

# PHYSICS (BA/BS)

**Program Chairperson:** Vanessa Preisler

**Regular Faculty:** David Chappell, Vanessa Preisler, Amtul Chaudry, Esayas Shume

**Adjunct Faculty:** Ulyana Dyudina, Chris Morgan, Scott Phelps, Laurence Stein, Christos Tzounis, Nanor Williams

This program offers rigorous and personalized training in physics for students wishing to pursue careers in teaching, industry, and research. The courses cover the fundamentals of Classical Mechanics, Electricity and Magnetism, Modern Physics, and Quantum Mechanics. Upper division electives provide students the opportunity to study Astrophysics, Solid State Physics, Optics, Electronics and Statistical Mechanics.

## Degree Requirements

**Total program: B.A. 52-55 semester hours B.S. 60-63 semester hours**

### B.A. and B.S. Prerequisite Requirements

12 semester hours

Code	Title	Semester Hours
MATH 201	Calculus I	4
MATH 202	Calculus II	4
MATH 311	Calculus III	4
<b>Total Semester Hours</b>		<b>12</b>

### Additional B.S. Prerequisite Requirement

- MATH 315 Differential Equations

### Core Requirements

32-35 semester hours

Code	Title	Semester Hours
PHYS 203	Physics I: Mechanics	5
PHYS 204	Physics II: Electricity & Magnetism	5
PHYS 322	Electricity and Magnetism	4
PHYS 342	Analytical Mechanics	4
PHYS 360	Modern Physics	5
PHYS 368	Quantum Mechanics	4
PHYS 390	Physics Seminar	2,2
PHYS 499	Senior Project/Seminar	1-4
<b>Total Semester Hours</b>		<b>32-35</b>

### Electives for B.A.

A minimum of 8 semester hours selected in consultation with the program advisor.

### Electives for B.S.

A minimum of 12 semester hours selected in consultation with the program advisor.

### Concentration in Teaching, Single Subject

#### A Master of Arts in Teaching Pathway

The University of La Verne offers an undergraduate-to-master's in teaching pathways, which includes single subject credentialing. These

pathways are restricted to Majors that have this listed concentration. Students with this concentration complete their subject matter competency requirement by degree and 16 upper division semester hours of Teacher Credential course work, that apply to both undergraduate and graduate degrees.

This is a direct education pathway to completing a specialized Master of Arts in Teaching, MAT, at the University of La Verne which includes a Single Subject Teaching Credential. The 4+1 programs have been designed for completion in 5 years. Any deviation from the outlined education plan, including extensions, may have financial aid implications and should be considered with the support of an advisor. An application for consideration of this education pathway is mandatory.

Upper division coursework is not modified for these integrated programs, students will be following the MAT course sequence created for all credential candidates in the LaFetra College of Education teaching programs. This includes prerequisites for course enrollment and completion of state mandated assessments in the required time sequence.

### Program Requirements for Concentration

- Minimum 2.75 GPA to begin
- Must maintain a minimum 3.0 GPA in the program in accordance with the University's Graduate GPA requirements
- Face-to-face interview with the MAT program chair or designee
- Meet with Education Advisor at least one time per semester to monitor progress according to requirements
- Must meet credential prerequisites prior to registering for the first credential class
  - Prerequisites
    - TB Clearance *California Education Code Section 49406*
    - Live Scan/Fingerprint Clearance *California Education Code Section 44320(b)*
    - Certificate of Clearance (CoC) *California Education Code Section 44320(b)*

### Concentration in Teaching, Single Subject Requirements

16 semester hours

Code	Title	Semester Hours
EDUC 427	Language and Literacy, Single Subject	4
EDUC 428	Introductory Teaching Practices, Single Subject	4
EDUC 442	Intermediate Teaching Practices, Single Subject	4
EDUC 443	Advanced Teaching Practices, Single Subject	4
<b>Total Semester Hours</b>		<b>16</b>