

PHYS 111, Spring 2005

Physics I

Lectures: M, W 9:00-9:50 am, Curtis 341

Recitations:

Section 001: MW 3:00-3:50pm, Stratten 219

Section 002: MW 12:00-12:50pm, Curtis 455

Section 003: MW 1:00-1:50pm, Matheson 305

Labs:

Section 060: R 3:00-4:50pm, Disque 702

Section 061: F 10:00-11:50am, Disque 702

Section 062: F 2:00-3:50pm, Disque 702

Section 063, F 4:00-5:50pm, Disque 702

Section 064, F 12:00-1:50pm, Disque 702

Course Staff

- Lecturer: Prof. David Goldberg (*goldberg@drexel.edu*)
 - Office: Disque Hall, Room 810
 - Phone: (215) 895-2715
 - Office Hours: M,W ,10-11:30

- Teaching Assistants:
 - Mr. Prasanna Ramakrishnan (*prasanna.ramakrishnan@drexel.edu*)
 - Office: Disque Hall, 705
 - Phone: x2732
 - Office Hours: ??
 - Labs 060, 061, 064
 - Ms. Hanbing Lin (*hanbing.lin@drexel.edu*)
 - Office: Disque Hall, Room 705
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 - Recitation 003, Labs 062, 063
 - Ms. Seema Vaidyanathan (*seema.vaidyanathan@drexel.edu*)
 - Office: Disque Hall, Room 705
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 - Office Hours: ??
 - Recitation 001, 002

Textbooks

Physics for Scientists & Engineers, Serway & Jewett, Thomson, 6th ed. Copies of this book have been ordered and should be available in the bookstore.

Physics I Laboratory Manual, Available in the Drexel Copy Shop.

Course Webpage

I will make certain materials available, including images, links, and copies of documents handed out in class on the web:

<http://www.physics.drexel.edu/courses/Physics-111>

Grading Policy

First, a word about academic honesty: Discussion is strongly encouraged when working through problem sets, and, since labs are done in groups, it is expected that your write-ups will be similar. Here's a guideline – if a friend describes how to go about solving a problem to you without specifically writing equations, then you are fine. If, however, you directly transcribe the work of another, you are plagiarizing their work.

- 25% – **Labs**: There will be eight labs over the course of the term. The criteria for evaluation are described below.
- 20% – **Homework**: Homework will be given weekly. It will be assigned in Wednesday Recitation, and will be due in class the following Wednesday. A 10% penalty will be given for each day of lateness. The lowest homework will be dropped from your final average.
- 20% – **Midterm**: We will have a midterm exam approximately 5-6 weeks into the term. It will be cumulative and closed book. Additional details will be given as the exam gets closer.
- 25% – **Final Exam**: There will be a cumulative final exam given at the end of term.
- 10% – **Class Participation**: Attendance and class participation are very important to the process. Attendance will be taken in recitation every week, and discussion will be noted in lecture.

Introduction to the Course

The course description reads, "Calculus-based course that explores principles of mechanics pertaining to kinematics, dynamics, momentum, and energy and conservation laws. "

In fact, this is an understatement. We are going to be doing a **lot** of introductory physics in this course. We will typically cover about a chapter each week, so make sure you are up-to-date on your readings. In particular, we are going to cover: 1d motion, vectors, 2d motion, Newton's laws, circular motion, potential and kinetic energy (and conservation laws), linear momentum, rigid rotation, angular momentum, equilibrium and elasticity, and the universal law of gravity.

Lectures

We will meet twice a week for 1 hour. Lectures will consist primarily of information based on the readings, though there will also be some in-class demos. Reading assignments will be given out in class. You are obviously expected to attend all lectures, and there is an explicit class participation component to your final mark. In other words, ask questions!

Prior to each lecture, you should read the assigned material. The lecture is not a substitute for the textbook (or vice-versa), but rather a supplement to it.

Recitation

Traditionally, recitation is a much more informal part of the class. You will meet in smaller

(approximately 20/section) groups with your TA, discuss the homework, do additional problems from the book, and go over concepts that you are having difficulty with. Recitation sections are a required part of the course, and your attendance and participation will be included in the class participation component of your grade.

Homeworks will be handed out and collected in recitation each wednesday.

Labs

In addition to theory, you will be expected to carry out experiments to prove the concepts discussed in class. We will meet for 2 hours, once a week, and you will do the experiments in groups of 3-5.

- You are expected to read over the purpose and theory prior to lab section, as well as completing the pre-lab work. The pre-lab will be collected at the beginning of the lab period (for grading). No late pre-labs will be accepted.
- Students in each group work together as a team to collect data. The students themselves decide upon the responsibilities of each group member, although all should make roughly equal contributions. Each group must submit a copy of the data sheet, with **all** members signing it before leaving the laboratory. Each student should also keep a copy of the experimental data for use in his/her lab report.
- The students in each group should discuss the results that they have obtained, interpret the data and draw conclusions. Collaboration is encouraged. However, each student must complete an *individual* lab report (direct copies of one another's work is **not** considered an individual lab report!) within one week of completion of the lab.

Write-ups are due within 1 week of your lab in the TA box in the grad student office (Disque 705). Please put the name of your TA on the front page.

Make-up labs are allowed only in the case of illness or other serious situation. Approval to take a make-up lab can be granted only by Dr. Goldberg.

The lab schedule is as follows:

- Week 1 – No lab
- Week 2 – 2D Motion
- Week 3 – Freefall
- Week 4 – Projectile Motion
- Week 5 – Static Equilibrium
- Week 6 – Friction
- Week 7 – Energy
- Week 8 – Momentum
- Week 9 – Rotation
- Week 10 – No lab