BIOLOGY (BIOL)

BIOL 050 Human Biology
4 Credits
This is a Human Biology course intended for learners who require a Provincial Level (Grade 12) standing in Biology. The course includes a systematic study of human anatomy and physiology and includes a laboratory component. Learners will be encouraged to relate concepts of Human Biology to current issues within self and community.
Prerequisites
Principles of Math 10 or Foundations of Math & Pre-Calculus 10; and English Studies 10 or English First Peoples 10. Biology 11 and Chemistry 11 are both recommended
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 101 Introductory Biology I
3 Credits
Along with Biol 102, this course provides an introduction to the major themes and concepts of biology. Biology 101 focuses on biochemistry and metabolism, cell structure and function, plant and animal form and function, and a survey of the diversity of life. Learners gain hands-on experience in the scientific method, biochemistry, microscopy, species identification, and the study of plant and animal physiology. Both indoor laboratory and outdoor-class-field experiences are essential components of the course.
Prerequisites
Biology 11 or 12 or equivalent; and Chemistry 11 or 12 or equivalent.
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 102 Introductory Biology II
3 Credits
Along with Biol 101, this course provides an introduction to the major themes and concepts of biology. In Biology 102, learners will focus on key principles of molecular biology, genetics, biotechnology, reproduction, evolution, and ecology. Basic research techniques and applications of scientific method that complement the lecture material will be studied during in-person laboratory and outdoor field-based learning, with respect to working on traditional and contemporary First Nation territories.
Prerequisites
BIOL 101
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 131 Human Anatomy & Physiology I
3 Credits
This course is an examination of the principles of biology with reference to the human body. The structural organization of the body starting with cells and tissues and proceeding to the major body systems including the nervous, muscle, skeletal and integumentary system is examined.
Prerequisites
Chemistry 11 and Anatomy and Physiology 12 or equivalent
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 132 Human Anatomy & Physiology II
3 Credits
This course is the continued examination of the principles of Biology with reference to the human body. The course examines the physiology of the body including the functions and regulations of the cardiovascular, endocrine, lymphatic, nervous and reproductive systems, and how these systems interact to maintain homeostasis, levels of metabolism and primary functions of the human body.
Prerequisites
BIOL 131
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 133 Applied Microbiology
3 Credits
Intended for health science studies, this course focuses on microorganisms and viruses, and their relation to human health and disease. Particular emphasis will be on species that directly impact human health, with a survey of relevant diseases of all human organ systems. Aspects of molecular biology, genetics, microbial metabolism and growth that are relevant to pathogenesis, immunity, and treatment will be covered. Standard techniques of microbiology and biotechnology will be practiced in the laboratory.
Prerequisites
Chemistry 11 and Anatomy and Physiology 12 or equivalent
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 191 Introduction to Ecology
3 Credits
Biology 191 is designed to introduce non-Biology majors to the concepts and scientific principles associated with ecological systems. The principle of the biotic and abiotic components of ecosystems will be discussed, including energy flows, biogeochemical cycles, soils, structure of ecosystems, biodiversity, population and community ecology, and genetic diversity. The impacts of human initiated changes of ecosystems, including climate change, deforestation, soil loss, species extirpation and extinction, and species exploitation will be discussed. The concepts and techniques of conservation, restoration, and rehabilitation of ecosystems will be applied through practical examples.
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 201 Invertebrate Zoology
3 Credits
This course is an introduction to the diversity and biology of invertebrates. Through laboratory, field, and class activities learners survey the invertebrate phyla in the context of evolutionary relationships. Principles of reproduction, development, morphology, and physiology are assessed and compared between major groups. This course also examines ecological relationships and factors influencing distribution patterns. Invertebrate communities of marine, freshwater, and terrestrial environments are studied with examples from the local region, including Indigenous knowledges and perspectives. This course includes field-based learning and is often offered as a field-school intensive.
Prerequisites
BIOL 101 and BIOL 102 with a C or greater
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 202 Vertebrate Zoology
3 Credits
Introduction to the chordates, in particular the Subphylum Vertebrata. It provides an overview of the structure, function, evolution, diversity and ecology of vertebrate animals. The increasing complexity in structure and function of tissue and organ systems and the relationships between the various levels of vertebrate complexity will be discussed. Laboratories include comparative examination of functional systems amongst the major groups of vertebrates, with dissection of representative forms. (3,3,0)
Prerequisites
BIOL 101 and BIOL 102
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 203 Non-Vascular Plants & Fungi
3 Credits
Examination of the biology of algae, fungi, lichens and bryophytes, including discussions of their origins, evolution, ecology and physiology. Laboratories will include examination of local flora wherever possible. Field trips may be scheduled. (3,3,0)
