

## ASTRONOMY

### ASTR 10, Descriptive Astronomy

3 Units

3 hours lecture (GR).

Prerequisite: MATH 201 or, 210D, 230, 240 or appropriate placement into transfer level math through multiple measures.

Acceptable for credit: UC/CSU

AA/AS area 1; CSU area B1; IGETC area 5A.

Survey of astronomy at a descriptive level: Development of modern astronomy, light, astronomical instruments, the sun, formation and evolution of the solar system, the terrestrial planets, the Jovian planets, asteroids, comets, planets around other stars, and a brief survey of stars. Not open for credit to students who have completed or are currently enrolled in ASTR 1. 1911.00

### ASTR 15, Space Weather

3 Units

3 hours lecture (GR or P/INP).

Recommended Preparation: MATH 201, 210D, 230 or 240.

Acceptable for credit: UC/CSU.

AA/AS area 1; CSU area B1

Introduction to modern space science and space weather: Energy from the Sun, space weather's impacts on Earth and human technology, Earth's magnetic field, Earth's upper atmosphere, northern lights, and magnetism on Mars. 1911.00

## BIOLOGY PROGRAMS

### Biology

#### Associate in Science for Transfer Degree (AS-T)\*

The Associate of Science Degree for Transfer (AS-T) in Biology is designed for students who plan to transfer to CSU as biology majors. In this program, they gain exposure to the five main topics of biology (cell, molecular, organismal biology, evolution and ecology).

Students who successfully complete the AS-T in Biology earn specific guarantees for transfer to the CSU system: admission to a CSU with junior status, and priority admission to a CSU campus and to a program or major in biology or a similar major. Students transferring to a CSU campus will be required to complete no more than 60 units after transfer to earn a bachelor's degree.

Students are required to complete 60 semester units that are eligible for transfer to a California State University, including the following: (1) The Inter-segmental General Education Transfer Curriculum (IGETC for STEM) Breadth Requirements (31 units) and (2) 39 semester units with a grade of C or better in the major or area of emphasis and an overall minimum grade point average (GPA) of at least 2.0 in all CSU transferable coursework.

Students are advised to consult with a Berkeley City College Counselor for additional information and to verify transfer requirements.

\*Please note that students can only take the IGETC for STEM as the GE pattern for this program.

Required Courses		Units
BIOL 1A	General Biology	5
BIOL 1B	General Biology	5
CHEM 1A	General Chemistry	5
CHEM 1B	General Chemistry	5
MATH 3A	Calculus I	5
PHYS 3A	General Physics	5
PHYS 3B	General Physics	5

#### Select one of the following courses:

CHEM 30B	Introductory Organic and Biochemistry	4
MATH 13	Introduction to Statistics	4
Major Requirements:		39
General Education (IGETC or CSU GE) and Electives:		21
<b>Total Units:</b>		<b>60</b>

## Recommended Course Sequence

You can use the following pattern to complete an Associate in Science in Biology for Transfer degree. This is only one possible pattern. If you wish to earn an associate degree, you must participate in the Student Success Program (Matriculation), which includes assessing academic skills and developing a Student Education Plan (SEP) with a Counselor. This plan will map your sequence of courses to help you complete your degree regardless of the semester you begin classes.

Courses	Units
<b>1st Semester/Fall</b>	
MATH 3A Calculus I	5
CHEM 30B Introductory Organic and Biochemistry	4
<b>OR</b>	
MATH 13 Introduction to Statistics	4
General Education and Electives	6
<b>Total</b>	<b>15</b>
<b>2nd Semester/Spring</b>	
CHEM 1A General Chemistry	5
PHYS 3A General Physics	5
General Education and Electives	5
<b>Total</b>	<b>15</b>
<b>3rd Semester/Fall</b>	
BIOL 1A General Biology	5
CHEM 1B General Chemistry	5
General Education and Electives	5
<b>Total</b>	<b>15</b>
<b>4th Semester/Spring</b>	
BIOL 1B General Biology	5
PHYS 3B General Physics	5
General Education and Electives	5
<b>Total</b>	<b>15</b>

#### Program Learning Outcomes

Students who complete the program will be able to:

- Demonstrate skills in the scientific methods used in the biological sciences.
- Explain core concepts of biology: chemical makeup of biomolecules and their importance in the structure and function of the cell; functions of organelles, cellular processing, including respiration, photosynthesis, mitosis, meiosis, transcription/translation, and fundamental biological concepts in classical and molecular genetics, and molecular biology; classification, life cycles, physiology, anatomy and development of animals, plants, fungi, protista and prokaryotes.
- Explain the core concepts of evolution and ecology.