

BIOLOGY

The courses offered in the Biology Department are designed to meet the demands of allied health majors, science majors, and non-science majors.

For non-majors, the department's goal is to educate students so they can make informed choices about key socio-biological issues while having the options to take courses with or without a laboratory.

For majors and allied health, the courses provide a strong background in the biological sciences for students transferring to four-year institutions who are interested in careers such as teaching, research, environmental science, or allied health.

Students planning to transfer to a four-year institution in Biology or a related field should consult a counselor at the earliest.

Science Courses for Biology Majors

Students may be eligible to enroll in introductory courses depending on their results of the SBVC assessment process. Contact a Counselor to plan your transfer to a University and to discuss graduation requirements towards an AS-T or AS Biology degree. Counselors experienced with STEM fields are available in the Physical Sciences (PS) Building. Consult the Science Division or visit the Biology Department website for more information.

Code	Title	Units
Chemistry		
CHEM 101	Introductory Chemistry	4-5
or CHEM 105	Introduction to General, Organic and Biochemistry	
CHEM 150	General Chemistry I	5
CHEM 151	General Chemistry II	5

Note: CHEM 150 must be taken concurrently or previously before entering into BIOL 205.

Code	Title	Units
Biology		
BIOL 205	Cell and Molecular Biology	4
BIOL 206	Organismal Biology	4
BIOL 207	Evolutionary Ecology	4

Note: BIOL 206 and BIOL 207 may be taken out of sequence as long as BIOL 205 was taken with a passing grade. BIOL 207 is only offered in the Spring semester.

Code	Title	Units
Physics		
PHYSIC 151	General Physics for the Life Sciences I	4
PHYSIC 152	General Physics for the Life Sciences II	4

Note: PHYSIC 202 and PHYSIC 203 may be taken in lieu of PHYSIC 151 and PHYSIC 152. Consult a counselor to identify transfer programs requiring the 200 series.

To waive CHEM 101, students must:

- Complete credit-by-examination form along with other College policies and conditions provided by the Admissions and Records Office (AD/SS 100) and the Science Division (PS 148).
- Complete and pass a Chemistry examination.

Consult a STEM Counselor for additional information: <http://www.sbvstem.org/stem-counseling.php>

Contact Information

Division: Science (PS - 148)

Division Phone Number: (909) 384-8645

Faculty Chairs: Lorrie Burnham (lburnham@sbccd.edu), M.S., and Melissa Romero (melromero@valleycollege.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.

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

Note: The Biology Associate of Science Transfer Degree is intended for students who wish to transfer to a CSU.

BIOL 100 4 Units

General Biology

Lecture: 54 contact hours

Lab: 54 contact hours

This is an introductory course that explores biological concepts in our everyday lives as they are closely connected to racial, sociocultural, health, and environmental issues.

Associate Degree Applicable

Transfers to both UC/CSU

BIOL 104 3 Units

Human Ecology

Lecture: 54 contact hours

Advisory: ENGL 101 or ENGL 101H

The course presents the ecological consequences of human resource use and population growth. Emphasis is placed on earth's life support systems and current environmental problems threatening human health and species survival.

Associate Degree Applicable

Transfers to both UC/CSU

BIOL 141 3 Units

Genetics

Lecture: 54 contact hours

Advisory: ENGL 101 or ENGL 101H

This course is a general introduction to the fundamentals of human heredity. Topics include patterns of inheritance, the structure of DNA and its function, the role mutations play in genetic diseases and cancer, the interaction between genes and the environment, and recent advances in biotechnology and its impact on society.

Associate Degree Applicable

Transfers to both UC/CSU

BIOL 155 4 Units**Introductory Anatomy and Physiology****Lecture:** 54 contact hours**Lab:** 54 contact hours**Advisory:** Eligibility for college level English based on the SBVC Guided-Self Placement process.

This course is a one-semester introduction to human anatomy and physiology. The course is intended to meet the prerequisite for students entering allied health technician programs or general education requirements of a life science course with a laboratory.

Associate Degree Applicable**Transfers to CSU only****BIOL 205 4 Units****Cell and Molecular Biology****Lecture:** 54 contact hours**Lab:** 54 contact hours**Prerequisite:** Eligibility for college level Mathematics based on the SBVC Guided-Self Placement process.

This course is an introduction to cellular and molecular aspects of biology emphasizing principles of scientific process, evolution by natural selection, prokaryotic and eukaryotic cell structure and function, classic and modern genetics, and concepts that integrate cellular with organismal activities. Experimental design concepts and application are emphasized in the laboratory. This is the first semester of three introductory biology courses for the pre-professional, biology major, environmental science or others interested in an in-depth study of biology.

Associate Degree Applicable**Transfers to both UC/CSU****C-ID:** BIOL 190/135S**BIOL 206 4 Units****Organismal Biology****Lecture:** 54 contact hours**Lab:** 54 contact hours**Prerequisite:** BIOL 205 and eligibility for college level Mathematics based on the SBVC Guided-Self Placement process.

This course is an introduction to the diversity of organisms, their structure, function, and adaptations to the environment. The course requires participation in field trips and outdoor classroom (Living Lab Garden and Oak Garden) activities. This course is part of three introductory biology courses for the pre-professional, biology major, environmental science or others interested in an in-depth study of biology.

