

BIOLOGY (BIOL/BIOL&)

Environ Biol Conf/Lab
BIOL 101 5 Credits/Units

3.0 hours of lecture / 4.0 hours of lab

Overview of basic concepts and issues related to the interaction between humans and their environment. Topics include population growth, loss of biodiversity, global climate change, ozone depletion, energy consumption and various types of pollution. This course is intended for non-majors and fulfills the laboratory science distribution requirement. It is also required for WSU-Vancouver Environmental Science/Regional Planning majors. [GE, NS, NS-LAB, SE]

The Process of Discovery
BIOL 102 5 Credits/Units

3.0 hours of lecture / 4.0 hours of lab

Introduction to the processes of discovery used in the natural and social sciences. Includes authentic research on factors that contribute to college student success, studied in social, psychological, and physiological contexts. Research topics include hypothesis development, experimental design, literature searches, data analysis, research ethics and human subjects research considerations. Course fulfills COLL 101: College Essentials outcomes including goal setting, personal management skills, developing an academic plan, developing cultural competence and communication skills, financial literacy, and an introduction to student resources at the college. [GE, NS, NS-LAB, SE] [PNP]

Small World Antibiotics Research 1
BIOL 105 5 Credits/Units

3.0 hours of lecture / 4.0 hours of lab

Investigative course involving authentic research to discover potentially new antibiotics. Overview of basic concepts and issues in biology including the cellular basis of life, metabolism, principles of inheritance, evolution and ecology as they relate to soil microbiology and human disease processes and treatment. Strong emphasis on scientific inquiry including critical thinking, laboratory research methodology, and communication abilities. This course is intended for non-biology majors and fulfills the laboratory science requirements or as a recommended course for other biology courses. English writing skills are highly recommended. [GE, NS, NS-LAB, SE][PNP]

Small World Antibiotics Research 2b
BIOL 106 5 Credits/Units

3.0 hours of lecture / 4.0 hours of lab

Focuses on research to discover new antibiotics to help alleviate the current worldwide crisis of antibiotic-resistant bacteria including microbial cell structure, growth, genetics and antibiotic production, DNA sequencing, PCR, nanopore-based genome sequencing, and bioinformatic analysis. Lab work will focus on determining, analyzing and 'mining' the genome sequence of antibiotic-producing bacteria isolated in BIOL 105, with the aim of discovering novel antibiotics. Strong emphasis on scientific inquiry including critical thinking, laboratory research methodology, and communication abilities. [GE, NS, NS-LAB, SE][PNP]

Introduction to Wildlife
BIOL 139 3 Credits/Units

3.0 hours of lecture

Wildlife conservation and management in the U.S. and throughout the world. Examines the social and political aspects of wildlife conservation and management, challenges to management of biodiversity, wildlife population management, and ecosystem management. [GE, NS, SE]

Mammals of The Northwest
BIOL 140 3 Credits/Units

3.0 hours of lecture

Important mammals of the Pacific Northwest. Their identification, classification, life histories, ecology, current status, and management. [GE, NS, SE]

Birds of The Pacific Northwest
BIOL 141 3 Credits/Units

3.0 hours of lecture

Important Birds of the Pacific Northwest. Their identification, classification, life histories, ecology, current status, and management. [GE, NS, SE]

Freshwater Fishes of The Pacific Northwest
BIOL 142 3 Credits/Units

3.0 hours of lecture

Important fishes of the Pacific Northwest. Identification, classification, and basic biology of freshwater fishes of the Pacific Northwest. Introduction to fishery management concepts. Overview of factors affecting salmon in the Columbia River Basin. [GE, NS, SE]

Reptiles & Amphibians of The Pacific NW
BIOL 145 3 Credits/Units

3.0 hours of lecture

Introduction to the biology, ecology, evolution, and geographic distribution of Pacific Northwest reptiles and amphibians. [GE, NS, SE]

Marine Biology
BIOL 150 5 Credits/Units

3.0 hours of lecture / 4.0 hours of lab

The marine environment (physical and chemical properties), its plants, bacteria, animal life (vertebrates, invertebrates), ecosystems, fisheries and pollution. [GE, NS, NS-LAB, SE]

