coast mountain college

BIOLOGY (BIOL)

BIOL 040 Advanced Biology
4 Credits
This course provides a general introduction to the field of biology. Topics include the methods of science, ecology, the cell, photosynthesis, respiration, evolution, classification and an overview of the major phyla.
Prerequisites
Science 10 and English 10, or equivalent
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

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
Science 10; and 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 - Cells, Diversity & Physiology
3 Credits
Basic introductory course in general biology. The course covers the diversity of life, introductory biochemistry and cell biology and introductory animal and plant physiology. Laboratories include the scientific method, microscopy and major kingdoms of organisms. Experimental techniques and observation skills are emphasized. (3,3,0)
Prerequisites
Life Sciences 11 or equivalent and Chemistry 11
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 102 Introductory Biology II - Genetics, Evolution & Ecology
3 Credits
Continuation of BIOL 101. The course covers genetics, evolution and ecology. Laboratories include genetics, reproduction and development, evolutionary processes and ecology. Field trips, including a two day weekend trip, may be held. (3,3,0)
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
The course covers the biology involved in the study of microorganisms and their relation to human health and disease. The topics include bacteria, fungi, algae, protozoa and helminthes as well as viruses and disease causing prions. Microbial genetics, recombinant DNA and biotechnological applications are examined. The epidemiology of disease and the role of the immune system and antibiotic drug therapy will be emphasized. Microbial diseases affecting all major human organs and tissues are covered. The lecture course is accompanied by a weekly 3-hour laboratory course exposing students to modern techniques of microbial and cellular/molecular Biology. (3,3,0)
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
Introduction to the invertebrate phyla. It provides an overview of the structure, function, evolution, diversity and ecology of invertebrate animals by examining the increasing complexity in form and function in the invertebrates and their evolutionary and ecological relationships. Examples emphasize marine, terrestrial and freshwater aquatic invertebrates. Laboratories include examination of the major groups of invertebrates and may include a weekend field trip to Prince Rupert. (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 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
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
An introduction to the major groups of land plants, including mosses, ferns, gymnosperms, and the flowering plants. Diversity, evolution and adaptation are major themes of the course. Students will learn the basic principles of reproduction and development, morphology, and physiology. Ecological interactions and responses to the environment will also be covered. Special topics include a discussion of the vast array of phytochemicals synthesized by plants and their applications in societies. Laboratories will emphasize relating plant structure to function. Field trip will be included, and plant diversity will be surveyed using the local flora as examples where possible.
Prerequisites
BIOL 101 and BIOL 102
Transfer Credits
Explore transfer credit opportunities by visiting the BC Transfer Guide (http://www.bctransferguide.ca)

BIOL 211 Principles of Ecology
3 Credits
In-depth examination of basic ecological principles, including population and community ecology, food chains, succession, species diversity, genetic strategies, genetic diversity and impacts of management and disturbance on populations and communities. Discussions will include freshwater, marine, and terrestrial ecology. May include field lectures to illustrate ecological principles as applied to natural and disturbed populations and communities. (3,0,0)
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 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 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
This course introduces the student to the methods and evidence of transmission genetics. This course will require the student to demonstrate competence via the solution of numerous numerical and conceptual problems; these will include the use of simple mathematics and statistics. The course is highly academic, demanding a commitment of several hours of study per week, above and beyond the time spent in class and solving numerical problems. Students will develop analytic reasoning and deductive thought process. Experimental approach is stressed, mechanisms are examined at the molecular basis, so good grounding in basic chemistry is required. (3,0,0)
Prerequisites
BIOL 205 and CHEM 101 and CHEM 102; or CHEM 121 and CHEM 122
Co-requisite: BIOL 206
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 course to human pathophysiology. 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. The specific part covers diseases of all major organ systems of the human body: Blood, the cardiovascular and lymphatic systems, respiratory, gastrointestinal, urogenital, and endocrine systems. Diseases of the skin, bone, muscle and of the eyes and ears complete the pathophysiological survey. This course will prepare the student to make a more informed connection between the subjects of anatomy, physiology and pharmacology. (3,0,0)
Prerequisites
Chemistry 11 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. Students will study the principle of drug interaction. Basic principles of pharmacokinetics and mechanisms of drug action are examined. Specific coverage will include drugs affecting the nervous system such as local anesthetics, muscle relaxants, autonomous nervous system-acting drugs, opioids, sedatives, anti-psychotics and anti-depressants. Compounds altering lipid metabolism, cardiovascular function and inflammatory/allergic reactions are covered. Medications affecting the function of major endocrine systems and chemotherapeutics are introduced. For all these drug groups the mechanism of their action and therapeutic application is studied, including possible side effects, toxicities and drug interaction. (3,0,0)
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. The basic principles of human physiological processes are covered 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. The mechanisms and nutritional aspects of water, electrolyte and mineral balances are covered. 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, alcohol, food additives, eating disorders, food preservation and safety.
Prerequisites
Chemistry 11 and 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
Science 10; 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

Biology 0501

Transfer Credits

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