

AP Physics

Summer Assignment 2009

Expectations & Syllabus

- I. The AP Exam is scheduled for the beginning of May, which means that you take the exam one month earlier than school ends. The summer homework will allow us to start on the Physics subject matter immediately when the course begins. This packet is a math review to brush up on valuable skills.
- II. Physics and AP Physics B in particular, requires an exceptional proficiency in algebra, trigonometry, geometry and some introductory calculus. In addition to the science concepts, Physics often seems like a course in applied mathematics.
- III. The AP Physics course in Blackboard is set up for you to auto enroll. Attached are directions for the automatic enrolling process. The course to locate is "526.lrush1.APPhysics" and the pass code to use is "apphysics" which you enter after you click on the enroll button. All students must be enrolled in the course to receive updated material. Browse the material and resources available. This document, a "Math Review" document, a "Honors Physics Concept Review" document, and the handout "How to Be Successful in Physics" are available for you to review.
- IV. What is due on the first day of school? Yes, that means that you will need to have your summer assignment packet dropped off in my room (2516) on the first day of school. If you cannot locate my room, please contact student services.
 - A. Honors Physics Concept Review Packet (I do not re-teach the material already learned in your Honors Physics class)
 - B. The "Math Review" packet, which can also be found on the Blackboard site under the same button.
- V. You may contact me during the summer at my school email: lrush1@wcpss.net I will check my email twice a week and respond to your emails promptly.
- VI. What is due on the first day of class?
 - A. A three-ring binder with the following signed documents with a copy for you to keep in the binder (all documents will be available on Blackboard in September, 2008):
 1. Class Policies and Expectations Sheet
 2. Safety Contract
 3. How to Be Successful in Physics
- VII. There will be a test given on the second week of class on the material covered in the Math Review and Physics Concept Review packets. The summer assignment "Math Review" and "Physics Concept Review" together will be equal to 50% of the test grade and the actual test equal to the other 50% for 100 test points.
- VIII. What if I don't get all the problems or don't understand the instructions?
 - A. Email me at my school address above
 - B. Simply do the best you can, but show some work / effort in order to receive credit.
 - C. Come to class the first day with your questions, and we will review your questions for the test.
- IX. Students who move in to the area in August will have one additional week to get the summer work completed and will take the test as scheduled. Students are new to Panther Creek after the third day of school, will be given two weeks to complete the assignment and take their test one week after that day.

AP PHYSICS B – COURSE EXPECTATIONS

Contact Information: lrush1@wcpss.net

SMART lunch is available twice a week
Tutoring is scheduled after school as needed

Course Description:

This course provides an introduction to both classical and modern physics. AP Physics B is a 2nd year physics course that will prepare the student for the AP Physics B exam. This college-level physics course will cover Newtonian mechanics, fluid mechanics, thermodynamics, waves, sound, optics, electricity, magnetism, atomic physics, nuclear physics, and special topics. Students will build upon their first year of Physics and as a result, the student will gain both a deeper appreciation of the concepts of Physics and additional problem-solving skills. Computer based labs will help the student understand the concepts covered in the course and deepen the student's appreciation of the scientific method. The course focuses on developing conceptual understanding and problem-solving abilities using algebra, trigonometry, and some pre-calculus skills.

Supplies: 1 – 2 "Composition" Notebooks for lab exercises and notes (graph type for lab)
TI-83 or higher model graphing calculator, graph paper, notebook paper
3-ring Notebook to hold handouts/review guides
Home & Class Use: protractor, ruler, colored pencils

Expectations:

In order to meet the high standards expected at Panther Creek and to provide an opportunity for ALL students to learn, the following expectations will be implemented in this class.

- Be present and on time.
- Be prepared and engaged in learning.
- Be a person of character.
- Be safe and comply with PCHS and WCPSS policies.

Tardies - If you are tardy to class, please sign the tardy log.

1st – Warning

3rd – Admin. Lunch Detention & parent contact

2nd – Contact Parent

4th – Administrative Referral

Grading:

You are going to be in a challenging course, and meeting this challenge will take conscientiousness on your part. You are literate and competent to read, understand, and write about the information presented, both in the textbook, in the classroom presentations, and in the laboratory activities. You provide your own motivation for being here and learning. When textbook reading assignments are given, you will read thoughtfully and completely. Class time will be used for learning experiences, interaction, and questions. Questions not asked will be answered on your own. The grading scale is as follows:

70% Tests & Quizzes

25% Labs & Presentations

5% Homework

20% Final Exam

The final exam will be cumulative, covering material that was learned during the course of the semester. Students are required to take the Physics EOC if they did not take it earlier.

Time Commitment and Expectations:

Students are expected to spend at least five hours a week on homework or independent studies in addition to the daily 90-minute class period. Tutorial will be offered during SMART lunch on a continuous basis. Students are urged to buy a study guide to review, practice, and prepare for the AP exam.

Problem Sets:

It is extremely important to understand that watching someone solve a problem when you have not yet attempted it yourself is of little or no benefit. Students must at least *attempt* to solve homework problems before seeing the correct solution if they expect to make any progress in the course.

You should also understand that there is a big difference between an "answer" (the numerical result at the end of a problem) and a "solution" (the procedure by which one arrives at an answer). In physics, answers count for very little--*solutions* are everything!

At the beginning of each unit you will be given an Assignment Sheet containing the reading assignments and problem set problems for that unit. Homework assignments will be assigned 3-4 times per week. A handout will be provided that explains how to properly complete homework problems. Regardless of the purpose (tests, quizzes, homework, class activities), problems will be graded on a 10 point system:

1. 1 point for identifying the correct given information
2. 1 point for a diagram or drawing that represents the problem
3. 1 point for identifying the proper formulas to use
4. 2 points for manipulation and derivation of the formulas used to solve the problem
5. 2 point for identifying your reasoning or your approach (described in words) to solving the problems
6. 1 point for calculation
7. 1 point for the correct significant figures, and
8. 1 point for correct use of units

No points will be given if the first 4 sections above are not earned.

Labs:

Labs are a required part of the AP Physics B course (The College Board requires that AP courses include a lab component). All AP Physics labs are hands-on labs or computer based and in a format that includes lab reports. Some colleges will only grant credit to students who have completed the labs and may require completed lab reports as proof of actual lab experiments. Students are required to do the labs in a laboratory setting while supervised by the teacher and will work in a group setting as well as on individual assignments. Labs are designed for at least two class periods.

Specific Topic Projects:

Each quarter students will sign up for a specific topic project. The project requires reading the section in the book on the topic, research in addition to information provided, a powerpoint presentation to the class, and a handout with an outline of physics content and problem solving information. Due dates and a list of topics are available on the first day of class.

Missed Tests or Assignments:

It is your responsibility to make up any missed tests or assignments. **Please familiarize yourself with School Board Policy 6000.4 & 6000.5 concerning make-up work. Check with me to make arrangements for makeup work or extra help. Be sure to check SPAN on a regular basis to see how you are progressing in class and to check on missing assignments.**

Assignments may be accepted late **BUT** will drop a letter grade (7%) for each day it is late from whatever grade is made on that assignment. Assignments will **not** be accepted late after graded papers have been returned or discussed in class.

Extra Help and Student Support:

You are not alone in your quest to master physics. Communicate with your peers. In this course you will need to rely on your fellow classmates for help and support. You are all in this together so help each other out. It is strongly suggested that you set up study groups in which to work. However, if none of your fellow classmates can help you with a difficulty you are having, come see me.