

Regents Physics

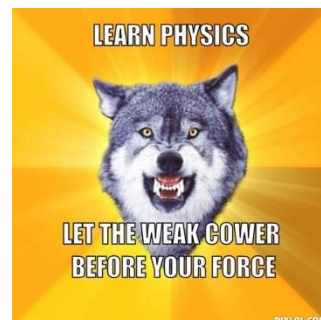
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What is physics?

Physics is the science that life has best prepared you for, as you experience much of it every day. However, its rules do not just govern our daily life, they are universal. Physics can explain everything from the nucleus of the atom to galaxies in space, including earthly activities like sports, music and driving. The theories of physics are used to produce microchips in smart phones, safer and more efficient cars and new diagnostic methods for medicine.

Physics has an ominous reputation in the minds of many people. It is my pleasure to demystify physics and help you to see its usefulness in your daily life. This class will likely be a challenge but it will also stretch your mind. Hopefully, you will find yourself a more critical thinker and better problem solver for having taken this course.



What do I need for this class?

1. The following *materials*:
 - a folder or 1.5" three-ring binder for notes and handouts,
 - a place to collect notes (notebook or loose leaf filled section of your binder),
 - a scientific calculator (not necessarily graphing)
2. *An open mind*. We may need to reconcile explanations that you have made with the explanations physics provides us. Please ask questions until you are satisfied.
3. *To make mistakes*. They are required to learn. Embrace them.

Textbook: *Physics: Principles and Problems* by Zietzwitz - keep this where you do homework.

What are we going to do in this class?

We will do a lot of hands-on activities and lab work.

Hands-on activities and labs are a key element of physics as they let you scientifically experiment, become familiar with and discover the patterns of nature for yourself. Attendance in lab is mandatory. If you miss lab, like class, YOU must see me to make up the lab.

We will utilize the technology available to us to better explore our world; we will use technology to collect data, graph data, and make simulations of the real world. You can expect to submit a typed lab report for most labs.

We will also do projects where you apply your creativity and physics knowledge

At the end of most units, there will be a project in addition to a test. The projects will involve researching, designing and/or building something that is based on what we have studied and presenting your findings. For example, when we study motion, you will be proposing, building and launching a bottle rocket and analyzing the flight of the rocket. Throughout the year, you will compile a Physics Portfolio, featuring required assignments and ones you choose that show how you have grown. More about this to come.

Problem solving, both conceptually and mathematically, as well as **collaborative group work** are key components of being successful in this class.

There will be times I will be at the front of the room teaching and ask for your quiet attention, other times I will ask for your active participation. In both, please ask questions and draw connections! It is important that you have good notes and solved problems to reference. In general, if I write something down, so should you.

During class you will be asked to solve problems based on what we've learned. In the end, you should be able to do every problem on your own, however, in order to learn, you are encouraged to work together. Collaboration is a useful skill whatever your future may hold. Some problems require organized group work, in which every person's participation is crucial!

What are your classroom policies?

- In this classroom you have right to...learn; belong; hear and be heard; compassionate treatment; be safe; be yourself; be happy.
Our classroom expectations support these rights.
- You are expected to be in class (and lab) on time every day. If you are absent, it is YOUR responsibility to see me the next day you are in school about the missed work. I will not "hunt you down."

Your grade will be calculated as follows:

Tests & Quizzes: 40%
Lab Reports & Projects: 30%
Homework & Classwork: 30%



Additional Clarification on Grades:

- Grades are available on-line via the Student/ParentPortal, please check this before asking me.
- Assuming you turn in all your work, your lowest lab grade and your lowest homework/classwork grade will be dropped.
- Work that is not turned in to the folder will receive a zero. Late work will be penalized 10% each day it is late, up to a maximum of 50%. After two cycles, labs will not be counted toward the 1200 minutes required to take the Regents exam.
- You are highly encouraged to WORK TOGETHER with your peers. However, your work should be your own. I have zero tolerance for any form of plagiarism.
- Tests & quizzes are announced well in advance and will be posted on the calendar on the **class website**. If you are absent on this day, you can expect to take the test/quiz the next day that you are in school. Just like when you miss class, seeing me is YOUR responsibility.
- You may find that the tests are challenging; if you do well on the tests you can expect to do well on the Regents exam. You may do corrections to increase your test grade.

What if I am struggling?

You can come and see me after school just about every day (tell me first). You can also come during FLEX or any free periods we might share (see my schedule on the website). Please talk to me about any concerns you have as soon as possible.

This class is set up so that everyone making an honest effort will succeed. If you complete homework on time, study for tests, and see me for extra help, we will have a great time!!!