

Physics I — Course Objectives and Class Expectations

Welcome to physics!

Our goal will be to learn as much about the field of physics as possible, to learn to become more efficient students, to help each other achieve the objectives.

Objectives of the course

As a result of completing this course, the students will be able to:

1. Reason effectively, think critically, and solve problems.
2. Communicate effectively and apply the basic concepts of physics in speech and writing.
3. Identify and solve problems through scientific inquiry (formulation of hypotheses, design of experiments, use of technology, analysis of data and drawing conclusions).
4. Select and properly use appropriate laboratory technology, equipment and materials, including measuring and sensing devices (i.e. CBL probes and sensors, and graphical analysis software).
5. Understand and apply relationships between science, mathematics and technology in processing and interpreting experimental data (i.e. regression analysis on graphing calculators).
6. Prepare and present oral and written formal reports (and demonstrations) that communicate the results of scientific experiments and research.
7. Use educational, business and industrial technology to create products (science projects).
8. Utilize resources including media, computers and other technology for research.
9. Link physics concepts to common experiences outside the classroom.
10. Identify ways in which basic physics concepts are being incorporated into new inventions and technologies that could change how we live.
11. Connect the knowledge of the classroom with real-world challenges and realize how crucial science is to being an informed citizen.

Course overview - Textbook: Paul Hewitt "Conceptual Physics" and additional handouts to supplement the textbook.

Unit 1 - Mechanics

Unit 2 - Properties of Matter

Unit 3 - Heat

Unit 4 - Sound and Light

Unit 5 - Electricity and Magnetism

Unit 6 - Atomic and Nuclear Physics

* An outline of objectives and activities will be handed out at the beginning of each chapter

Materials

1. 3-ring loose leaf binder and paper for notes.
 2. TI-83 plus or TI-84 plus graphing calculator will be used extensively.
 3. Laboratory notebook – composition style, **not** a spiral notebook. They are available in the Knight Spot.
 4. Protractor, ruler and writing materials.
 5. Textbook and handouts.
- * Keep all homework and notes in order and without other course notes.

Make-up work

If you have an excused absence **you are responsible** for determining the missed work. It is not the teacher's responsibility to warn you that you missed something! You will be required to make up a missed test the day you return if the only day you have been absent is the day of the test. Since many times you know ahead of time that you will be missing class, you **must** make arrangements with me **in advance** to make up work that will be missed. This includes music and sports events, college visitations, etc. Missed lab work may be made up during or after school **within three days** of the missed lab. Missed handouts will be placed in class folder. It is your responsibility to check the folder when you return to school.

Grading

Grading is on a point basis. Homework, lab reports, projects, tests and notebooks will be worth a total possible number of points. The total number of points that you have earned will be divided by the total number of possible points for the quarter and the result expressed as a percentage. Point values: Projects 100, Tests 100, Quizzes 10-50, Lab reports 20, Homework 10-20, and Notes 20. A computer printout of the student's grades and average will be distributed after each test. There is no rounding up to the next grade – see GradeQuick distribution. See also "Participation" section.

Homework

All homework (assigned every day) will be listed on the chalkboard. **The website at <http://members.cox.net/savram2> will be updated weekly to show: due dates for lab reports; labs to be prepared; test dates; special projects with links to useful resources; and occasional quizzes.** Students are expected to be prepared for each lab **before** they are allowed to complete it. For each lab, include the title, purpose and data tables on a new page in your lab book. Homework, notes and lab books will be collected and graded periodically. Keep all assignments in order according to each chapter guide. If you expect to have a successful year in physics, you must keep up with the assignments every day. Copying lab reports, answers to discussion questions or other assignments will result in a grade of zero.

Lab Reports

A formal lab report is expected from each student on the assigned due date. Keep in mind that the weekly reports make up a large percentage of your grade. You must participate in the lab (not just watch) in order to achieve a good grade. It is expected that all lab reports will be computer-typed.

Deadlines

Late work will be accepted with a loss of 50% for each or part of day late. No late work will be accepted after two days or in the case of unexcused absences.

Participation

It is expected that everyone will participate in class discussions and be attentive. Critical, logical thinking will be very important. Therefore, keeping current with reading assignments is a necessity. Class discussions offer one of the best opportunities to share information, ideas and individual viewpoints that are extremely important in your understanding of this course.

It is also expected that each student will apply him/herself in a responsible manner on a daily basis in class. Therefore, a portion of each individual's quarter grade (one test grade - 100 points max) will deal with their participation and application in class.

Quizzes and Tests

Tests are given every two or three weeks and will be announced in advance. Quizzes may be given at any time without warning. Test-taking is terminated when the bell rings at the end of the period.

Extra Credit and Projects

No extra credit will be available to improve your grade. Occasionally, however, opportunities for the entire class to earn credit may arise. A project will be assigned for each semester and graded as a test.

Extra Help

I will be available any day for help after school except on days with faculty or department meetings. Also use your study halls and my resource periods. My e-mail address: marvasa@aol.com and my home phone: 860-633-0697.

Student Conduct (See also "CLASS RULES" posted in the classroom)

Specific concerns include:

1. Students should conduct themselves with consideration for the rights, safety and feelings of others. No "horseplay" will be allowed in the classroom or in the laboratory. Discourtesy will not be tolerated. Students are expected to show personal honesty at all times.
2. Students may be given class time for group work on problems. Wasting time or fooling around will not be tolerated.
3. Break time during double lab periods is not a right. A brief stretch or visit to the water fountain may be allowed, but visits to the cafeteria are not permitted. Violation of these guidelines will forfeit the right to leave the classroom during break.
4. Students are expected to work with and help each other to achieve the objectives. However, direct copying will result in loss of points for BOTH the copier and the lender. Cheating will result in grade of zero.
5. All injuries and breakages should be reported to the teacher.
6. Students will be responsible for the cleanliness of the assigned lab station.
7. A good attitude will make a huge difference.

We have read the expectations for Physics I. We understand and accept these expectations.

Your signature

Parent's signature

Date