Human Genetics
BIOL 167 3 Credits/Units

3.0 hours of lecture

An introduction to a variety of genetics topics for non-science majors. Topics include: basic cell biology, DNA structure & function, mutations, inherited diseases, home genetic/ancestry testing, pedigree analysis, forensic sciences, gene therapy, cloning, eugenics, and realized and/or potential societal impacts. Gain greater knowledge & understanding of genetics and how it does/can impact you. [GE, NS, SE][PNP]

Bioethics
BIOL 180 3 Credits/Units

3.0 hours of lecture

Study of biological science and ethics. Ethical principles and theories are used in solving bioethical dilemmas. Concepts studied include genetic engineering, inherited disorders, cloning, physician assisted suicide, allocation of health resources, organ donation, and environmental ethics. [GE, NS, SE][PNP]

Cooperative Work Experience
BIOL 199 1-5 Credits/Units

15.0 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. [GE]

Field BIOL 208 2.0 hours of lecture / 16.0 hours of lab Prerequisite: Completion of a 100- or 200-level Biology course (BIOL, BIOL&) grade of "C" or higher For students interested in biology. An ecological approach with a diversity of habitats being visited (marine in winter, Great Basin Desert and marsh lands in spring). Credits for BIOL 208 are accumulated for each trip with a total of 15 credits possible for all trips. [GE, NS, NS-LAB, SE]	Studies	In	Biology 1-10 Credits/Units	Human BIOL& 175 4.0 hours of lecture / 2.0 hours of lab Introductory owner's manual to the human body for non-science majors. Gain greater knowledge of how your body works and more confidence when you encounter information about human biology or communicate with doctors. Topics: fundamentals of chemistry, cell structure/function, anatomy/physiology of selected organ systems (e.g. digestive, circulatory, respiratory, endocrine, reproductive, etc.), and examples of health issues associated with respective organ systems. Lab simulations and activities reinforce and extend lecture topics. [GE, NS, NS-LAB, SE]	Biology	w/	Lab 5 Credits/Units
Flowering BIOL 224 3.0 hours of lecture / 4.0 hours of lab Identification and ecology of local wildflowers through the use of taxonomic keys, preparation of specimens and field trips to study native species in their habitats. For forestry, wildlife, recreation, botany and non-biology majors interested in learning to recognize local wildflowers. [GE, NS, NS-LAB, SE]	Plants	of	The Pacific Northwest 5 Credits/Units	Majors BIOL& 221 3.0 hours of lecture / 4.0 hours of lab Prerequisite: BIOL& 100 (grade of "B" or higher) or BIOL& 222 (grade of "C" or higher) Third course of three introductory courses for life science majors. Covers Mendelian genetics, evolution, adaption, specialization, biodiversity, and ecology. BIOL& 222 is the first course in the three-course series for majors, to be taken prior to BIOL& 223 and BIOL& 221. [GE, NS, NS-LAB, SE]	Ecology/Evolution		5 Credits/Units
Human BIOL 275 6.0 hours of lab Department consent required for enrollment. Dissection of the muscular, circulatory, nervous, digestive and reproductive systems. [GE, SE]	Cadaver		Dissection 1-6 Credits/Units	Majors BIOL& 222 3.0 hours of lecture / 4.0 hours of lab Prerequisite: MATH 96 (grade of "C" or higher) or placement into Math level 50. First course of three introductory courses for life science majors. Includes organic chemistry, cell structure, DNA structure and replication, gene expression, cell division, organismal development, molecular genetics and biotechnology. BIOL& 222 is the first course in the three-course series for majors: to be taken prior to BIOL& 223 and BIOL& 221. [GE, NS, NS-LAB, SE]	Cell/Molecular		5 Credits/Units
Selected BIOL 280 5.0 hours of lecture Selected topics in Biology. Topics vary, and course contents change to reflect new topics. Because the course varies in content it is repeatable for credit for different topics. [GE, SE]		Topics	1-5 Credits/Units	Majors BIOL& 223 3.0 hours of lecture / 4.0 hours of lab Prerequisite: BIOL& 222 (grade of "C" or higher) Second course of three introductory courses for life science majors. Covers the physiology of major animal and plant organ systems. BIOL& 222 is the first course in the three-course series for majors, to be taken prior to (second) BIOL& 223 and (third) BIOL& 221. [GE, NS, NS-LAB, SE]	Organismal		5 Credits/Units
Special BIOL 290 5.0 hours of lecture Opportunity to plan, organize, and complete special projects approved by department. [GE]		Projects	1-5 Credits/Units	Human BIOL& 241 3.0 hours of lecture / 4.0 hours of lab Prerequisite: BIOL& 160 (grade of "C" or higher) The first in a two-term sequence exploring the relationships between structure and function in the human body. The sequence is intended as a prerequisite for students planning to major in Nursing, Dental Hygiene or other allied health programs, or as life science credit for non-biology majors. Topics include homeostasis, terminology, histology, the integumentary, skeletal, articular, muscular, nervous, and endocrine systems. [GE, NS, NS-LAB, SE]	Anatomy and Physiology	I	5 Credits/Units
Survey BIOL& 100 3.0 hours of lecture / 4.0 hours of lab Overview of basic concepts and issues in biology including the cellular basis of life, metabolism, principles of inheritance, evolution and diversity. Strong emphasis on the process of scientific inquiry using critical thinking and communication abilities. This course is intended for non-biology majors and fulfills the laboratory science requirements or as a recommended course for other biology courses. English writing skills are highly recommended. Required for psychology majors. [GE, NS, NS-LAB, SE]	of	Biology	5 Credits/Units				
General BIOL& 160 3.0 hours of lecture / 4.0 hours of lab Introduction to the study of the cell, the basic component of all living organisms. Emphasis on cell chemistry, structure, metabolism, energetics, cell division and genetic principles. Intended for students seeking a two-year degree in the health occupations. Lab work is required. [GE, NS, NS-LAB, SE][PNP]	Biology		W/Lab 5 Credits/Units				

