

Chabot College Physics

<http://www.chabotcollege.edu/ScienceMath/physics.asp>

- **Our Faculty** (please click on names below to visit course websites, and/or send email)
 - [Jose Alegre](#)
 - [Nicholas Alexander](#)
 - [Tim Dave](#)
 - [Scott Hildreth](#)

Adjunct colleagues include **Shannon Lee**, **Len Filane**, and **Steve Asztalos**

- **Courses** Our current courses are listed below. Because all but Physics 5 are lab courses, the typical class size is around 24 students per section. **All Physics courses with labs:**
Meet AA/AS Area B requirements;
Satisfy GE Areas B1 and B3 (CSU Transfer);
Satisfy IGETC Areas 5a and 5c (UC Transfer)

<u>Courses</u>	<u>Pre-requisites</u>	<u>Fall Semester</u>	<u>Spring Semester</u>	<u>Summer</u>
3A	Math 15 or Math1 and Math 36 or 37, passed with C or better	<i>day & evening sections</i>		
3B	Physics 3A or 4A and Math 16 or Math 2, passed with C or better		<i>day & evening sections</i>	
4A	Math 1 passed with C or better	<i>2 daytime sections</i>	<i>2 daytime sections</i>	
4B	Math 2 & Physics 4A passed with C or better	<i>2 daytime sections</i>	<i>2 daytime sections</i>	
4C	Math 3 & Physics 4B passed with C or better	<i>1 daytime section</i>	<i>1 daytime section</i>	
5	Physics 4B passed with C or better		<i>1 daytime section</i>	
11	Math 105 Recommended	<i>1 daytime section</i>		<i>1 daytime section</i>

For 2016-2017 and beyond, **Physics 2A/2B will NOT be offered**. Instead we will be transitioning to **Physics 3A/3B** in Fall and Spring terms respectively, with both daytime and evening sections. Each is a 4-unit class, with 3 hours of lecture and 3 hours of lab work per week. These classes will transfer to certain UC and CSU institutions, much as the earlier Physics 2A/2B did, but will satisfy program requirements that expect calculus-level physics. **Physics 3A** has a mathematics pre-requisite of either Math 1 or Math 15, and Math 36 or 37 (passed with a grade of "C" or better) **Physics 3B** has a pre-requisite of Physics 3A or Physics 4A, and Math 2 or Math 16 (passed with a grade of "C" or better).

- Physics 4ABC and 5 are designed for engineering and science majors, and for some biological science programs that require their students to take a calculus-based physics. Physics 4ABC courses typically meet for 3 hours of lecture, 1 hour of recitation/discussion, and 3 hours of lab a week. Physics 5 meets for 3 hours of lecture each week, and does not have an associated lab.

We usually offer at least two sections of Physics 4A and 4B in both Autumn and Spring terms. And we usually offer one section of Physics 4C in both terms. We usually offer one section a year of Physics 5, in Spring term. We do not offer Physics 4 or Physics 5 in the summer.

- We try to offer Physics 11, Descriptive Physics, in Autumn, *and* in Summer if our budget allows; the class meets for 3 hours of lecture and 3 hours of lab each week.

3A - College Physics A (4 units) [Course Outline PDF](#)

Introduction to the major principles of classical mechanics and electricity using pre-calculus mathematics. Includes Newtonian mechanics, energy, gravitation, fluids, thermodynamics, vibration waves, and electrostatics. Prerequisite: Mathematics 15 or Math 1 with a grade of C or higher). 3 hours lecture, 3 hours laboratory.

3B - College Physics B (4 units) [Course Outline PDF](#)

Electro-circuits, electromagnetic waves, optics and modern physics. Prerequisite: Math 16 or Math 2, and Physics 3A (completed with a grade of C or higher). 3 hours lecture, 3 hours laboratory.

4A - General Physics I (5 units) [Course Outline PDF](#)

Introduction to the principles of Newtonian mechanics using calculus as needed. Vectors, kinematics, dynamics, energy, momentum, rotation, oscillations and gravitation. Prerequisite: Mathematics 1 (completed with a grade of "C" or higher). 4 hours lecture, 3 hours laboratory.

4B - General Physics II (5 units) [Course Outline PDF](#)

Electric fields, electric currents, magnetic fields, induced currents, alternating circuits, Maxwell's equations, Electromagnetic waves. Prerequisite: Physics 4A and Mathematics 2 (both completed with a grade of "C" or higher). 4 hours lecture, 3 hours laboratory.

4C - General Physics III (5 units) [Course Outline PDF](#)

Oscillations, fluids, sound waves, thermodynamics, electromagnetic spectrum, optics including reflection, refraction, diffraction, interference, polarization. Prerequisite: Physics 4B and Mathematics 3 (both completed with grade of "C" or higher). 4 hours lecture, 3 hours laboratory.

5 - Modern Physics (3 units) [Course Outline PDF](#)

Special relativity and modern physics, including photons, quantum mechanics, atoms, solids, nuclear physics, particle physics and cosmology. Prerequisite: Physics 4B (completed with grade of C or higher). 3 hours lecture. (Note that this is NOT a lab class, and does not correspond to Physics 8D at Las Positas College.)

11 - Descriptive Physics (4 units) [Course Outline PDF](#)

Motion, gravitation, heat, light, sound, electricity, magnetism, atoms, and nuclei. Present day scientific problems and developments such as alternative energy sources, solar energy, nuclear power, lasers, relativity and black holes. Designed for non-majors in physical science. Includes an introduction to laboratory, principles and techniques with emphasis on the basic concepts discussed in the class. Strongly recommended: Mathematics 105 or 105L. 3 hours lecture, 3 hours laboratory.