Bachelor of Arts in Physics

The program for a bachelor of arts degree in physics provides basic knowledge in the main subject areas of physics as well as an opportunity for students to elect a considerable number of courses in other disciplines. This is a good choice for students planning careers in high school teaching, medical or other pre-professional schools, or other interdisciplinary careers. The BA in Physics requires a total of 66 units listed below; of those 7 units count towards the university's General Education requirements. In addition to the General Education and the BA Physics requirements, students will need to complete 12 additional units in order to satisfy the 120 units required for graduation.

Departmental Honors

To be awarded departmental honors in physics a student must:

1. Achieve at least a 3.5 minimum grade point average in courses required for the major taken at California State University, San Bernardino and at least a 3.0 grade point average overall;
2. Conduct advanced research on a topic approved by a faculty member who will serve as project director;
3. Obtain written approval upon successful completion of the project from the project director and the chair, and present the results of the research to the department or at a research conference, and/or publish the results in a peer-reviewed scientific journal.

Requirements (66 units)

Total units required for graduation: 120

Requirements for the B.A. in Physics

(Program Code: PHYS)

Lower-division requirements (38)

CHEM 2100 General Chemistry I 4
CHEM 2100L General Chemistry I Laboratory 1
MATH 2210 Calculus I 4
MATH 2220 Calculus II 4
MATH 2310 Applied Linear Algebra 4
MATH 2320 Multivariable Calculus 4
PHYS 1500 Tools for Physicists 3
PHYS 2500 General Physics I 4
PHYS 2500L General Physics I Lab 1
PHYS 2510 General Physics II 4
PHYS 2510L General Physics II Lab 1
PHYS 2600L Introduction to Electronics 1
PHYS 2700 Modern Physics 3

Upper-division requirements (28)

PHYS 3100 Mathematical Methods of Physics 4
PHYS 3200 Classical Mechanics 4
PHYS 3300 Computational Physics 3
PHYS 3400 Electricity & Magnetism 3
PHYS 3500 Statistical and Thermal Physics 4
PHYS 3800 Intermediate Physics Laboratory 2
PHYS 4800 Senior Thesis 2
Can substitute ASTR 4000 for PHYS 4800; both count towards the GE WI requirement
Six units chosen from upper-division physics courses selected with the approval of the department:

PHYS 3600 Data Acquisition and Control
PHYS 4400 Electricity & Magnetism II
PHYS 4600 Electronics
PHYS 4700 Quantum Mechanics
PHYS 4851-4853 Special Topics in Physics
PHYS 4851L-4852L Special Topics in Physics Laboratory
PHYS 5100 Mathematical Methods of Physics II
PHYS 5400 Optics
PHYS 5700 Quantum Mechanics II
PHYS 5751-5753 Internship (max 3 units)
PHYS 5851-585 Special Topics in Physics
PHYS 5851L-5852 Special Topics in Physics Laboratory
PHYS 5951-5953 Independent Study (max 3 units)
ASTR 3300 Astrophysics of Planetary Systems
ASTR 3310 Astrophysics of Galaxies and Cosmology

Total Units 66