Associate Degree Applicable**Transfers to both UC/CSU****C-ID:** B 140/130S/135S**BIOL 207 4 Units****Evolutionary Ecology****Lecture:** 54 contact hours**Lab:** 54 contact hours**Prerequisite:** BIOL 205 and eligibility for college level Mathematics based on the SBVC Guided-Self Placement process.

This course is an introduction to the principles of evolution and the ecological processes governing organisms and populations. The course requires participation in and completion of a field project and participation in weekend field trips and outdoor classroom (Living Lab Garden and Oak Garden) activities. This course is part of three introductory biology courses for the pre-professional, biology major, environmental science or others interested in an in-depth study of biology.

Associate Degree Applicable**Transfers to both UC/CSU****C-ID:** BIOL 130S/135S**BIOL 222 1-3 Units****Independent Study in Biology****DIR:** 54 contact hours

Students with previous course work in biology may do assigned projects involving research and analysis of selected topics. This independent study is for students who are interested in furthering their knowledge of Biology. Prior to registration, a contract must be prepared. See instructor for details.

Associate Degree Applicable**Transfers to CSU only****BIOL 250 4 Units****Human Anatomy and Physiology I****Lecture:** 54 contact hours**Lab:** 54 contact hours**Advisory:** BIOL 100 and ENGL 101 or ENGL 101H

This is the first semester of a two-semester sequence that introduces students to the basic concepts and principles of human anatomy and physiology. This course provides a foundation for pre-allied professional majors or others interested in the advanced study of human biology. Topics include inorganic and organic chemistry, body orientation and organization, cytology, histology, fluid and electrolyte balances, and the following systems: nervous, skeletal, muscular, nervous, digestive system, and metabolism. Course includes dissections of preserved specimens. C-ID Note: BIOL 250 + BIOL 251 = C-ID BIOL 115S sequence. Upon transfer the sequence is equivalent to the completion of both BIOL 260 (C-ID 110B) + BIOL 261 (C-ID 120B) and considered duplication of credit; maximum credit awarded are 2 courses only.

Associate Degree Applicable**Transfers to both UC/CSU****C-ID:** BIOL 115S**BIOL 251 4 Units****Human Anatomy and Physiology II****Lecture:** 54 contact hours**Lab:** 54 contact hours**Prerequisite:** BIOL 250**Advisory:** BIOL 100 and CHEM 101 or CHEM 105

This is the second semester of a two-semester sequence that introduces students to the basic concepts and principles of human anatomy and physiology. This course provides a foundation for pre-professional majors or others interested in the advanced study of human biology. Topics include fluid and electrolyte balance and the following body system: integumentary, cardiovascular, lymphatic, respiratory, urinary, endocrine, and reproductive. The course includes dissections of preserved specimens. C-ID Note: BIOL 250 + BIOL 251 = C-ID BIOL 115S sequence. Upon transfer the sequence is equivalent to the completion of both BIOL 260 (C-ID 110B) + BIOL 261 (C-ID 120B) and considered duplication of credit; maximum credit awarded are 2 courses only.

Associate Degree Applicable**Transfers to both UC/CSU****C-ID:** BIOL 115S

BIOL 260 4 Units**Human Anatomy****Lecture:** 54 contact hours**Lab:** 54 contact hours**Advisory:** BIOL 155

This is a comprehensive lecture/laboratory course in human anatomy. It is organized to explore the body both regionally and systemically. The course studies gross anatomy with an extensive dissection of the cat and other significant organs. Relevant comparisons to human systems and structures are emphasized in the laboratory portion of the course. Histological and cellular anatomy are included as they apply to various structures and systems.

Associate Degree Applicable**Transfers to both UC/CSU****C-ID:** BIOL 110B**BIOL 261 4 Units****Human Physiology****Lecture:** 54 contact hours**Lab:** 54 contact hours**Prerequisite:** BIOL 260 and CHEM 105 or CHEM 101**Advisory:** BIOL 100

This course is the second semester of a two-semester sequence. It builds on an understanding of structure to explain the dynamic functions of the human body to a cellular level. Topics include physiology of the following systems: muscular, skeletal, nervous, endocrine, cardiovascular, respiratory, digestive, urinary, and reproductive. Homeostatic mechanisms and the interrelationships of body organ systems are emphasized and enhanced with clinical illustrations. C-ID Note: BIOL 250 + BIOL 251=C-ID BIOL 115S sequence. Upon transfer the sequence is equivalent to the completion of both BIOL 260 (C-ID 110B) + BIOL 261 (C-ID 120B) and considered duplication of credit; maximum credit awarded are 2 courses only.

Associate Degree Applicable**Transfers to both UC/CSU****C-ID:** BIOL 120B**BIOL 270 5 Units****Microbiology****Lecture:** 54 contact hours**Lab:** 108 contact hours**Prerequisite:** CHEM 101 or CHEM 105**Advisory:** Eligibility for college level English based on the SBVC Guided-Self Placement process.

This course is a formal introduction to and exciting exploration of the fundamental principles and techniques of microbiology and immunology. Attention is given to the morphology, control, metabolism, and genetics of microorganisms. Emphasis is placed on the pathogenesis of and immunity to infectious diseases.

Associate Degree Applicable**Transfers to both UC/CSU**