ASTRONOMY, ASSOCIATE OF SCIENCE (AS)

Overview

Astronomy has played an important role in the development of modern science and technology. Astronomers study the formation, chemistry, composition, and evolution of celestial objects. Modern astronomers work with advanced technology and instrumentation to study planets, stars galaxies, nebulae, black holes, and the universe itself. Students take astronomy courses to prepare for a major in astronomy, or to fulfill general education requirements in related fields, or to prepare for various vocational jobs as technicians for high-tech industries. Graduates with a bachelor's degree in astronomy pursue careers as museum and planetarium directors, astronomers/astrophysicists, space scientists, mission data analysts, spacecraft and instrument designers, teachers, observatory technicians, telescope operators, electronics technicians, computer programmers, or to work in the fields of optics, mathematics, electronics, or computer programming.

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
CS 105	Theory and Practice I	3-4
or CS 133	Introduction to Programming for Engineers	
or CS 137	C Programming	
or CS 140	Object-Oriented Programming Using C++	
ERTH 101	Introductory Astronomy	3-4
or ERTH 101H	Introductory Astronomy, Honors	
ERTH 102	Observational Astronomy Laboratory	1
ERTH 106	Black Holes and the Universe [1]	3-4
or ERTH 111	Dynamic Earth - Physical Geology	
or ERTH 111H	Dynamic Earth - Physical Geology, Honors	
or ERTH 141	Physical Geography	
or GEOG 101	Physical Geography	
MATH 150	Calculus with Analytic Geometry I	5
MATH 160	Calculus with Analytic Geometry II	5
PHYS 121	Mechanics Of Solids And Fluids	5
PHYS 122	Electricity and Magnetism	5
PHYS 123	Heat, Light and Modern Physics	5
Total Units		**40.00-43.00**

[1] Students interested in pursuing a degree in astronomy with an astrophysics emphasis should take ERTH 106. Students interested in pursuing a degree in astronomy with planetary emphasis should take either ERTH 111 (or 111H) or ERTH 141 (or GEOG 101).

Learning Outcomes

1. Recognize how science works, the scientific method, the reliance on logic, critical thinking, data analysis and interpretation, cause and effect relationships.
2. Research historical facts that reveal the human dilemmas, the moral and ethical issues in science.
3. Learn the facts, and classify information, physical properties, and attributes of objects being studied.
4. Recognize famous theories, fields of study, scientific developments, milestones in science.

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).