

# BIOLOGY (BIOL)

## **BIOL 1106 Biology for Science Majors I (lab) 1 Credit (0 Lec, 3 Lab)**

In this lab course, the fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included. A student may not use both BIOL 1306 & 1106 and 1308 & 1108 to satisfy the core.

Prerequisite(s): Reading level 7;

Co-requisite(s): BIOL 1306

Course Type: Academic

## **BIOL 1107 Biology for Science Majors II (lab) 1 Credit (0 Lec, 3 Lab)**

In this lab course, the diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. A student may not use both BIOL 1307 & 1107 and 1309 & 1109 to satisfy the core.

Prerequisite(s): Reading level 7; co-requisite BIOL 1307

Course Type: Academic

## **BIOL 1108 Biology for Non-Science Majors I (lab) 1 Credit (0 Lec, 3 Lab)**

This lab course provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction. THIS COURSE IS NOT INTENDED FOR SCIENCE MAJORS. A student may not use both BIOL 1306 & 1106 and 1308 & 1108 to satisfy the core.

Prerequisite(s): Reading level 7;

Co-requisite(s): BIOL 1308

Course Type: Academic

## **BIOL 1109 Biology for Non-Science Majors II (lab) 1 Credit (0 Lec, 3 Lab)**

This lab course will provide a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology. THIS COURSE IS NOT INTENDED FOR SCIENCE MAJORS. A student may not use both BIOL 1307 & 1107 and 1309 & 1109 to satisfy the core.

Prerequisite(s): Reading level 7;

Co-requisite(s): BIOL 1309

Course Type: Academic

## **BIOL 1111 General Botany (lab) 1 Credit (0 Lec, 3 Lab)**

This is a lab course in the fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution and phylogeny of major plant groups, algae, and fungi. (This course is intended for science majors.) Recommended

Prerequisite: Reading level 7;

Prerequisite(s): MATH 1314 - Successful completion of College Algebra is recommended. Reading level 7;

Co-requisite(s): BIOL 1311

Course Type: Academic

## **BIOL 1113 General Zoology (lab) 1 Credit (0 Lec, 3 Lab)**

This is a lab course in the fundamental biological concepts relevant to animals including systematics, evolution, structure, function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny and ecology. (This course is intended for science majors.) Recommended

Prerequisite: Reading level 7;

Prerequisite(s): MATH 1314 - Successful completion of College Algebra is recommended. Reading level 7;

Co-requisite(s): BIOL 1313

Course Type: Academic

## **BIOL 1306 Biology for Science Majors I (lecture) 3 Credits (3 Lec, 0 Lab)**

In this lecture course, the fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification.

Concepts of cytology, reproduction, genetics, and scientific reasoning are included. A student may not use both BIOL 1306 & 1106 and 1308 & 1108 to satisfy the core.

Prerequisite(s): Reading level 7;

Co-requisite(s): BIOL 1106

Course Type: Academic

## **BIOL 1307 Biology for Science Majors II (lecture) 3 Credits (3 Lec, 0 Lab)**

In this lecture course, the diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes.

Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. A student may not use both BIOL 1307 & 1107 and 1309 & 1109 to satisfy the core.

Prerequisite(s): Reading level 7;

Co-requisite(s): BIOL 1107

Course Type: Academic

## **BIOL 1308 Biology for Non-Science Majors I (lecture) 3 Credits (3 Lec, 0 Lab)**

This lecture course provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction. THIS COURSE IS NOT INTENDED FOR SCIENCE MAJORS. A student may not use both BIOL 1306 & 1106 and 1308 & 1108 to satisfy the core.

Prerequisite(s): Reading level 7;

Co-requisite(s): BIOL 1108

Course Type: Academic

## **BIOL 1309 Biology for Non-Science Majors II (lecture) 3 Credits (3 Lec, 0 Lab)**

This lecture course will provide a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology. THIS COURSE IS NOT INTENDED FOR SCIENCE MAJORS. A student may not use both BIOL 1307 & 1107 and 1309 & 1109 to satisfy the core.

Prerequisite(s): Reading level 7;

Co-requisite(s): BIOL 1109

Course Type: Academic

**BIOL 1311 General Botany 3 Credits (3 Lec, 0 Lab)**

This is a lecture course in the fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution and phylogeny of major plant groups, algae, and fungi. (This course is intended for science majors.) Recommended Prerequisite: Reading level 7; Prerequisite(s): MATH 1314 - Successful completion of College Algebra is recommended. Reading level 7;

Co-requisite(s): BIOL 1111

Course Type: Academic

**BIOL 1313 General Zoology (lecture) 3 Credits (3 Lec, 0 Lab)**

This is a lecture course in the fundamental biological concepts relevant to animals including systematics, evolution, structure, function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny and ecology. (This course is intended for science majors.) Recommended Prerequisite: Reading level 7; Prerequisite(s): MATH 1314 - Successful completion of College Algebra is recommended. Reading level 7;

Co-requisite(s): BIOL 1113

Course Type: Academic

**BIOL 1322 Nutrition and Diet Therapy 3 Credits (3 Lec, 0 Lab)**

This course introduces general nutritional concepts in health and disease and includes practical applications of that knowledge. Special emphasis is given to nutrients and nutritional processes including functions, food sources, digestion, absorption, and metabolism. Food safety, availability, and nutritional information including food labels, advertising, and nationally established guidelines are addressed. Prerequisite(s): Reading level 7. Cross-listed as HECO 1322. Credit will only be issued for BIOL 1322 or HECO 1322, not both.

