Portsmouth High School
Course Overview & Expectations – Physics First & Earth Science

Course Information
Credits: 1
Course Length: Full Year
Class Location: B-7

Teacher Information
Name: Lisa Zabel
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Course Description

This is an introductory, standards-based course in which the student will be guided toward a better understanding of physics, the Earth and the basic laws of the universe. The course is designed to meet the Rhode Island Grade Span Expectations (GSE's) in physics and earth/space sciences. Emphasis in this class will be placed on understanding the laws of physics and understanding how those laws relate to the Earth and to the Universe. A variety of presentation methods and activities will be used to help you discover these big ideas in science and to acquire the skills necessary to be successful. A complete scope and sequence may be found on my website. Along with the new freedom to be found in high school comes great responsibility. The student is responsible for planning and budgeting time, meeting deadlines independently and in groups, and working diligently both in school and at home. Expectations for student performance are high.

Units of Study Sequence:

Unit 1.1: Graphing and Predicting Motion
Unit 1.2: Acceleration
Unit 1.3: Free Fall
Unit 2.1: Forces
Unit 2.2: Applications of Newton's Laws
Unit 2.3: Projectile Motion
Unit 2.4: Universal Gravitation
Unit 3.1: Mechanical Energy
Unit 3.2: Heat Energy in Earth Systems
Unit 3.3: Waves
Unit 4.1: Electromagnetic Spectrum
Unit 4.2: Electricity
Unit 4.3: Electromagnetism

Course Competencies/ Learning Objectives

PHS Learning Expectations: PRIDE

1. Access and critically analyze information to answer questions and explore ideas
2. Solve problems through prioritizing and planning for results
3. Write proficiently for a variety of purposes
4. Communicate effectively in a variety of formats
5. Interpret and design visual messages for specific purposes
6. Engage in work with integrity, both independently and collaboratively
7. Demonstrate knowledge and skills through the use of technology

Rhode Island Grade Span Expectations for Physical Science

Standards:

ESS 1 The Earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ESS 2 The Earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.
ESS 3 The origin and evolution of galaxies and universe demonstrate fundamental principles of physical science across vast distances and time.
PS 1 All living and none living things are composed of matter having characteristics properties that distinguish one substance from another.
PS 2 Energy is necessary for change to occur in matter. It can be stored, transferred and transformed, but cannot be destroyed.
PS 3 The motion of an object is affected by forces.

Next Generation Science Standards:

Science and Engineering Practices
1. Asking questions and defining problems
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations and designing solutions
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating ideas

Crosscutting Concepts
1. Patterns
2. Cause and effect: Mechanism and explanation
3. Scale, proportion, and quantity
4. Systems and system models
5. Energy and matter: Flows, cycles, and
6. Structure and function
7. Stability and change conservation

Textbooks and Other Resources

Text – Physics: A First Course (also available on CD-ROM upon request)
Earth Science Text
Supplemental readings and resources

Student Evaluation

Your grade will be determined from a variety of assessments, including tests, quizzes, labs, homework, in-class assignments, etc. Your grade will be determined using a total points system (points you earned divided by points you could have earned). All assignments are due on the assigned day at the start of class. It is expected that you complete all assignments to the best of your ability.

Homework: Homework is an essential part of the learning process and you are only cheating yourself if you do not fulfill this responsibility. After solving problems and answering questions in class, you must go home and attempt more problems and questions on your own to see if you really understand the material. All homework assignments, including laboratory reports, must be ready for submission at the **start** of each class.

Lab Reports: Labs are an important aspect of your science education. Labs will be conducted by a small group of students working together. Each student is expected to contribute to the success of the lab, doing his/her share of the work. Lack of attention to the work at hand, i.e. excessive talking, not following proper safety rules, etc., will reduce the grade on the lab. Experimental work provides opportunities to experience concrete examples of concepts discussed in class. The lab report will follow a specific format and will be your own work; plagiarized work will receive a zero.

Quizzes: There may be several quizzes per unit, based on your homework, laboratory work, and other in-class assignments.

Tests: Tests will regularly be given at the end of each unit. Tests will include multiple choice questions, problem solving, and short essay questions.

Notebooks: A three-ring binder must be kept all year which will be graded periodically. A scientist's notebook is also required; inside you will complete homework, take notes and record lab data.

Class Requirements

Comprehensive Course Assessments (CCA): Students will be given three comprehensive course assessments through which they must show proficiency in order to receive credit for this course.

