

Honors Physics Syllabus

Welcome to Honors Physics!

This semester will be full of activities, challenges, and learning. You will learn about the physics of our world, and apply your new knowledge and skills to real life situations.

Georgia State Standards

By the conclusion of the course, the student is expected to meet the requirements of the Georgia State Standards for Physics. These standards are for the skills and processes needed to complete scientific investigations as well as for physics content.

Course Text:

Wilson, Buffa, and Lou, "Physics" sixth edition, Pearson Education Inc. 2007.

Students will be required to read the equivalent of 1 science textbook or 2 science articles.

Grading Procedures

Student grades will include quizzes, tests, lab reports, homework, and projects. Formal lab reports are to be prepared following the standard lab report format distributed in class. A scoring rubric for formal lab reports accompanied this format.

Partial credit is given on most assignments. Grades will be classified as formative and summative. Formative grades are grades earned during the learning process, and summative grades are assessments of concept mastery. Each formative grade will be given a 30% weight, and each summative grade a weight of 70%.

Homework Policy

Homework will be given some nights and weekends. It is important to complete the homework to master the concepts taught. Every school night the student is to review the daily outcomes presented in class. It is the responsibility of the student to make sure he or she has completed the outcomes each day. The course text is supplied as a reference for the course. If any questions remain concerning the material covered during class, the student is expected to review the appropriate sections of the text to further his or her understanding of the material. If questions remain after reviewing class notes, relevant lab data, and the text, the student should prepare questions to ask at the beginning of the next class to clarify the material.

Absences

It is the students' responsibility to check with the teacher before or after class or school to obtain missed work. Check with another student to get notes from missed classes.

Arrangements must be made within 3 days of an absence to complete missed work. If you are in school part of the day an assignment is due, it must be handed in that day either to the teacher.

Online Resources

Students will be using several online resources and will on occasion turn in assignments online via email.

Course Outline

Each unit will include short laboratory activities to explore the concepts covered and longer laboratory challenges in which students will be asked to apply the knowledge and skills learned during the unit to accomplish a specific task. Lab work is specifically designed to challenge the preconceptions that students bring to their study of physics. These preconceptions are based on previous observations of the natural world and explanations of these observations assembled from a sometimes flawed understanding of the interactions of matter and energy in the natural world.

- . Conservation of Energy
- . Linear Motion
- . Forces
- . Electrostatics, Circuits, and Magnetism
- . Waves

Classroom Procedures

There are four rules for the physics classroom:

- . Be in your seat with your notebook out beginning your opening assignment when the bell rings.
- . Respect others and their ideas.
- . Be honest.
- . Treat equipment with respect.

If any of these rules are not followed, the student will receive a warning. If a second warning is needed a parent will be contacted by the teacher to discuss the problem and a detention will be assigned. If a third warning is needed, the student will be referred to an administrator. All school rules are strictly enforced in the classroom.

Hall passes are available for emergencies only.

Laboratory Notebook

A laboratory notebook is where a scientist keeps track of the progress of his or her research. **I recommend a graph lined college composition book.** While the laboratory activities completed in Physics do not qualify as original research, it is important to develop the skills needed to maintain a clear, concise record of your lab work. Loose leaf paper is never appropriate for a lab notebook. All data and observations must be recorded directly in your laboratory notebook. Data collected from the computer, or analysis completed using a computer can be printed out and pasted in your lab notebook. If you look through your laboratory notebook several months after having completed an

experiment you should be able to understand what you did, why you did it, what results you found, and what conclusions you were able to draw from your results. Your record of each experiment should include the following information:

- . Title, date, lab group members and roles
- . Purpose of experiment
- . Sketch of equipment or apparatus
- . Experimental data
- . Calculations and Graphs
- . Results and Conclusions

Extra Help

It is the responsibility of the student to make an appointment for extra help when it is needed. I am available most days after school, but will plan to make **Thursdays** our official after school review day. I encourage students to take advantage of this offer.

Lab Safety

Safety rules will be explained before each lab activity. During all activities you are expected to work in your group, act responsibly, act safely and follow directions. Horseplay is never appropriate in a classroom. Failure to follow a safety rule is a serious infraction that will result in a parent contact and teacher detention. Repeat behavior and more serious actions will result in an administrative referral.

Have fun!

Einstein once said, "It is the supreme art of the teacher to awaken joy in creative expression and knowledge." He also said he learned all the fundamentals of physics before the age of 3 years. So, we are going to relax, cover the standards, and have some fun!