

Honors Physics

Welcome to Honors Physics! Throughout the year we will be using observation, testing and application experiments along with multiple representations in order to construct knowledge of physics concepts and ideas. Just like scientists, this class will involve both individual work as well as collaborative group work in order to solve problems. The goal of this course is for students to become scientifically literate and use scientific reasoning to analyze the world around them. You can be successful in this class if you work hard and ask questions.

Contact Information

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Materials

For this class you will need the following materials

- Notebook/paper to work in and take notes
- Binder to place all handouts in
 - NOT a folder!
- Calculator
- Pencil

Textbook

There is a classroom set of textbooks. A copy of the textbook for home use is available upon request.

- Physics, Fifth Edition, Wilson & Buffa, Prentice Hall, 2003.

Topics Covered

- Kinematics
- Dynamics
- Circular Motion and Gravitation
- Momentum
- Energy
- Torque and Rotation
- Electrostatics
- Circuits
- Simple Harmonic Motion
- Waves and Sound

Classroom Expectations

- Please arrive on time to class
- Students should always be respectful towards their peers. This is a class where ideas and opinions guide the instruction, so respect towards others is key in order for the class to function.
- Do not impede the learning process of your fellow classmates.
- Plagiarism and cheating are serious infractions and will be treated as such. If it is found that you have cheated or plagiarized you will receive a zero for the assignment and you will be referred to the assistant principal. This includes all individual submitted labs. In instances where there is more than one person involved, both people will be disciplined equally.
- If you are absent, you will be expected to obtain missing work and make-up any missing work. If you miss a test or quiz you need to make it up as soon as possible, preferably 1 day after you return to school. If you know you will be missing in advance, please inform the teacher so that arrangements can be made to make up any work you will miss.
- All work done outside of class must be completed on your own unless otherwise stated.

Grading and Resubmits

This class will consist of homework, formal labs, quizzes and tests. Grades will be calculated based upon a total points system. All assignments are to be completed individually unless you are told otherwise.

Homework: Homework will be assigned frequently, and will usually be submitted in Google Classroom and will be graded for effort and completion only, not correctness. However effort on the homework problems is highly correlated with content mastery and test scores. We will generally not discuss the homework problems in class, although answers will be provided. It is your responsibility to ask questions or come for extra help if needed.

Lab Reports: The lab reports will consist of both informal and formal labs. While the design and performance of a lab investigation is a group task, the lab report you submit must be your own work, written in your own words. Additionally, one or two times per marking period your group will submit a formal lab report. Rubrics will be provided.

Quizzes: Quizzes will be given occasionally in the middle of a unit in order for you to assess your understanding of the topics in a unit. You have the opportunity to resubmit your quizzes in order to get a better grade. In order to do this, you need to correct the mistakes you made on the quiz along with a short explanation as to what you did incorrectly the first time and what you learned. You can only receive a maximum of half of the points back that you originally lost. For example, if you had a grade of 70%, then the maximum grade you could receive after you do your re-submit is an 85%.

Tests: Tests will be given at the end of each unit. Your grade in this class will primarily be based on your test scores.

Helpful Advice

Below is some advice from the students who took Honors last year.

- Make sure to keep up with the homework or you will get lost
- If you do the review problems that you post in addition to the study guide it is not hard to do well
- Take notes, don't just complete packets, notes are very useful
- Do the practice problems, learn from the mistakes you make on them, and try your best to really understand the math and why it works instead of just memorizing and regurgitating equations.
- Do NOT think that you can take any tests or quizzes by "winging it". Do not fail the quizzes just because you get half the points back
- Don't play on ipads. Make sure you focus on what is being discussed
- Don't bank on just knowing equations numerically. You want to understand what the equations mean.
- The thing about physics this year for me was that at times it was very easy and then it would get very hard, only because of the material. I would say don't stop putting your best foot forward, especially in the beginning of the year when things are a little easier
- It is way easier, in my opinion, than honors chem, and to not stress. It is more about problem solving and logic than studying topics that don't entirely make sense.
- I wish I knew that everything in physics builds off of each other. It is June and we are still using kinematics and kinematics equations in topics we've covered recently. I wish I knew to not just throw kinematics out after the test. The same goes for dynamics especially.
- I wish I knew that the first two marking periods were the easiest, but still required work. I actually did better in the second half, which was much more difficult, because I applied myself more.