Human Anatomy and Physiology II
BIOL& 242 5 Credits/Units

3.0 hours of lecture / 4.0 hours of lab

Prerequisite: BIOL& 241 (grade of "C" or higher)

The second in a two-term sequence exploring the relationships between structure and function in the human body. The sequence is intended as a prerequisite for students planning to major in Nursing, Dental Hygiene or other allied health programs, or as life science credit for non-biology majors. Topics include endocrine, cardiovascular, respiratory, digestive, urinary, and reproductive systems and fluid and electrolyte balance. [GE, NS, NS-LAB, SE]

Human A & P I
BIOL& 251 5 Credits/Units

3.0 hours of lecture / 4.0 hours of lab

Prerequisite: BIOL& 100 or BIOL& 160 or (BIOL 164 and BIOL 165), or BIOL& 221 or CHEM& 121 or CHEM& 141 (grade of "C" or higher)

The first in a three-term sequence exploring the relationships between structure and function in the human body. The sequence is intended as a prerequisite for students planning to major in Nursing, Dental Hygiene or other allied health programs, or as life science credit for non-biology majors. Topics include homeostasis, terminology, cells, protein synthesis, DNA replication, histology, the integumentary, skeletal, articular, and muscular systems, and bone, muscle and membrane physiology. [GE, NS, NS-LAB, SE]

Human A & P II
BIOL& 252 5 Credits/Units

3.0 hours of lecture / 4.0 hours of lab

Prerequisite: BIOL& 251 (grade of "C" or higher)

The second in a three-term sequence exploring the relationships between structure and function in the human body. The sequence is intended as a prerequisite for students planning to major in Nursing, Dental Hygiene or other allied health programs, or as life science credit for non-biology majors. Topics include homeostasis, neural tissue, the spinal cord and spinal nerves, the brain and cranial nerves, integration of neural function, the special senses, the endocrine and reproductive systems, development and inheritance. [GE, NS, NS-LAB, SE]

Human A & P III
BIOL& 253 5 Credits/Units

3.0 hours of lecture / 4.0 hours of lab

Prerequisite: BIOL& 252 (grade of "C" or higher)

The third in a three-term sequence exploring the relationships between structure and function in the human body. The sequence is intended as a prerequisite for students planning to major in Nursing, Dental Hygiene or other allied health programs, or as life science credit for non-biology majors. Topics include homeostasis, the cardiovascular, lymphatic, digestive, respiratory and urinary systems, cellular metabolism, and fluid and electrolyte balance. [GE, NS, NS-LAB, SE]

Microbiology
BIOL& 260 5 Credits/Units

3.0 hours of lecture / 4.0 hours of lab

Prerequisite: BIOL& 160 (grade of "C" or higher)

History of microbiology and a survey of organisms included in the study of microbiology with emphasis on bacteria. Physiology, morphology, genetics, growth and reproduction of bacteria. Experiments stress lab techniques and organisms that are a factor in clinic and hospital environments. [GE, NS, NS-LAB, SE]