Required Materials:

- Textbook covered
- Scientific / Composition notebook (prefer to be loose leaf in 3 ring binder although separate notebook is fine)
- 3 ring binder
- Pencils & pens
- Formula flip chart (created in class)
- Planner
- Calculator: I recommend either
  - TI -30x for Physics First students (a very worthwhile $10.00 investment)
  - TI-84 for students taking advance math courses and physics in the senior year (a bit more pricey and not necessary at this point)
    Needed for most quizzes and unit assessments

Attendance Expectations

Regular and prompt class attendance is an essential part of the educational experience. Portsmouth High School expects students to exercise good judgment regarding attendance and absences. Students will accept full responsibility for ensuring their work does not suffer because of absences. All students are expected to attend every scheduled class on time. Exceptions may be made for illness and valid emergencies. Please refer to the Student Handbook for additional information.

The responsibility to make up missed work falls upon the student. When a student is unexpectedly absent, upon returning to class, the student is expected to submit the assignment that was assigned the last day present in class. The student is also expected to make arrangements with me to make up the missed work. If you miss work due to an absence, you must make up the work within one week of your return to class. If the work has not been completed after one week, a grade of "0" will be given. If you are absent because of a prolonged illness, you will be given special consideration. If you have missed class due to other circumstances (field trips, family vacations, class activities, etc.) it will be your responsibility to arrange for make-up work with me before the class/classes to be missed. Failure to make arrangements prior to the missed class will result in a zero for the assignments missed during this time

Classroom Expectations

Class preparation - Students must be prepared with their books, notebooks and a writing utensil at the start of each class. Students will not be allowed to go to their lockers after class has begun. Behavior - Horseplay is strictly forbidden and will not be tolerated during class and especially not during lab. Students who are guilty of reckless behavior will receive a

zero for the lab or the assignment. In some cases, a parent conference will be scheduled before the student will be allowed to work in the lab again. The student will be asked to sign a Safety Contract and take a safety assessment. Blatant disregard for lab safety will result in the student being removed from the class. Safety is of the utmost importance.

PHS Core Values and Beliefs

Patriot PRIDE: (Values): Perseverance **R**espect **I**nnovation **D**edication **E**ngagement
Patriots believe: (Beliefs)
1. We are all members of a safe, supportive and accepting community
2. All community members have unique talents to contribute
3. All community members are responsible for teaching and learning
4. All students have access to a guaranteed and viable curriculum with authentic learning opportunities
5. All community members have opportunities to explore ideas and achieve
6. All graduates will be college and career ready

Academic Integrity, Cheating & Plagiarism
Students are responsible for earning grades honestly and honorably including homework. Failure to meet this responsibility will result in disciplinary action. Please refer to the Student Handbook for additional information.

Cheating is defined as using someone else's work or labor with or without their knowledge, and representing it as your own. This includes (but is not limited to) giving or receiving answers or work on a task, test or quiz, removing tests or answers from the testing room, plagiarism, any use of a cell phone or other communication or recording device during the task/test. It is also knowingly giving your work or labor to another, for representation as his- or her-own produced work.

General Information
If you are having trouble with this class, come to me immediately and I can work with you. If you wait until the end of the marking period, it will be TOO LATE. I will be available to help you understand so you can be successful in this class. I am available for extra help by appointment, just ask! The National Honor Society also offers peer tutoring. Speak to your guidance counselor to make arrangements to meet with a NHS peer tutor.

Syllabus/Course Outline
See the Aspen Course Page for more information

I have read and understand the information related to the course as explained in the Physics First Instructional Management Plan. I agree to adhere to these policies and expectations as long as I am a student in Ms. Zabel's class. I understand that I am welcome to contact Ms. Zabel with any questions or concerns that I may have via email (zabell@portsmouthschoolsri.org).

Student Signature:_____ Date:_____

I have read the Physics First Instructional Management plan and agree to help my son/daughter adhere to these policies and expectations. Also, please fill in the blanks below and sign at the bottom.

My child's strengths are _____
My child needs help with _____
This year, I would like my child to _____
_____
I would like the teacher to know that _____
_____

I understand that I am welcome to contact Ms. Zabel with any questions or concerns that I may have by phone or via email (zabell@portsmouthschoolsri.org).

Parent/Guardian Signature:_____ Date:_____
Name (printed): _____
Email Address (optional):_____