

# BIOLOGY (BIOL)

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## **BIOL-1322. Nutrition and Diet Therapy. (3 Credits)**

(3-3-0) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. 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.

## **BIOL-1406. Biology for Science Majors I. (4 Credits)**

(4-3-3) (Core Area 030) This course is taken for academic credit. (Prerequisite Math 1314 or concurrent enrollment in higher-level math) Students will earn an A, B, C, D, F, or W. 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 laboratory component is included that gives practical experience to material covered in class. Lab fee. Students may only receive credit for BIOL 1406 when taken with BIOL 1407 or any PHYS.

## **BIOL-1407. Biology for Science Majors II. (4 Credits)**

(4-3-3) (Core Area 030) This course is taken for academic credit. (Prerequisite Math 1314 or concurrent enrollment in higher-level math). Students will earn an A, B, C, D, F, or W. 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 laboratory component is included that gives practical experience to material covered in class. Lab fee. Students may only receive credit for BIOL 1407 when taken with BIOL 1406 or any CHEM or any PHYS.

## **BIOL-1408. Biology for Non-Science Majors I. (4 Credits)**

(4-3-3) (Core Area 030) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction. Laboratory activities will reinforce a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction. Lab fee. Students may only receive credit for BIOL 1408 when taken with BIOL 1409 or any CHEM or any PHYS.

## **BIOL-1409. Biology for Non-Science-Majors II. (4 Credits)**

(4-3-3) (Core Area 030) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Provides a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology. Laboratory activities will reinforce a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology. Lab fee. Students may only receive credit for BIOL 1409 when taken with BIOL 1408 or any CHEM or any PHYS.

**BIOL-1411. General Botany. (4 Credits)**

(4-3-4) (Core Area 030) This course is taken for academic credit. (Prerequisite Math 1314 or concurrent enrollment in higher-level math) Students will earn an A, B, C, D, F, or W. 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. A laboratory component is included that gives practical experience to material covered in class. Lab fee. Students may only receive credit for BIOL 1411 when taken with BIOL 1413 or any CHEM or any PHYS.

**BIOL-1413. General Zoology. (4 Credits)**

(4-3-3) (Core Area 030) This course is taken for academic credit. (Prerequisite Math 1314 or concurrent enrollment in higher-level math). Students will earn an A, B, C, D, F, or W. Fundamental biological concepts relevant to animals, including systematics, evolution, structure and function, cellular and molecular metabolism, reproduction, development, diversity, phylogeny and ecology. A laboratory component is included that gives practical experience to material covered in class. Lab fee. Students may only receive credit for BIOL 1413 when taken with BIOL 1411 or any CHEM or any PHYS.

**BIOL-2401. Anatomy and Physiology I. (4 Credits)**

(4-3-3) (Core Area 030) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. 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. A laboratory component is included that gives practical experience to material covered in class. Lab fee.

**BIOL-2402. Anatomy and Physiology II. (4 Credits)**

(4-3-3) (Core Area 030) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. 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 fluids 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. A laboratory component is included that gives practical experience to material covered in class. Lab fee.

**BIOL-2404. Anatomy and Physiology (single-Semester) Course. (4 Credits)**

(4-3-3) (Core Area 030) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Study of the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory and circulatory systems. A laboratory component is included that gives practical experience to material covered in class. Lab fee.

**BIOL-2420. Microbiology for Non-Science Majors. (4 Credits)**

(4-3-3) (Core Area 030) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. 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 laboratory component is included that gives practical experience to material covered in class. Lab fee.

**BIOL-2421. Microbiology for Science Majors. (4 Credits)**

(4-3-3) (Core Area 030) This course is taken for academic credit. (Prerequisite CHEM 1411 plus either BIOL 1406 or BIOL 1411). Students will earn an A, B, C, D, F, or W. 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 laboratory component is included that gives practical experience to material covered in class. Lab fee.