Course Type: Academic

**BIOL 2101 Anatomy and Physiology I (Lab) 1 Credit (0 Lec, 3 Lab)**

The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include integumentary, skeletal, muscular, nervous, and special senses. BIOL 1306/1106 is highly recommended for success in BIOL 2101, but it is not required. Prerequisite(s): Reading level 7, Writing level 7, Math level 8;

Co-requisite(s): BIOL 2301

Course Type: Academic

**BIOL 2102 Anatomy and Physiology II (Lab) 1 Credit (0 Lec, 3 Lab)**

The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Prerequisite(s): BIOL 2301/2101 (final grade of C or better recommended), and Reading level 7;

Co-requisite(s): BIOL 2302

Course Type: Academic

**BIOL 2120 Microbiology for Health Science Majors (lab) 1 Credit (0 Lec, 3 Lab)**

This lab course covers basics of culture and identification of bacteria and microbial ecology. This course is primarily directed at pre-nursing and other pre-allied health majors and covers basics of microbiology. Emphasis is on medical microbiology, infectious diseases, and public health. (A student may not receive credit for both BIOL 2320/2120 and BIOL 2321/2121.)

Prerequisite(s): BIOL 2301/2101 or 2302/2102 (recommended to be met with a C or better) or approval by department chair, and Reading level 7;

Co-requisite(s): BIOL 2320

Course Type: Academic

**BIOL 2121 Microbiology for Science Majors (lab) 1 Credit (0 Lec, 3 Lab)**

This lab course focuses on laboratory activities that will reinforce principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes. The course will also examine the interactions of microbes with each other, hosts, and the environment. (A student may not receive credit for both BIOL 2320/2120 and BIOL 2321/2121.)

Prerequisite(s): BIOL 1306/1106 and BIOL 1307/1107, or BIOL 1311/1111 and 1313/1113; CHEM 1311/1111 and 1312/1112, and sophomore standing; Reading level 7;

Co-requisite(s): BIOL 2321. Some prerequisites may be waived with permission of department chair.

Course Type: Academic

**BIOL 2301 Anatomy and Physiology I (Lecture) 3 Credits (3 Lec, 0 Lab)**

Anatomy and Physiology I is the first part of a two course sequence. It is a study of the structure and function of the human body including cells, tissues and organs of the following systems: integumentary, skeletal, muscular, nervous and special senses. Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. BIOL 1306/1106 is highly recommended for success in BIOL 2301, but it is not required.

Prerequisite(s): Reading level 7, Writing level 7, Math level 8;

Co-requisite(s): BIOL 2101

Course Type: Academic

**BIOL 2302 Anatomy and Physiology II (Lecture) 3 Credits (3 Lec, 0 Lab)**

Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body, including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. Including the digestive, urinary, reproductive, respiratory, and circulatory systems.

Prerequisite(s): BIOL 2301/2101 (recommended with a final grade of C or better), and Reading level 7;

Co-requisite(s): BIOL 2102

Course Type: Academic

**BIOL 2320 Microbiology for Health Science Majors (lecture) 3 Credits (3 Lec, 0 Lab)**

This lecture course covers basic microbiology and immunology and is primarily directed at pre-nursing, pre-allied health, and non-science majors. It provides an introduction to historical concepts of the nature of microorganisms, microbial diversity, the importance of microorganisms and acellular agents in the biosphere, and their roles in human and animal diseases. Major topics include bacterial structure as well as growth, physiology, genetics, and biochemistry of microorganisms. Emphasis is on medical microbiology, infectious diseases, and public health. (A student may not receive credit for both BIOL 2320/2120 and BIOL 2321/2121.)

Prerequisite(s): BIOL 2301/2101 or 2302/2102 (recommended to be met with a C or better) or approval by department chair, and Reading level 7;

Co-requisite(s): 2120

Course Type: Academic

**BIOL 2321 Microbiology for Science Majors (lecture) 3 Credits (3 Lec, 0 Lab)**

This course focuses on the principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes. The course will also examine the interactions of microbes with each other, hosts, and the environment. (A student may not receive credit for both BIOL 2320/2120 and BIOL 2321/2121.)

Prerequisite(s): BIOL 1306/1106 and BIOL 1307/1107, or BIOL 1311/1111 and 1313/1113; CHEM 1311/1111 and 1312/1112; and sophomore standing, Reading level 7. Some prerequisites may be waived with permission of department chair.

Co-requisite(s): BIOL 2121

Course Type: Academic

**BIOL 2389 Academic Cooperative 3 Credits (1 Lec, 8 Lab)**

This is an instructional program designed to integrate on-campus study with practical hands-on work experience in the biological sciences/life sciences. In conjunction with class seminars, the individual student will set specific goals and objectives of study of living organisms and their systems.

Prerequisite(s): Eight hours of biology and/or environment science; Reading level 7, Writing level 7, Math level 8

Course Type: Academic

**BIOL 2404 Introduction to Anatomy and Physiology (lecture & lab) 4 Credits (3 Lec, 3 Lab)**

This course is a study of the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems. Content may be either integrated or specialized. Program Note: This course is designed specifically for Non-Nursing Allied Health Programs - Health Information Technology, Medical Imaging, Respiratory Care, and Surgical Technology programs. Students seeking a nursing degree must take BIOL 2301/2101 and BIOL 2302/2102 (formerly BIOL 2401 and 2402).

Prerequisite(s): Reading level 7

Course Type: Academic