

Physics 231: non-calculus
introductory physics I

Section 003

<http://www.pa.msu.edu/people/yuan/classes.htm>

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Office Hours:

Mon. 11:30AM-12:30PM in #3213 BPS
or by appointment

Physics : the fundamental Science
--foundation of other physical
sciences

Why Learn Physics?

Why? To satisfy my credit requirements, of course!

- To learn the fundamental laws of nature.
- To use and to apply these laws to one's profession.
- To develop the ability and the habit to think logically, reason quantitatively, and to become an educated modern problem-solver for any common problem one faces in real life.

General Physics is conventionally divided into these major areas:

First Semester (Phy 231)

- o Mechanics
- o Thermodynamics

Second Semester (Phy 231)

- Electromagnetism
- Relativity
- Modern Physics
(Quantum Mechanics, ..., etc.)

Mechanics

- o Has many basic principles that are used in the other major areas
- o Based on studies of motion by Greeks through Galileo
- o Newton's *Principia* in 1687 is the basis of our study of mechanics

How to succeed in the course?

Do well in exams! How can I do that? Follow this:

1. Prepare for the lecture:

- Read the assigned sections *before the lecture* to get an idea about what the subjects are, and what concepts & questions to focus on during the lecture.

You have to be *ready* to take advantage of the lectures!

2. At the Lectures:

- Listen to the lectures for insights and highlights which complement (but do not replace) the book; and see the demos to enhance the understanding.
- There is no need to take detailed notes during the lecture—the book already contains all material you need.

3. Studying the material:

Go over the relevant chapter in a concentrated way, digest the concepts and see how they are used in the sample problems and exercises. Repeat the process until you get a feel about the subject. Use the helproom for assistance, discussions–cooperative learning; and studying aids – e.g. Web links, ... etc.

4. Do the homework assignments:

(Worth 90% of the score, even if counts for only 17%!)

These should be relatively easy – if you have gone through the previous three steps. Attempting the homework before you have understood the material is a waste of time.

Use the helproom for assistance, discussions–cooperative learning in general. Don't ask "How do I get the answer?"; ask "How can I reason my way through the problem?".