Prerequisites
BIOL 101 and BIOL 102
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 204 Vascular Plants
3 Credits
A survey of the vascular plants including ferns and fern allies, conifers and other gymnosperms, and flowering plants. Cell structure and tissues of vascular plants are discussed as they relate to plant function. The origin and evolution of vascular plant structures and groups is emphasized. Laboratory studies will emphasize local plants and field trips may be arranged. (3,3,0)
Prerequisites
BIOL 101 and BIOL 102
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 205 Cell Structure and Function
3 Credits
Detailed examination of all levels of cell structure and function. Emphasis is placed upon the dynamic processes at the cellular level. Topics considered include biotechnology, prokaryote/eukaryote cells, membrane models, cell walls, cytoplasmic organelles, the nucleus, cell cycle and nucleocytoplasmic interactions. Laboratories emphasize experimental techniques in the study of cells. (3,3,0)
Prerequisites
BIOL 101 and BIOL 102 and CHEM 101 and CHEM 102 or CHEM 121 or 122; Co-requisites: CHEM 230 or CHEM 231
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 206 Cell Biochemistry
3 Credits
Examination of the fundamental principles of biochemistry, including protein structure and enzyme functions, cell energetics, biosyntheses, and mechanisms which control cell metabolism. The laboratories include detailed experimental analyses of the molecular functions of cells and tissues and methods of molecular biology. (3,3,0)
Prerequisites
BIOL 205; Co-requisite: CHEM 230
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 208 The Biology of Plants
3 Credits
This course introduces the major groups of land plants, including mosses, ferns, gymnosperms, and the flowering plants. Key themes include diversity, evolution, and adaptation. Learners study the principles of reproduction and development, morphology, and physiology. The course discusses the importance of plants to society and Indigenous communities, with an emphasis on the local region. Laboratories emphasize the relation of plant structure to function in the context of evolutionary relationships. Field-based learning focuses on ecological interactions and plant responses to the environment. Plant diversity is surveyed using local flora as examples. Indigenous knowledge and perspectives are integrated throughout the course. This course is often offered as a field school intensive.
Prerequisites
BIOL 101 and BIOL 102 with a C or greater
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 211 Principles of Ecology
3 Credits
This course provides an in-depth examination of basic ecological principles, including population and community ecology, species interactions, diversity and evolution, ecosystem energetics, succession, and impacts of management and disturbance on ecosystems. Terrestrial, freshwater, and marine systems will be discussed. Emphasis will be placed on learners designing and implementing field-based projects, to illustrate applications of ecological principles in the study of natural and disturbed ecosystems. This course will include outdoor field-based learning with respect to working on traditional and contemporary First Nation territories.
Prerequisites
BIOL 101 and BIOL 102
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 213 Microbiology 1
3 Credits
This course discusses a broad range of microbes and their ecology, including bacteria, viruses, fungi and protozoans. We will look at microbial ecology, including habitats and nutrition; microbial metabolism; molecular genetics and biotechnology; and the systematics of Bacteria, Archaea, ungi and the Protozoan Kingdoms. Labs will cover aseptic technique, media preparation, isolation of pure cultures, counting methods for bacteria and viruses, identification of bacteria by simple and differential stains, biochemical tests, bacterial genetic techniques, and the use of anitbiotics.
Prerequisites
BIOL 101/BIOL 102; with CHEM 101/CHEM 102 or CHEM 121/ CHEM 122 recommended
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 214 Microbiology II: Human/Microbiology Interactions
3 Credits
Biology 214 is a second year level course in Microbiology which emphasizes human/microbial interactions. We will examine the use of microbes in modern industrial and biotechnology applications, as well as their ecological services for maintenance of human populations. Microbes are also the major causes of human diseases and we will cover in depth microbial diseases, pathogenic interactions, immunology, antimicrobial drugs, and epidemiology. Students will prepare a term paper and class presentation discussing a cluster of microbial diseases and the socio-economic impacts of those diseases.
Prerequisites
BIOL 101 and BIOL 102 and CHEM 101 and CHEM 102 or CHEM 121 and CHEM 122
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 215 Genetics
3 Credits
In this course, learners develop an understanding of inheritance, evolution, and diversity at the molecular level. Patterns of inheritance, gene linkage, and gene mapping are studied. Inquiry and comparative approaches are used to investigate concepts of genome variation, composition, homology, and gene families. Topics include types of mutations, recombination, and DNA repair. Gene structure, expression, and processes of regulation will be discussed and compared between major groups of organisms. Learners will be introduced to genetic analyses of cellular processes and development in humans. Genetic engineering in research and applications in agriculture and medicine will also be discussed. Indigenous knowledges and perspectives will be integrated whenever possible.
Prerequisites
BIOL 101 and BIOL 102, minimum grade of C in each
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 220 Pathophysiology
