PHYSICS, ASSOCIATE OF ARTS OR SCIENCE (AA/AS)

Overview

Physics is the foundation discipline which must be incorporated into the education of anyone preparing for a career in engineering, or science. It is equally true for the non-scientist having the responsibility to make meaningful decisions in society — the citizen in politics, the business person or social scientist who deals with problems of a society strongly linked to technology based on application of physical principles. A truly educated person preparing for life in the 21st century can hardly afford not to be aware of the statements of contemporary physics.

Requirements

Associate Degree Graduation Requirements

Complete all of the following:

1. All Department Requirements listed below with a "C" or better or "P" in each course (at least 20% of the department requirements must be completed through SBCC).
2. One of the following three General Education options:
    a. OPTION 1: A minimum of 18 units of SBCC General Education Requirements (https://catalog.sbcc.edu/degrees-certificates-awards/#associatedegreestext) (Areas A-D) and Institutional Requirements (Area E) and Information Competency Requirement (Area F) OR
    b. OPTION 2: IGETC (https://catalog.sbcc.edu/transfer-curricula/#igetctext) Pattern OR
    c. OPTION 3: CSU GE Breadth (https://catalog.sbcc.edu/transfer-curricula/#csugebtext) Pattern
3. A total of 60 degree-applicable units (SBCC courses numbered 100 and higher).
4. Maintain a cumulative GPA of 2.0 or better in all units attempted at SBCC.
5. Maintain a cumulative GPA of 2.0 or better in all college units attempted.
6. A minimum of 12 units through SBCC.

Code	Title	Units
Department Requirements		
CHEM 155	General Chemistry I	5
CHEM 156	General Chemistry II	5
CS 105	Theory and Practice I	3-4
or CS 107	Computer Architecture and Organization	
or CS 137	C Programming	
or CS 140	Object-Oriented Programming Using C++	
MATH 150	Calculus with Analytic Geometry I	5
MATH 160	Calculus with Analytic Geometry II	5
MATH 200	Multivariable Calculus [1]	4
MATH 210	Linear Algebra [1]	4
MATH 220	Differential Equations [1]	4
PHYS 121	Mechanics Of Solids And Fluids	5
PHYS 122	Electricity and Magnetism	5
PHYS 123	Heat, Light and Modern Physics	5
Total Units		**50.00-51.00**

[1] MATH 250 and MATH 260 will also satisfy MATH 200 Multivariable Calculus and MATH 210 Linear Algebra and MATH 220 Differential Equations requirements.

Learning Outcomes

1. Demonstrate proficiency, both conceptually and mathematically with calculus, in solving static and dynamic mechanical problems involving both solids and fluids.
2. Demonstrate proficiency, both conceptually and mathematically with calculus, in solving mechanical wave problems.
3. Demonstrate proficiency, both conceptually and mathematically with calculus, in solving thermodynamic problems.
4. Demonstrate proficiency, both conceptually and mathematically with calculus, in solving electric, magnetic and electromagnetic problems.
5. Demonstrate proficiency, both conceptually and mathematically with calculus, in solving ray and wave optics problems.
6. Demonstrate proficiency, both conceptually and mathematically with calculus, in solving modern physics problems.
7. Demonstrate proficiency in construction and assembly of experimental apparatuses; conduct and analyze measurements of physical phenomena; assess experimental uncertainty; make meaningful comparisons between experiment and theory; and interpret results.

Recommended Sequence

Make an appointment with your SBCC academic counselor through Starfish to create a Student Education Plan that reflects a recommended course sequence for this program that is tailored to your individual needs.

How to schedule an Academic Counseling appointment (https://www.sbcc.edu/counselingcenter/counselingappointments.php).