

COURSE INFORMATION – Spring 2015  
**Physics 122: General Physics II (Sections 4, 5, 6)**  
Class: Workman Center 101, Tue/Thr 11:00–12:15 pm  
Office Hours: 12:15–13:00 Tue/Thr or by appointment  
Recitation: Wed (2 pm)/Thr (6 pm) in WorkC 113 & Tue (2 pm) in WorkC 109  
Corequisites: Physics 122L (lab), Math 132 (calculus II)

Class Instructor: Dr. Richard Sonnenfeld  
Cel Phone: 575-838-7113 (until 10 pm)

Office: Workman 342  
Email: mpsonnenfeld@gmail.com

## 1 Welcome!

Welcome to the second semester of General Physics. Successful completion of this course satisfies the general degree requirements for physics at Tech.

### 1.1 Course Goals

You will gain a working understanding of Electric and Magnetic fields, charges, currents and voltages. You will be exposed to simple electric circuits and properties of light.

### 1.2 Websites

The main site is <http://kestrel.nmt.edu/~rsonnenf/phys122/phys122.html>  
Here you will find syllabus, sample tests, and lecture notes.

### 1.3 Questions and Corrections in Lecture

I strongly encourage questions in lecture, and know it takes courage to ask a question in front of 50 of your peers. Questions make the lecture much more interesting and relevant for all. Extra credit points will often be given for questions, and always for corrections or clarifications.

### 1.4 Textbook/Workbook

Required Textbook: *Physics for Scientists and Engineers*, Randall Knight, Third edition, with workbook and Mastering Physics supplement.

## 2 Honesty

### Academic Honesty

New Mexico Techs Academic Honesty Policy can be found starting on page 59 of the NMT catalog, [http://www.nmt.edu/images/stories/registrar/pdfs/2013-2014\\_UNDERGRADUATE\\_Catalog\\_FINAL.pdf](http://www.nmt.edu/images/stories/registrar/pdfs/2013-2014_UNDERGRADUATE_Catalog_FINAL.pdf)  
You are responsible for knowing, understanding, and following this policy. I have found Tech students to act honorably, with few exceptions. For those lapses of judgement I have taken actions ranging from failing the exam/homework in question to failing the student for the course.

## 3 Grading

Your grade includes homework (25%), exams (60%), recitation and quizzes (10%), and clickers (10%).

### 3.1 Reading Assignments

You will be asked to read roughly one chapter per week. It is important that you skim the book *before* lecture, and reread afterwards. When you read, I recommend you calculate along with the examples using pencil and paper.

### 3.2 Homework

There will be two types of homework: written problems to be turned in, and online problems which are graded automatically and immediately.

#### 3.2.1 Homework due dates (typical)

The due dates on the web-site for each assignment shall be the governing dates. Generally, homework will be assigned on Mondays by being posted on my web-site and MasteringPhysics. Written homework is usually due at recitation.

#### 3.2.2 Written Homework

The most important part of solving a physics problem is figuring out how to start. Even if you are working with a group, it is critical to personally suffer through the *Visualize* and *Model* steps that Knight talks about.

Worked problems should *always* show a 3x3 inch figure (*Visualize*), the fundamental equations used (*Model*), and an orderly series of steps (*Solve*) leading from fundamentals to answer. Numerical answers without physical units are incomplete, and points will be deducted.

**Late written homework:** Written homework will lose a letter grade for each class period it is late, except where an extension is approved in advance.

### 3.2.3 Online Homework

Mastering Physics is the online homework system. (<http://www.masteringphysics.com/>)

The MP Course ID is **SONNENFELD2015**. If you do not type this ID correctly when you first sign up, you will need to write to customer service to fix it.

If you have *any* technical issue, customer service is here: <http://247pearsoned.custhelp.com/app/home>

I am willing to try to help you as well. I have set up the online homework system to allow up to 6 tries for each question (with only a three percent penalty for each wrong answer given). The system offers hints (with NO PENALTY) if needed.

**Late online homework:** If online homework is late, it will be accepted at a penalty of three percent per day. When the penalty gets to 50%, it goes no lower. You can still turn-in online homework for 50% credit up until the day final exams begin.

### 3.3 Clickers

We will be using iClickers (or iClicker+) during almost every class. Please REGISTER your Clicker at <http://www.iclicker.com/support/registeryourclicker/>.

For student ID, use your 900#. Clicker ID is on back of iClicker.

Every response earns you one point. Every correct response earns you an additional point.

### 3.4 Recitations and Quizzes

Assigned problems from your workbook will count as a weekly quiz. The TA will work a problems similar to the quiz problems, allow for discussion, and then give the quiz. If you understood the presentation from the TA, you should get an excellent quiz grade. After the quiz, the TA is available to assist with homework problems.

### 3.5 Exams

We will have four exams spread throughout the semester. The first three will occur during the recitation period. The last of these will occur during finals week. No exams will be dropped, but your highest exam grade will count double. During exams, cel phones should be securely stowed in your back-pack or left with the TA. Scientific calculators may be used on exams. However, use of *only* a four-function calculator will earn you a 4 point bonus. Use of a slide rule on an exam provides a 10 point bonus! (See me to request a lesson.) Answers that require a calculation but are left uncalculated will not receive full credit. Exams are closed book and closed notes. You may bring a single 3x5" index card.

## 4 Getting Help

There are many resources available to help you with problems or concepts which you find difficult. I encourage you to form a homework team, and will help connect you to other students if you need this help. You are responsible for assuring that you learn the material.

The graduate students provide tutoring at the (free!) help sessions in Workman 110 (center of the downstairs floor); check outside the door or by the physics department office to see the scheduled times.

The Office of Student Learning in Speare 110 provides tutoring from 1:00-7:00 pm Mon–Thursday. I am also glad to answer your questions during (or after) class, or at my office (during office hours).

In addition to F2F office hours, I am often available for *virtual office hours* via e-mails to [mpsonnenfeld@gmail.com](mailto:mpsonnenfeld@gmail.com). Describe the work you did and what problem you are having. You can scan in or photograph your paper or type the formulae into the computer. I often respond within an hour or two, but some nights I am not available.

### 4.1 Learning disabilities

If you have a learning disability, visit the counseling center with all speed and get a documentation letter. Please speak with me regarding how you can best succeed in the course. Do this *before the end of January*.

### 4.2 Personal issues

New Mexico Tech offers mental health and substance abuse counseling through the Office of Counseling and Disability Services. The confidential services are provided free of charge by professionals. To schedule an appointment, call 835-6619.

**Good luck, and have a great semester!**