

## Physics 42: Course Information

### WHAT IS PHYSICS?

It is the study of motion, forces, energy, waves, electricity and much more.

### EVERYDAY PHYSICS

In this course, we will answer questions such as...

- Why do astronauts float in the space shuttle?
- Why do you see pretty colors in the oil puddles in a parking lot?
- When bicycling uphill, why is it easier if you pedal in low gear?
- What makes a rainbow?
- Why do all tv satellite dishes point toward the south?
- What is Einstein's Theory of Relativity all about? Can it be understood at the high school level?

### MATHEMATICAL PHYSICS

Observation and common sense are the starting point of physics, but math is needed to fully understand many of the topics we will study. We will use mathematical concepts such as: scientific notation, percent error, basic trigonometry (sin, cos and tan), slope of graph and vectors. It's ok if you are rusty on these or haven't even seen some of them before.

**MATERIALS NEEDED EVERYDAY:** Notes and folder & calculator. Textbook can be left at home.

### WORK YOU HAND IN:

- 1) Show all calculations and/or reasoning steps. No work shown = no credit given.
- 2) Please do not use red ink on any paper that you hand in.

### HOW TO DO YOUR BEST IN THIS CLASS:

Do homework with a friend. Copying or pooling answers is cheating, but working together can be very useful. You may learn better by working with a friend, even if you're not having trouble with an assignment.

### PHYSICS ON THE INTERNET:

Course website at:

[http://home.comcast.net/~michael\\_krieger/42.html](http://home.comcast.net/~michael_krieger/42.html)

To download class notes and worksheets, you must download the free software program Adobe Acrobat Reader, available at [www.adobe.com](http://www.adobe.com).

### CLASSROOM RULE:

Do not call out answers. In this class we observe the "3 second rule".

### SYLLABUS:

On the course website if you're interested.

