

PHYSICS

Physics is a fundamental science. It is concerned with finding and using the rules that govern everything—from the smallest pieces of the atom to the various collections of atoms—molecules, balls, planets, stars, and more—that compose the myriad contents of the universe. Students majoring in physics will be rewarded on a personal level with a deep understanding of the world around us. On a professional level, physicists find a variety of employment opportunities, which are relatively free of ethnic and gender bias, pay well, reward creativity, and are just plain fun.

Students planning to transfer to a four-year institution and major in physics should consult with a counselor regarding the transfer process and lower division requirements.

Contact Information

Division: Science (PS - 148)

Division Phone Number: (909) 384-8645

Faculty Chair: Anna Tolstova (atolstov@sbccd.edu), M.S.

Counselor Liaisons: Elizabeth Banuelos (ebanuelos@sbccd.edu), M.S. and Erica Begg (ebegg@sbccd.edu), M.S.

STEM Counselors: Daniele Smith-Morton (dasmith@sbccd.edu), Ed.D. and Abena Weber (awahab@sbccd.edu), Ed.D.

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- Physics Associate in Science for Transfer Degree
 - Physics Associate of Science Degree

PHYSIC 101 4 Units

Introductory Physics

Lecture: 54 contact hours

Lab: 54 contact hours

Prerequisite: Eligibility for college level English and Mathematics based on the SBVC Guided-Self Placement process.

This introductory, algebra-based, physics course is an exploration of the physical principles ranging from classical mechanics to modern physics, which shape our lives. Students will be better equipped to make connections between the concepts of physics and their everyday world. This class includes a hands-on laboratory to bridge the connection between theory and everyday life. This course also explores the connections between physics and other fields of science, technology, and society.

Associate Degree Applicable

Transfers to both UC/CSU

PHYSIC 151 4 Units

General Physics for the Life Sciences I

Lecture: 54 contact hours

Lab: 54 contact hours

Prerequisite: MATH 103 or eligibility for MATH 151 or higher based on the SBVC Guided-Self Placement process and eligibility for college level English based on the SBVC Guided-Self Placement process.

Advisory: PHYSIC 101

This is the first course in a two-semester physics sequence designed primarily for students in biology, pharmacology, pre-medicine, physical therapy, and allied health programs. Topics include mechanics, waves, fluids, and thermodynamics. The needed concepts of calculus will be developed and used where appropriate.

Associate Degree Applicable

Transfers to both UC/CSU

C-ID: PHYS 105/100S

PHYSIC 152 4 Units

General Physics for the Life Sciences II

Lecture: 54 contact hours

Lab: 54 contact hours

Prerequisite: PHYSIC 151

This is the second course in a two-semester physics sequence designed primarily for students in biology, pharmacology, pre-medicine, physical therapy, and allied health programs. Topics include electricity, magnetism, optics, and modern physics. The needed concepts of calculus will be developed and used where appropriate.

Associate Degree Applicable

Transfers to both UC/CSU

C-ID: PHYS 110/100S

PHYSIC 202 4 Units

Physics I

Lecture: 54 contact hours

Lab: 54 contact hours

Prerequisite: ENGL 101 or ENGL 101H and MATH 250 and PHYSIC 101

Corequisite: MATH 250. The department highly recommends completing MATH 250 prior to enrollment in PHYSIC 202.

This is a calculus based physics course covering mechanics and oscillations. This course is designed to satisfy the lower division physics requirement for majors in physics, engineering, astronomy, chemistry, geology, computer science and mathematics.

Associate Degree Applicable

Transfers to both UC/CSU

C-ID: PHYS 205/200S

PHYSIC 203 4 Units

Physics II

Lecture: 54 contact hours

Lab: 54 contact hours

Prerequisite/Corequisite: MATH 251

Prerequisite: PHYSIC 202

This is a calculus based physics course covering electricity, magnetism, and waves. This course is designed to satisfy the lower division physics requirement for majors in physics, engineering, astronomy, chemistry, geology, computer science and mathematics.

Associate Degree Applicable

Transfers to both UC/CSU

C-ID: PHYS 210/200S

PHYSIC 204 4 Units

Physics III

Lecture: 54 contact hours

Lab: 54 contact hours

Prerequisite/Corequisite: MATH 251

Prerequisite: PHYSIC 202

Advisory: MATH 252

This is a calculus based physics course covering thermodynamics, fluids, optics, and modern physics. This course is designed to satisfy the lower division physics requirement for majors in physics, engineering, astronomy, chemistry, geology, computer science and mathematics.

Associate Degree Applicable

Transfers to both UC/CSU

C-ID: PHYS 215/200S

PHYSIC 210 4 Units

Modern Physics

Lecture: 54 contact hours

Lab: 54 contact hours

Prerequisite: PHYSIC 203 and PHYSIC 204 and PHYSIC 151 and PHYSIC 152 and MATH 251

This is a calculus-based physics course in modern physics. Topics include relativity, quantum mechanics, atoms, molecules, condensed matter, nuclear, and particle physics.

Associate Degree Applicable

Transfers to both UC/CSU

PHYSIC 222 1-3 Units

Independent Study in Physics

DIR: 54 contact hours

Prerequisite: PHYSIC 101

Advisory: ENGL 101 or ENGL 101H

Students with previous course work in Physics may do assigned projects involving research and analysis of selected topics. The independent study is for students who are interested in furthering their knowledge of Physics. Prior to registration, a written contract must be prepared jointly by the instructor and the student.

Associate Degree Applicable

Transfers to CSU only