

SHORELINE PUBLIC SCHOOLS

COURSE SYLLABUS

Building: Shorewood High School

Year: 2016-17

Name of Course: IPS Honors

Instructor: Fawcett, Bakowski

Semester: ☐

Year long: ☒

Brief Narrative Course Description: Physical science is the study of the physical world. Universal laws govern everything in the physical world. We will learn about these laws in an integrated way in order to gain a firm and comprehensive understanding of the physical world in which we live. This class is based on laboratory experiences that develop critical thinking skills and build a solid foundation for further study in science.

Classroom Expectations:

1. Class participation – bring notebook & iPad daily and be prepared for lab investigations
2. Active participation – includes being present and on time to class
3. Class notebook and scotch tape – notebooks include daily activities, labs, and notes
4. Student iPad – bring to class daily with a full charge (bring ear buds when appropriate)
5. Homework readings and questions. Homework may be assigned over a scheduled school break. These assignments, however, are rare and not incredibly time consuming.
6. Quality projects and formal lab reports. Projects and labs may be assigned in groups and may require outside of class time to complete. All projects are assigned far enough in advance to be completed before any scheduled school break. However, due dates for these projects may be after scheduled school breaks.
7. Regular quizzes, unit exams, and semester finals

Concepts/Themes	Power Standards * Detailed power standards with learning targets can be downloaded from teacher website.	Approximate Time Frame
Science skills – mathematics, graphing, scientific method	I can create and conduct an independent investigation.	2 weeks
Mechanics – forces and motion, potential and kinetic energy	I can describe how objects move. I can describe why objects move. I can describe gravitational and electromagnetic forces. I can explain the Law of Conservation of Energy in terms of energy transfers and transformations.	6 weeks
Chemistry – periodic table, chemical reactions, chemical energy	I can explain the composition and organization of matter. I can explain how matter interacts (in relation to chemical reaction). I can explain how matter behaves in a solution. I can explain the Law of Conservation of Energy in terms of energy transfers and transformations.	6 weeks
Thermodynamics – heat, temperature, phase changes	I can explain how matter interacts (in relation to thermodynamics). I can explain the Law of Conservation of Energy in terms of energy transfers and transformations.	2 weeks
Waves – sound, light, electromagnetic spectrum	I can explain that light and sound are forms of energy that travel in waves. I can explain the Law of Conservation of Energy in terms of energy transfers and transformations.	2 weeks
Global climate – greenhouse effect,	I can explain that climate differences result from uneven heating of the Earth's surface and how that has changed	6 weeks

carbon cycle, historical and present-day global climate change, energy resources	over time. I can explain renewable and nonrenewable resources and the roles they will play in our future. I can explain the Law of Conservation of Energy in terms of energy transfers and transformations.	
Geology – earth processes, plate tectonics, WA state geologic history	I can explain the forces that shaped Washington's geography and topography.	6 weeks
Astronomy – space systems, Big Bang, stars	I can explain the Big Bang Theory and how energy is transferred throughout the universe.	2 weeks

Assessments:

Formative quizzes as “check-ins” throughout the units listed above
Summative quizzes and exams associated with all the units listed above
Comprehensive final exams at the end of each semester
Notebook checks for daily homework and lab work
Rube Goldberg Project, 1st semester
Energy Resources Project, 2nd semester

Grading:

Grades are based on a 4-point standardized scale:

- 4 Exceeding standard
- 3 Meeting standard
- 2 Approaching standard
- 1 Standard not met

The 4-point scale is unrelated to percentages and GPA. It is a system where every score earned has the same meaning, which should make it easy for the student to know what level of understanding he or she has reached. However, grades are posted on official transcripts as letter grades and not on the 4-point scale. The table to the right outlines how letter grades and the 4-point scale are related.

Letter grade	4-point scale	Detailed explanation of 4-pt scale
A	3.7-4.0	Exceeded most standards
A-	3.4-3.6	Exceeded some standards
B+	3.2-3.3	Meets standard
B	3.0-3.1	
B-	2.8-2.9	
C+	2.6-2.7	Most standards met
C	2.4-2.5	
C-	2.3	
D+	2.2	Some standards met
D	2.0-2.1	
F	0.0-1.9	Standards not met

The elements of this course will be

weighted as follows in order to compile the total course grade:

40%	Unit exams	20%	Notebooks
10%	Final exam	15%	Lab (labs, lab components, small quizzes)
10%	Projects	5%	Class participation and preparation

Possible Curriculum/Textbooks:

Conceptual Physical Science Explorations, 2nd Edition, authored by Paul Hewitt

Additional Resources/Technology:

Student iPads used regularly
Laptops available in-class for on-line labs, research, and activities
Online textbook available