3 Credits
This is an introductory human pathophysiology course. The basic principles of human disease processes are reviewed. Fundamentals of cell biology, inflammation, the immune system and cancer biology are covered. Diseases caused by genetic defects and developmental aberrations are discussed. Diseases of the organ systems of the human body: blood, the cardiovascular and lymphatic systems, respiratory, gastrointestinal, urogenital, and endocrine systems are covered. Diseases of the skin, bone, muscle and of the eyes and ears complete the pathophysiological survey. This course will prepare learners to make more informed connections between the subjects of anatomy, physiology, microbiology, and pharmacology.
Prerequisites
BIOL 131 and BIOL 132; or BIOL 101 and BIOL 102
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 221 Pharmacology for Nurses
3 Credits
This is an introductory course of pharmacology. Basic principles of pharmacokinetics and mechanisms of drug action are examined. Specific topics will include common drugs and drug classes affecting each of the major organ systems. Therapeutic applications, mechanisms of action, drug interactions, and side effects and toxicities are studied.
Prerequisites
BIOL 220
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 222 Human Nutrition
3 Credits
This is an introductory course to human nutrition. Learners will examine the basic principles of human physiological processes as far as they relate to nutrition. This includes an overview of carbohydrate, lipid, and protein metabolism. The water and fat soluble vitamins and their role in metabolism are examined along with nutritional aspects of water, electrolyte, and mineral balances. Also, this course presents First Peoples food practices, their role in a healthy diet, and nutritional matters from the context of First Peoples. These basic concepts are integrated in the study of energy balance, weight control and its relation to physical exercise. Additional topics include variations in nutritional needs during life, as well as malnutrition, alcohol use, food additives, eating disorders, and food preservation and safety.
Prerequisites
BIOL 101 and BIOL 102; or BIOL 131 and BIOL 132
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 235 Ichthyology
3 Credits
Ichtyology is the study of the biology of fishes. This course will cover morphology, physiology, development, behaviour, evolution, diversity, and ecology of fishes. Fish species from throughout the world, both marine and freshwater, will be studied, with slide shows and local examples bringing color and interest to the classroom. Labs will involve dissections, observation of living organisms, behavioural studies, and field trips. Wherever possible, local fish species will be examined. Field trips will allow you to see these organisms in their natural environments.
Prerequisites
BIOL 101 and BIOL 102
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 236 Ornithology: Biology of Birds
3 Credits
Ornithology is the study of the biology of birds. Lectures will emphasize evolution, diversity, life histories, behaviour, ecology, and conservation of birds. Field and laboratory work will stess morphology and identification with particular attention to species from British Columbia. Field trips will be used to observe birds of different habitats. Survey techniques for birds by sight and sound will be introduced. This course is useful to aspiring field biologists as well as to those that are interested in bioldiversity, natural history and citizen science. 3,3,0.
Prerequisites
BIOL 101 and BIOL 102
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 270 Coastal Zone Conservation Biology
3 Credits
Conservation biology is the scientific study of bioldiversity and its management for sustainable human welfare. Biodiversity includes species, population, genetic, and ecosystem variability among living organisms. This course explores the nature,causes, and implications of the current high rate loss of biodiversity occurring throughout the world, with particular emphasis on coastal ecosystems. It will also cover some of the major efforts underway to reduce that rate of loss. Students will be introduced to the concepts of genetic, species, and ecosystem diversity, to specific conservation issues, and to some of the practices involved in preserving biodiversity. Extinctions will be analyzed from an ecological, economic, ethic, and esthetic perspective. All concepts will be illustrated using local coastal zone case studies.
Prerequisites
BIOL 101 and BIOL 102
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 0501 Human Biology - Part 1
2 Credits
This is the first course at the Provincial level, which is an introductory Human Biology course. The two modularized courses Biology 0501 and Biology 0502 are equivalent to the Biology 050 course which provides the equivalent qualification to Biology 12. The course involves a systematic study of human anatomy and physiology and includes a laboratory component. Learners will be encouraged to relate concepts of Human Biology to current issues within self and community.
Prerequisites
Principles of Math 10 or Foundations of Math & Pre-Calculus 10; and English First Peoples 10 or English 10; Biology 11 and Chemistry 11 are both recommended.
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 0502 Human Biology - Part 2
2 Credits
This is the second course at the Provincial level, which is an introductory Human Biology course. The two modularized courses Biology 0501 and Biology 0502 are equivalent to the Biology 050 course which provides the equivalent qualification to Biology 12. The course involves a systematic study of human anatomy and physiology and includes a laboratory component. Learners will be encouraged to relate concepts of Human Biology to current issues within self and community.

Prerequisites

BIOL 0501

Transfer Credits

Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)