



## CURRICULUM GUIDE 2014-2015

### PHYSICS: ADVANCED

Certificate of Accomplishment in Physics: Advanced

#### Requirements for Certificate of Accomplishment:

- a) Complete satisfactorily the courses listed for the particular certificate.
- b) Complete at least 50% of the required units at Ohlone College.
- c) Maintain a 2.0 grade point average.

#### PHYSICS: ADVANCED

This certificate provides students with a solid physical and mathematical foundation of the general principles and theorems of physics, as well as experience with measurements of important physical quantities in the fields of mechanics, electricity and magnetism, optics and thermal physics.

Upon completion of this certificate students will be very well prepared to engage in continued and fundamental studies in the fields of engineering, physics, mathematical physics, or astronomy. The certificate also prepares students to work in various research institutions and companies as research assistant or on internships.

#### Student Learning Outcomes

1. Demonstrate a comprehension of technology by understanding how things work on a fundamental level.
2. Build critical thinking and quantitative skills by gaining insight into the thought processes of physical approximation and physical modeling, by practicing the appropriate application of mathematics to the description of physical reality, and by searching for a physical interpretation of mathematical results.
3. Demonstrate basic experimental skills by the practice of setting up and conducting an experiment with due regards to minimizing measurement error and by the thoughtful discussion and interpretation of data.
4. Retain information from course to course by aiming at proficiency in the correct use of all the fundamental laws and equations to solve integrated problems.

MATH-101C	Calculus with Analytic Geometry	5
PHYS-140	Mechanics	4
PHYS-141	Electricity and Magnetism	4
PHYS-142	Optics, Heat, and Modern Physics	4
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