

Course: AP Physics 1
Teacher: Josh Mahar
Contact: jmahar@rsu13.org
Google classroom code: 8i74t2

Oceanside High School
2017-2018

Course Approach:

This course is equivalent to the algebra-based version of first year college Physics. The course provides a thorough foundation in the study of Newtonian Mechanics, Waves & Sound, and introductory Circuit Electricity.

This course meets every day for the full school year. This provides an excellent opportunity for deep conceptual understanding, extensive problem solving practice, and inquiry lab activities.

A great deal of effort is spent on development of critical thought processes for reasoning and problem analysis. Skill development in these areas is critical to any student continuing in engineering or other technical coursework at the college level. Class time will be spent on concept understanding and problem solving discussion. Text reading and homework will be regularly assigned and must be completed on schedule to support class discussion. Supplemental notes may be provided.

Lab time will be spent demonstrating and confirming concepts and more importantly reinforcing the use of and reliance on generally accepted scientific practices. A lab notebook will be maintained. Certain labs have prescribed procedures. In other cases, students are encouraged to develop questions regarding a given concept and design lab procedures that will investigate the question.

Text and AP Alignment:

The course outline below is aligned with the Cutnell & Johnson text as well as the Content Outline for AP Physics 1 prescribed by College Board. The order of presentation accommodates the desirable winter conditions for demonstration and study of Electrostatics.

Text = Physics; Cutnell & Johnson; 8e Ed. New York: John Wiley
Textbook companion site: www.wiley.com/college/cutnell
AP reference site: APcentral.collegeboard.com

Content Area	Text Chapter	Content	Approximate Schedule
Newtonian Mechanics	1	Introduction, Math & Vector Concepts	September
	2	Kinematics – Motion in One Dimension	
Linear Motion	3	Kinematics – Motion in Two Dimension, Vector Components	October
	4	Forces – Newton’s Laws of Motion, Friction, Law of Universal Gravitation	
	5	Dynamics of Uniform Circular Motion	
	6	Work & Energy – Conservation of Energy, Power	

Rotational Motion	7	Impulse & Momentum – Conservation of Momentum, Collisions	November
	8	Rotational Kinematics – Angular Velocity and Acceleration	

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Periodic Motion	9	Rotational Dynamics – Torque, Equilibrium, Angular Momentum	December
	10	Simple Harmonic Motion – Springs, Pendulums, Restoring Force	
Electricity & Magnetism	18	Electric Forces & Fields – Coulombs Law, Conductors & Insulators	January
	20	Circuits – Current, Resistance, Power, Series and Parallel Circuits	February
Mechanical Waves & Sound	16	Waves and Sound – Wave Propagation, Properties of Sound, Doppler Effect, the Human Ear	
	17	Superposition – Constructive and Destructive Interference, Standing Waves, Beats, Noise Cancellation	March
Mechanics Review and Practice Exams			April-May
AP Exam			May 2015

Grading: Student achievement of the standards will be assessed through summative unit assessments, formal lab reports and practice AP exams.

Course grades will be assigned according to OHS's standard grading practice:

- 93 - 100 = Exceeds the standards
- 85 - 92 = Proficiently meets the standards
- 76 - 84 = Adequately meets the standards
- 70 - 75 = Minimally meets the standards
- 69 and Below = Fails to meet the standards

Assignments: All assignments are announced on the course website, and in google classroom. Assignments are expected to be complete by the following class. Homework will be signed/reviewed by the instructor on the day it is due. Homework and other course work such as worksheets, practice problems and informal lab analysis will be

assembled into a comprehensive homework packet and reviewed at the end of each unit.

<https://sites.google.com/a/rsu13.org/ap-chem-physics/>

Attendance: It is your responsibility to find out what assignments have been missed during an absence and make plans with me for getting caught up on missed summative assessments or formal lab reports.

Honesty:

Plagiarizing and copying assignments (including labs and homework), or cheating on tests and quizzes will not be tolerated. *All work is to be done individually.*

Consequences:

First Offense –

- A zero on the work involved
- Two extended detentions
- Notification to the student and parents

Second Offense –

- All of the above
- An “F” in the course and withdrawal from the course

Citizenship Guidelines

Students are expected to:

1. Attends class regularly, both mentally and physically.
2. Comes to class on time.
3. Comes to class with necessary materials.
4. Completes homework assignments.
5. Meets deadlines.
6. Maintain academic integrity.
7. Exercises reasonable care of school property.
8. Shows respect for others.
9. Foster a positive learning environment.

Materials for Class:

1. Students will either have an electronic copy of the textbook or a hardcopy. Students are accountable for damage or loss of the hardcopy textbook.
2. Ipad, three ring binder with paper, pens, and #2 pencils.
3. Stopwatches and calculators can be accessed on your ipads, therefore, cell phone usage is not required. Cell phones need to be turned off and put away during class.

Office Hours: Mr. Mahars’ office hours are blocks W4 and B3 and can be reached by email at jmahar@rsu13.org

AP Physics
Mr. Mahar

I _____, (print first and last name) and my parent(s) or guardian(s) have read this syllabus presented to me outlining course expectations, procedures and grading system. Expectations for class assignments and behavior are clear and all questions regarding the areas outlined in the course syllabus have been answered. I understand what is expected of me throughout the year and how I will be graded. Please feel free to email any questions or concerns regarding the course expectations: jmahar@rsu13.org (Please return by Friday September 8)

Student signature: _____ Date: _____

Parent/Guardian signature: _____ Date: _____