

Welcome to 111/112 Physics!

Physics is an exciting, marvelous study. It involves everything we encounter in daily life and is the foundation for all other sciences. The goals of this course are to stress scientific thinking processes, laboratory techniques, data collection and interpretation, communication skills, and to show the relevance of science to society and everyday life. The skills and attitudes learned in this class can provide a solid foundation for achievement in other disciplines, not only those considered to be “science”.

The expectations of you, as students, are unavoidably high. One thing you should remember, however, is that I believe that you are more than capable of understanding and embracing what we will be undertaking. Together, we will be exploring wonderful things.

So strap in, hang on, and enjoy the ride.

Mr. Froehlich
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Here’s what you will need to bring to class every day:

- A notebook just for physics
- A scientific calculator (trig functions, at a minimum)
- Pen and pencil
- A good attitude and sense of adventure

Here’s what you *will not* need:

- Any textbook

Grading is composed of four elements:

- Labs – 30%
- Homework – 30%
- Tests & Quizzes – 30%
- Class Participation – 10%

Because each grading component contributes individually, it is important that you maintain a good academic position in each. For example, if you slack off doing homework, you cannot make up for that by doing well on a test or lab.

Although you may think class participation is small, if you are on the fence between grades, it has the ability to push you to a higher level. So stay awake in class and contribute to the discussion!

Extra credit – Although you should not require it, extra credit may be offered from time to time. If you have a suggestion for an extra credit project or activity, let me know and I’ll give it some consideration. Here’s a tip: I *will not* read a report on someone or something; so don’t bother suggesting this.

The grading scale is plus/minus with the landmarks as follows:

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
Below 60	F

Sorry, I don't tolerate late work – lack of responsibility is just not professional. All assignments are due on the date specified. Unless you have made special arrangements with me, points will be shaved off of late work.

If you are absent, you need to check our web site to find what you missed. Go to froehlichphysics.com. Click on Assignments → What did I miss? If you miss a lab, see me as soon as possible to schedule a time when you can make it up.

Another topic that requires emphasis is that of academic dishonesty. Cheating, copying, or plagiarizing published material will result in a zero for the work. This is a deal-breaker.

Science is a collaborative effort and in our class we give voice to all opinions. Regardless of the position taken, we may criticize ideas, but never individuals. I cannot emphasize this enough.

Collaboration in class is highly encouraged. If you are having trouble with a concept or are just unable to uncover a workable approach to a problem, remember that I always say, “Talk to a neighbor!”

This is most important: If you have a problem, concern, or need help, please do not hesitate to ask me. Do not wait until the last minute — this is not material that can be crammed. Generally, I can meet with you before or after class to answer questions or help with a concept.

Tentatively, the topics we will explore include (not necessarily in this order):

- Motion Along a Straight Line
- Vectors
- Force Diagrams
- Newton III
- Newton I, II
- Motion in Two and Three Dimensions
- Center of Mass
- Static Equilibrium and Torque
- Work, Energy, and Power
- Newton II Applications
- Friction
- Linear Momentum and Impulse
- Uniform Circular Motion
- Gravitation
- Rotational Motion
- Angular Momentum
- Simple Harmonic Motion
- Periodic and Standing Waves
- Sound

This of course, is all predicated on the pacing of the class. If we get through this stuff or not is *not* my concern. What *is* my concern is that you gain an appreciation of the nature of Nature.

