

**PHYSICS**

Welcome to Physics! I hope that you are looking forward to having a great year at Richmond Hill High School. I am glad to have you in this class. During the year we will be learning about topics such as scientific notation; kinematics (study of movement); projectile motion; forces including gravity, friction, & springs; Newton’s Laws; momentum; energy; electricity including Ohm’s Law; magnetism; waves; and quantum mechanics. As we study physics which is a natural science that involves the study of matter and its motion through space and time, we will be reading, writing, doing group work, individual work, using interactive resources, using computer simulations and probeware.

1. COURSE DESCRIPTION

Thiscourse provides students with a modern view of the fundamental concepts of physics and is designed for students who are planning to major in the sciences, medicine, or engineering in college. The major topics covered in physics are energy, electricity and magnetism, waves, and modern physics. This class includes extensive inquiry-based laboratory work with lab reports based on evidence found while analyzing collected data. This course is a laboratory science course that provides understanding of many of the scientific principles we meet in our lives. This course helps to develop reasoning power and critical thinking by exposing students to problem solving laboratory situations.

1. COURSE OBJECTIVES

At the end of this course the students will be able to:

* Discuss science as a body of knowledge and an investigative process.
* Understand that science is a way of knowing and that technology is a way of adapting
* Conduct scientific investigations systematically.
* Organize and interpret Graphs and Tables to express patterns and relationships.
* Apply appropriate units, significant figures and algebraic expressions in measurements and calculations.
* Understand the role, place, and interactions of matter and energy in the universe.
* Understand the characteristics that are unique to energy, electricity, magnetism, and atomic phenomena.
* Use written and oral communication skills to explain scientific phenomena and concepts in an appropriate manner.

1. MATERIALS
   1. Textbooks
      1. Physics (2012). Orlando, FL: Holt McDougal. (This is the black textbook).
      2. Cook, B.H. (2009). Prentice Hall Brief Review for the New York Regents Exam. Physics: The Physical Setting. Lebanon, ID: Pearson. (This is the Blue, soft covered review book).
      3. Welcher, Sharon H. (2011). High Marks: Regents Physics Made Easy, The Physical Setting. Forest Hill, NY. (This is the White book which you brought home and will be used for homework assignments.
      4. Supplementary material will also be used.
   2. Castle Learning: Each student should check their Castle Learning account for weekly Regents Review assignments.
   3. Engrade: We will use Engrade.com to report your grades. You are expected to log in to Engrade at least once per week and obtain any missed work.
      1. If you would like to improve a grade on an assignment you are always welcome to correct mistakes and resubmit for an increase score.
   4. Each student should bring to class, every day, and the following items:
      1. Science Notebook (this notebook is to be used in this class only).
      2. Pen AND pencil
      3. Scientific Calculator
2. EXPECTATIONS
3. All students are expected to complete all assigned work – homework and class work.
4. You will be assigned homework three nights per week.
5. You will have one quiz per topic and one benchmark assessment (exam) per unit. If a unit is very long there may be two tests to cover it. There may be an essay on each test
6. All assignments and test must be completed in blue/black ink or pencil only.
7. Being an inquiry-based class, weekly laboratory investigations are required. Lab reports are to be submitted no later than 1 week after the investigation.
8. Make up work is your responsibility. All weekly handouts are put in the daily folders located on the wall. If you are absent, then get the notes from another student. Upon your return to school, you must make an appointment to make up the work you have missed. NO MAKEUP WORK WILL BE ACCEPTED AFTER A UNIT EXAM HAS BEEN GIVEN.
9. GRAPHING: All graphs for this class must be hand drawn on real graph paper. Graphs which don't meet this requirement will earn no credit.
10. CLASS RULES
    1. Be in your seat BEFORE the late bell rings
       * If you are late then you must sign the late book.
       * Repeated lateness will result in a phone call home.
    2. Absolutely NO food, drinks, or gum during lab.
    3. RAISE your hand if you wish to speak. NO calling out.
    4. Bring you best behavior to class.
       * Respect YOURSELF, respect ME, and respect your class.
       * DO NOT:
         + Interrupt someone who is talking
         + Call out questions or answers
         + Be rude or insult anyone in class
         + Run, push, throw any objects
    5. If you are having difficulty maintaining any of the behaviors listed above then you will be requested to modify your behavior. If you have to be asked more than twice to modify your behavior then a phone call home will result.
11. EXTRA HELP
    1. Periods 2 & 6 (by appointment only)
12. GRADING

**The following is the Engrade weighted assignment category model:**

* Exams & Quizzes 25%
  + During a unit, a varying amount of quizzes and one unit test will be given for assessment. Points will vary on each assessment. Test and quizzes are made up of multiple choice, short answer, and essay. You will take a pre-test (not graded) at the beginning of each unit. Through active class participation and doing the required reading and homework assignments, I am confident that each student will demonstrate growth on the unit test.
* Labs & Projects: 20%
  + Since this is an inquiry-based lab class, students are required to critically think about scientific phenomena, gather data and draw conclusions based on evidence. Lab & Projects serve as powerful learning tools to understanding unit concepts.
* Classwork: 10%
  + Students are expected to complete all classwork during class.
* Homework: 10%
  + The amount of homework will vary based on the topic being covered. Points will be given for each homework assignment.
* Literacy Portfolio 10%
  + Students will receive a folder to keep samples of their work in the classroom. When placing an assignment in the literacy portfolio, students will log the assignment including date, grade, and a brief written reflection on what they did well and what they can do differently next time to demonstrate growth in their learning.
* Science Notebook: 20%
  + Each student will be required to keep a single science notebook. We will use the Cornell Style Note practice. By using the Record-Reduce-Recite-Reflect-Review you can maximize your understanding while also developing skills to succeed in college and career.
* Class Participation: 5%
  + Attendance
  + Completing Castle Learning
  + Logging into Engrade at least once per week

Please read and have your parents read this carefully. Please sign and have a parent sign in the appropriate places below.

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