

Regents Physics – 2018-2019

Instructor:

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Course Description: This course is designed to give the students a general knowledge of physics in a wide range of topics, such as Newtonian mechanics, electricity and magnetism, and modern physics that will prepare students for success on the NYS Regents exam. In keeping with the district's vision of helping develop citizens of the world, this course will include both theory and application to daily life by using various technologies, such as Vernier probes.

This course is designed using the New York State Core Curriculum for the Physical Setting/Physics in conjunction with the Common Core Learning Standards.

Required Materials:

1. Whatever you use to take and organize notes most effectively
2. Scientific calculator
3. Pens, pencils, erasers

Expectations:

1. Try your hardest!
2. See me if you have ANY questions. Barring an emergency, I am available after school EVERY DAY unless I give notice.
3. Never ever feel that you can't succeed in this class. You have a wide variety of support to help you, including your peers and myself.
4. Come to class! For every one day you miss you're missing 82 minutes of material.
5. Come to class ON TIME! You will be marked late if you come to class after the bell.
6. Come to class prepared! Make sure you have your pen/pencil, your notebook, and your calculator.
7. Complete all assigned work and hand it in on time. There will be a penalty for late work. The penalty will be appropriate to the amount of points the assignment is worth.
8. Try your hardest and come see me if you have ANY questions!!!!

Work:

1. Do Nows – These assignments will be at the start of every block. The questions will be on the board, and collected. They will be graded and returned to you at the start of each week. Should you be absent, you may make up a do now, but it must be before the start of the next block. For example, if you were absent Monday, you must make up the assignment by start of class Wednesday.

2. Homework – Homework will consist of various assignments in different forms. Some days it will be practice problems focusing on what was done in class, consist of castle learning assignments to help study for a quiz, or doing a lab.
3. Science current events - Once a month you will be required to look up an article from a reputable source about a scientific discovery. The article does not have to be physics specific. You will write a one page summary of the article and email me your summary and a link to your article by the end of each month.
4. Labs – In order to be eligible to take the regents, you will have to successfully complete a certain number of labs. Lab work will consist of handing in the original lab sheet with all data as well as a written lab report.
5. Quizzes – Quizzes will be given every few classes that will assess your understanding of the material.
6. Tests – There will be a quarter test near the end of each quarter.

Grading:

Grades will be based on a point system, which means every graded assignment will have a point value associated with it. Your grade will be the amount of points you earned divided by the total amount of points possible. Be sure to keep track of all of your grades so you know where you stand as each quarter passes. If you are unsure about a grade, ask me and I will gladly discuss it with you.

Tentative Course Outline:

Unit 0: Physics Fundamentals

- Dimensional analysis/ unit conversions
- Greek prefixes
- Scientific notation
- Measuring angles

Unit 1: Motion in one dimension

- Basic Vectors
- Uniform Motion
- Velocity
- Acceleration

Unit 2: Motion in two dimensions

- Projectile Motion
- Centripetal Force
- Gravity

Unit 3: Force

- Newton's Laws

- Free Body Diagrams

- Friction

- Vector Components

Unit 4: Work and Energy

- Work

- Energy

- Conservation of Energy

Unit 5: Momentum

- Defining momentum

- Conservation of momentum

- Collisions

Unit 6: Electricity and Magnetism

- Static Electricity

- Dynamic Electricity/Circuits

- Magnetism

Unit 7: Modern Physics

- Quantum Theory and The Atom

- The Standard Model