

## Physics I Syllabus ISPS / 2009-2010

Physics rules the universe! There is nothing that does not obey the laws of physics. With a few concise but very powerful ideas one can explain an amazing array of phenomena. In this class, we will be focusing on important concepts that help us to understand physical world in which we live. Our class will include a variety of activities that you will be expected to complete in order to improve your abilities in science methods in general, and physics in particular.

**TEXT:** *Holt Physics*, by Serway & Faughn

### TOPICS:

#### *Unit Topics*

#### *Time*

1 Math & Science Tools, Units, Order of Magnitude, Significant Digits, Accuracy

1<sup>st</sup>

Quarter

2 Motion in One dimension, Constant Acceleration

3 Forces, Newton's Laws, Vectors

4 Motion in Two Dimensions, Universal Law of Gravity

2<sup>nd</sup>

Quarter

5 Momentum and Impulse

6 Work, Energy, Conservation of Energy, Semester Exam

7 Current Electricity

3<sup>rd</sup>

Quarter

8 Series and Parallel Circuits

9 Waves

10 Properties of Waves, Sound, Light 4<sup>th</sup>

11 Optics, Diffraction and Interference, Final Quarter

### Grading

**POINTS** - Your grade is based on the number of points that you accumulate. The percentage of points you get compared to the number of possible points determines your grade.

Note: This is NOT a curve. If everyone in the class earns 90% of the possible points then everyone will receive an A-. (This goes for everyone earning a 68% (D+) as well!)

**DAILY WORK** - About 40% of the possible points will be based on daily work, homework and group projects. This includes labs and reports. It is important that your daily work be very neat. Your name, date, and class period needs to be in the upper **right-hand** corner.

### NOTEBOOK:

- Students are expected to take notes in class. Everything we say or do may appear later on an assessment (test, quiz, exam, etc.)
- Must be **in class and up to date** each day. Loose-leaf binder is best.
- When **absent**, do as much of the material on the website as you can. Then ask me questions about what you can't figure out.
- Includes all homework, all lecture notes, explorations, video notes, computer/calculator explorations, labs.
- Also includes all graded and corrected assessments such as projects, writing assignments, presentations, quizzes, tests that are not filed in student's assessment portfolio.

**QUIZZES AND TESTS** - These will determine approximately 60% of your grade.

**LATE WORK** – Homework is not accepted late. Other work received late will receive a maximum of 1/2 credit. No late work accepted after one week. Computer problems will not be accepted as an excuse; make a backup and don't wait until the last minute. Tests will be made up after school.

**CHEATING** - Cheating includes copying lab work, homework, or other class work from another source, including a classmate. It also includes talking/sharing during a test or quiz and giving or receiving answers on tests or quizzes.

**This type of activity will not be tolerated.** Do your own work. The consequences of cheating are:

1<sup>st</sup> time - 0 on the assignment or test.

2<sup>nd</sup> time - F for the quarter.

## **PROCEDURES**

*Students enrolled in physics are expected to use solid study skills. This is not a course in which a student can simply attend class and learn the material.*

# **P**

*Active participation in class activities, completion of all work assigned, and solid preparation for tests is a minimum requirement for success. Solid effort will be rewarded in this class.*

The following list of procedures is necessary for this class to be a good learning environment. As a class we can add to this list if we see that more procedures are needed. *The key to a good classroom environment is mutual respect.*

- Each student is expected to show respect for the teacher and other members of the class by **not talking when another person is talking.**
- If a student wishes to be recognized, a **hand should be raised** first.

**STARTING CLASS** - Class begins when you have entered the room. You need to be in your seat when the bell rings.

Look and listen for instructions on how to begin the lesson. Three tardies will result in a detention.

**CLASSROOM BEHAVIOR** - Behave responsibly; stay on task. No foul language; no horseplay. Remain in your seat unless given permission to leave. Only in emergency situations will anyone leave the class. Ask questions, have fun, and learn.

**CLASS LECTURE** - This is a time for you to take good notes. No talking during lecture. Raise your hand to ask questions. Note that lecture and discussions will ebb and flow throughout the course fairly informally.

**CLASS DISCUSSION** - Take limited notes during discussion; instead get involved with the discussion. Every question and comment is a good one; if you ask a question chances are that other people are wondering the same thing.

**GROUP SESSIONS** - These are times for you to help each other learn. You will be given specific tasks for your group to accomplish; work as a team. Have fun in your groups but group sessions are not social hours. (Ask him to the dance after class.) Every member of the group is required to actively contribute to the task at hand.

**CLASS MATERIALS** - You need to come prepared for class. Bring the following regularly:

1. Pencil, Pen
2. Color marking pens or pencils
3. Highlighter pen(s)
4. **Protractor**
5. Hardback loose-leaf notebook with notebook paper and **graph paper**
6. A graphing calculator, TI-82 or TI-83 or TI-84, is highly recommended.

**SPECIAL SAFETY CONCERN:** No open toe shoes. Dropping something on your foot during a lab or demonstration can be very painful with this type of footwear.

**As a member of the ISPS community, you get to abide by all school rules and regulations!**

Physics requires thinking to be successful. If you have been successful in school previously, but were spoon-fed and memorized everything, you will find this course difficult. If you make an effort to think and problem solve for yourself, you will **succeed**. This is my goal for you, but **only you can make it happen**.