an enrolled student, account will be disabled.
  - Your student id is your **Sooner ID** this is the number on your student id card
  - Course ID is **PHYS2514OUS2006**
  - OU zip code **73019**

# Homework

- Homework Grading
  - Homework will typically be due Saturday at 11:59 PM
  - Problem states points to be assigned typically 5
  - Multiple submissions allowed, typically up 8 times;
  - 3% bonus for not opening a hint
  - 2% penalty for each incorrect submission.
  - Late homework graded on sliding scale until 2:00 AM Sunday when you will receive 20% of points. After that you receive 20% until the end of the semester.
  - Solutions will be available after 8:00 AM Sun. No credit will be allowed after you see the solution.
  - Introductory assignment counts as 40 bonus points if completed by 11:59 PM Sunday January 23, 2011.

# Clicker



# Registration

- Clicker registration
  - Go to <http://www.h-itt.com/webreg.php>

file Edit View History Bookmarks Tools Help

Back Forward Print Reload Stop Home http://www.h-itt.com/webreg.php Google


Most Visited Latest Release No... Gmail - Inbox - phil... Fedora Project Community Sup... Google Calendar Fedora Core 5v

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**Fill in all fields marked with \* and any additional field(s) that your instructor requested you to complete. This applies to re-registration as well.**  
 Your Remote ID is the 6-digit number either labeled on the battery door of your RF remote, or labeled under the battery of your IR remote. Reference your instruction manual, or visit the support section at [www.h-itt.com](http://www.h-itt.com).  
 Your ScreenName is a short name that can be used in the ID box that displays when you answer questions.

\* Class ID:  The class ID given to you by your instructor.  
 \* Remote ID:  The 6-digit serial number of your remote.  
 \* Confirm Remote ID:  The 6-digit serial number of your remote.  
 \* First Name:  Your first name.  
 \* Last Name:  Your last name.  
 \* Student School ID:  Your school issued student ID.  
 Email:  Your email address.  
 Your LMS ID:  Your ID for your Learning Management System (BlackBoard/WebCT, Sakai, etc).  
 ScreenName:  A short name, maximum 9 characters.

\* Code:  Type this code in the box below.

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# Clicker Grading

- 10 bonus points if you register your clicker before 5:00 PM Friday January 21, 2011
  - If you get a new clicker, you will need to register it. In addition, send me an email stating this.
  - Make sure you have clicker and that it is fully charged, I will not accept any excuses for not having your clicker during class.
  - Clicker points 2 for correct answer; 1 for attempting question. Until Jan. 28, you will receive 2 points per question whether right or wrong.
  - Can provide up to 3 answers, only last one counts
  - Final clicker score will be zero if not registered by 5:00 PM May 6, 2011.

# Math Prerequisites

- Algebra:
  - Solving equations for one or multiple variables;
  - Know the Pythagorean theorem;
  - Conic sections—know what the mathematical definitions of a parabola, ellipse, circle, hyperbola.
- Geometry:
  - Know how to relate angles to each other through the various theorem.
- Trigonometry:
  - Know the basic trig functions:  $\sin \theta$ ,  $\cos \theta$ ,  $\tan \theta$ , . . .
  - Know the basic trig relations:  $\sin^2 \theta + \cos^2 \theta = 1$ ,  
 $\sin(\theta + \phi) = \cos \theta \sin \phi + \cos \phi \sin \theta$

# Math Prerequisites

- Calculus
  - Understand the concept of a limit;
  - Know how to take a derivative and understand what it means.
- Miscellaneous
  - I will use the metric system
  - You should understand significant figures
  - If you have problems in these areas, read section 1.9 of the textbook.

# Classroom Etiquette

Since there are  $\approx 300$  students enrolled, please be courteous to your fellow students. I request that you follow these rules

- Class starts at 11:30 (12:30) AM and ends at 12:20 (1:20) PM. Please be prepared by the start and don't start leaving before class ends;
- No talking (socializing) during class;
- Please turn cellphones off;
- Only pen or pencil, calculator, paper, and textbook are allowed on the desk during class.

If things start to get out of hand, I will impose grade penalties.

## Announcement

# Register for Mastering Physics

## Register clicker

### Start Reading Chapter 1

- Friday's lecture:
  - Overview of Mastering Physics.
  - Introduction to the physics of mechanics;
  - The model and assumptions we will use;
  - Introduction to kinematics (the description of motion)

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this week**