



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.

Maryland Core Learning Goals

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

Course Text

Cutnell and Johnson, "Physics," John Wiley Publishers, New York, 2007.

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 on the first day of 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 most 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 your 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 or in the teacher's mailbox in the main office.

Online Resources

Students will be using several online resources throughout the course. There is a course wiki that provides course information and collaborative activities, an online homework service, and course email addresses. The email addresses are through gagle.com, which is a filtered, moderated email address. The teacher is the administrator of this email service and can read all emails sent and received in student accounts. Students may also have blogs and a discussion area attached to this email service.

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.

- Kinematics
- Forces and Newton's Laws
- Conservation Laws
- Fluids
- Waves and Sound
- Electrostatics, Circuits, and Magnetism
- Electromagnetic Waves

Classroom Procedures

There are four rules for the physics classroom:

- Be in your seat with your notebook out beginning your opening question 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.

Academic Dishonesty

Academic dishonesty is giving your answers to another student, taking someone else's answers or allowing someone else to copy your answers. Academic dishonesty is a serious offense and will result in a zero on the assignment, a parent contact, and an administrative referral.

Laboratory Notebook

A laboratory notebook is where a scientist keeps track of the progress of his or her research. 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. 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.

Re-Take Policy

Unit assessments may be retaken if all formative assignments have been attempted during the unit, and a maximum score of 80% has been earned by the first take of the test. Only one retake per assessment is allowed. Arrangements must be made for a retake within three days of receiving a grade for a unit assessment. Each formal lab report may be revised once for an improved grade.