

# AP Physics 2 Syllabus 2016 – 2017

Instructor: Ms. Ota

Email: [stephanie.ota@orecity.k12.or.us](mailto:stephanie.ota@orecity.k12.or.us)

Classroom: E212 7:30 a.m. – 3:30 p.m.

Website: <http://staff.orecity.k12.or.us/stephanie.ota>

## Course Description

AP Physics 2 is a year-long introductory physics course, and is equivalent to one semester of a college-level, algebra-based physics course. Students will cultivate an understanding of physics through scientific inquiry, problem solving, and reflection. Students will be expected to think critically and scientifically, as they develop, communicate, and justify solutions to demonstrate their conceptual understanding of the content covered in the course. Topics covered will include: Fluids (static and dynamic), Thermodynamics (Laws of Thermodynamics; Ideal Gases, Kinetic Theory), Electrostatics (electric force, electric field, electric potential), Circuits (current, power, capacitance), Magnetism and Electromagnetic Induction, Geometric and Physical Optics, and Modern Physics (Quantum Mechanics, Atomic and Nuclear Physics).

Students are strongly encouraged to sign up for the AP Physics 2 exam, and a significant portion of this course will be designed to help students prepare for the exam. After the exam, we will explore topics not included in the College Board curriculum, and explore content in greater depth. Throughout the year, students will be engaging in the scientific practices outlined below in their study of physics content.

## Scientific Practices:

- Use representations and models to communicate scientific phenomena and solve scientific problems
- Use mathematics appropriately
- Engage in scientific questioning to extend thinking or to guide investigations
- Plan and implement data collection strategies in relation to a specific scientific question
- Analyze data and evaluate evidence
- Work with scientific explanations and theories
- Connect and relate knowledge across various scales, concepts and representations in and across domains.

## Required Materials

- Textbook: College Physics for AP Courses from OpenStax. It is available online in web view and PDF formats free of charge: [www.openstax.org/details/college-physics-ap-courses](http://www.openstax.org/details/college-physics-ap-courses)
  - Supplementary texts will be available in the classroom, as well.
- WebAssign account: All students will submit homework electronically via WebAssign.
- Scientific Calculator (Required Daily)
  - NOTE: A cell phone with an application is **NOT** allowed in class.
- Lab Notebook: A bound notebook with graph paper (a composition book works well).
- 3-ring binder for handouts
- Bound notebook for notes & classwork.
- Pencil/Pen.

## Grading Policy

Quizzes, Lab Notebook, In-class Assignments, and Homework	30 %
Exams, Formal Lab Reports, and Projects	70 %

Students are expected to practice physics daily, and homework will be an essential component of this course. Weekly assignments from the textbook will be submitted online via webassign. There is a 10% penalty for assignments turned in after the due date. To earn points, late work must be turned in before the unit exam.

All students will be required to keep a laboratory notebook in the classroom. Students will be given frequent feedback on work included in their laboratory notebooks, which will serve as a record of regular laboratory activities. Formal lab reports will be completed on a less frequent basis, and will be weighted in the same category as exams and projects.

Exams will be given at the end of each unit, and can be retaken for a maximum score of 75% (C). Retakes must be completed within 10 school days after the original exam. Students will need to demonstrate completion of homework and/or review assignments before scheduling a retake. Retakes will not be given during class time; students must make arrangements with the teacher to retake a quiz or test outside of class time (i.e. before or after school, or during advisory).

**Science Tutorial**

Students in AP and Honors science courses will be assigned a day during the year to help staff the Science Tutorial. Science Tutorials will take place on Wednesdays from 2 pm to 3 pm. This time can count toward volunteer hours if needed, and will be a class expectation as a part of our community of learners.

**Academic Integrity**

Students will be expected to learn together, and group work will be an important component of the course. Plagiarism and/or cheating will not be tolerated. This includes copying assignments from peers, photographing peer assignments or teacher assignment keys, and the use of unauthorized references or electronic devices during quizzes and exams. Academic dishonesty will result in a mark of zero for the assignment for all students involved. Repeat violations will result in an “F” for the course and a written referral. **See OCHS Student Code of Conduct.**

**Absences**

It is very important that students be ready to begin class on time every day. If a student misses class time, the student is responsible for collecting any handouts distributed, and contacting another student for notes or other material. Students are encouraged to contact the teacher if there are still questions about assignments or notes.

Students with excused absences are allowed one more day than the number of days absent to complete and submit assigned make-up assignments. It is the student’s responsibility to arrange a time with the teacher before or after school to make up a lab, quiz, or test. These activities must be completed within 5 class days of the student’s return to school.

**Questions / Personal Issues**

If at any point during the trimester, you are struggling with the workload of the course, the course content, or completing any assignments, you are encouraged to contact Ms. Ota immediately. Please refer to the contact information and office hours posted at the beginning of the syllabus. I am here as a resource for you! I will do my best to work with you to help you succeed in the class. Contact the teacher about any issues before they become serious problems. Remember, be your own self-advocate!

**AP Exam**

Students are strongly encouraged to take the AP Physics 2 exam offered by the College Board. More information about the exam can be found at the following website:

<https://apstudent.collegeboard.org/apcourse/ap-physics-2>

**Cell Phones**

Cell phones and other electronic devices may not be used during this class without permission of the instructor. *See OCHS Student Code of Conduct.*

**Behavior Guidelines and Classroom Expectations**

- Be respectful.
- Come to class on time and prepared to learn.
- Complete and turn in all graded assignments on time.
- Use cell phones and other electronic devices with discretion.
- No food or drink is to be consumed within the lab. Sealable *water* bottles are allowed at student desks.
- Follow all safety instructions given by the teacher and immediately report any accidents.
- Communicate with Ms. Ota anytime you have any problems and/or questions.
- If your behavior is a problem for the teacher or other students in the class, the following consequences may result: verbal warning, discussion with the teacher during or outside of class, contact with parents/guardians. If student behavior does not improve, procedures in the OCHS code of conduct will be followed.

I have read and understand the course guidelines. I am aware of what is expected of me in Ms. Ota's AP Physics 2 class. I know that I am responsible for my actions, my assignments, and my learning.

Student Name: \_\_\_\_\_ Period: \_\_\_\_\_

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

I have read and understand the course guidelines. I am aware of what is expected of my student in Ms. Ota's AP Physics 2 class this year.

Parent/Guardian Name: \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**This syllabus must be returned with both the signature lines completed.**

Parents/Guardians,

If you have any questions, do not hesitate to contact me. My email address is listed below and is also available on the OCHS website. I will return emails as soon as possible. I am available at the school from 7:30 am to 3:30 pm. To assist me in supporting your student in the classroom, please indicate your preferred method of communication (email or phone). If there is additional information you would like me to know about your student, please indicate this in the space below or the back of this page.

Thank you,

Stephanie Ota  
stephanie.ota@orecity.k12.or.us

Parent/Guardian Preferred Communication

Email: \_\_\_\_\_

or

Phone: \_\_\_\_\_