

**Department of Physics and Engineering
School of Natural Sciences, Mathematics, and Engineering**

Program Coordinator: Jorge Talamantes

Program Office: Science Building III, 307

Telephone: (661) 654-2664

email: physics@csub.edu

Website: www.csub.edu/Physics/

Faculty: D. Abouelnasr, L. Cabrales Arriaga, A. Dzyubenko, V. Gasparyan, J. Lewis, T. Meyer, R. Negrini, J. Talamantes

Program Description

The Physics program serves multiple roles in the College’s educational system. Not only does it prepare students for advanced study and professional work in physics and other physical sciences such as geophysics, atmospheric physics, astronomy, etc., but it also provides the necessary education in physics for students of other sciences.

In view of the highly technological nature of the society in which we live, the department also places high priority on the education of the non-science student. The 100-level Physics courses are designed to help these students achieve an understanding of the methods and goals of science and to provide them an opportunity to seriously consider and discuss important socio-scientific-technological questions.

Although the minimum degree requirements are stated below, majors in Physics who plan to pursue careers as professional physicists are advised to take additional physics and mathematics courses. Members of the Physics faculty will be pleased to provide counseling on recommended programs to any students who may wish to pursue this major. For student learning objectives and more information, visit our website at www.csub.edu/Physics.

Requirements for the Bachelor of Science Degree in Physics

Total Units Required to Graduate	180-183 units
Major Requirements	111 units
Physics Courses	73
Cognates	38
Minor Requirement	0 units
Other University Requirements	67-72 units
CSUB 101	2
American Institutions	5
Area A	10*
Area B	5*
Area C	15
Area D	15
Theme 1	0*
Theme 2	5
Theme 3	5
GRE	5
GWAR (Exam) or Class	0-5

*satisfied in major, minor or other university requirement

Additional Units **0-2 units**

See <http://www.csub.edu/schedules.shtml> for current list of courses satisfying university-wide requirements.

Note: One (1) quarter unit of credit normally represents one hour of in-class work and 2-3 hours of outside study per week.

Requirements for the Major in Physics

1. **Lower Division**
PHYS 207, 221, 222, 223
2. **Upper Division**
PHYS 307, 321, 322A, 322B, 323A, 323B, 324, 411A, 411B, 490
3. **At least ten units chosen from the following courses:**
PHYS 313A, 313B, 323C, 325, 412A, 412B, 477, 480
4. **Cognates**
MATH 201 or 211, 202 or 212, 203, 204 or MATH 231, 232, 233, 234 and 205, 222, CHEM 211, 211L, CMPS 221

Additional courses in Mathematics may be advised, depending upon the program needs of the individual student.

Requirements for the Minor in Physics

Although no minor is required for the BS degree with a major in Physics, a minor in Physics is available, consisting of 20 units, 10 of which must be in upper division courses that count toward the major.

Science Teacher Preparation Program Leading to a Degree in Natural Sciences with a Concentration in Physics

Completion of this program leads to a BA degree in Natural Sciences with a Concentration in Physics. This degree program offers the required subject matter content to help prepare prospective science teachers to apply for subject matter certification in California by taking the California Subject Matter Examinations for Teachers (CSET) in Science. Passage of these exams is required to certify subject matter competency before entering a teacher credential program for prospective teachers. Additional information may be obtained from the Physics and Engineering Department office (661) 654-2664.

For a detailed description of the course requirements please turn to the Natural Sciences section in this catalog.