BIOLOGY (BIOL)

BIOL 1100 Credits: 4
Biology 1 Total Hours: 120
This course is the first half of the majors course in general biology, from organisms through ecosystems. Lectures examine the history and diversity of life through explorations of ecology, evolution, structure and function relationships, development and genetics, with many examples from British Columbia. An integrated lab/lecture format allows efficient incorporation of concepts of anatomy, physiology, and development with investigative skills. Laboratory and field activities also examine local ecosystems and biota, and develop scientific practice. Recommended: Biology 11 and 12, Chemistry 11, Precalculus 11.
Pre-requisite(s): Biology 11 or Biology 12 with a minimum grade of 'C+' or equivalent

BIOL 1120 Credits: 4
Human Anatomy and Physiology 1 Total Hours: 120
This course and its companion course, Human Anatomy and Physiology 2, deal with the relationship between structure and function in human biology. Lectures emphasize basic concepts in biology and the role of the major organ systems of the human body. Laboratory activities examine anatomical relationships and the physiological functioning of human organs.
Pre-requisite(s): Biology 11, Biology 12, Chemistry 11, Precalculus 11, all with at least a C+; or active registration with the College of Licensed Practical Nurses of British Columbia

BIOL 1125 Credits: 2.5
Pre-Health Sciences Biology 1 Total Hours: 48
This course is part one of two biology courses in the Pre-Health Sciences Program. It provide an introduction to the study of anatomy and physiology of humans and reviews the major themes of anatomy and physiology from Biology 12; including cellular form and function, biochemistry and metabolism, genetics and heredity, and characteristics of tissues. This course subsequently studies a number of human systems in greater depth including the integumentary system, skeletal system, muscular system, nervous system, and endocrine system. This course will describe physiological functions that contribute to health and/or disease. Pre-Health Sciences Biology 1 and 2 combine to give the equivalent of BIOL 1602 plus additional material.
Prior Learning Assessment is available.

BIOL 1200 Credits: 4
Biology 2 Total Hours: 120
Biology 1200 is the second half of the majors course in general biology, from cells to organisms. Lectures emphasize the integration of cells and the whole organism, and address biological chemistry, cell structure and function, DNA, RNA, and gene expression, homeostasis, animal and plant nutrition, molecular genetics, immunology, and biotechnology. Laboratory activities examine cells, cellular chemistry, genetics, and DNA, including DNA extraction, analysis, sequencing, and forensic techniques. They develop methods of scientific investigation, statistical analysis, collaboration, and reporting. Recommended: Biology 11 and 12, Chemistry 11, Precalculus 11.
Pre-requisite(s): Biology 11 or Biology 12 with a minimum grade of 'C+' or equivalent

BIOL 1220 Credits: 4
Human Anatomy and Physiology 2 Total Hours: 120
This course and its companion course, Human Anatomy and Physiology 1, deal with the relationship between structure and function in human biology. Lectures continue an investigation of the role of the major organ systems of the human body. Laboratory activities examine anatomical relationships and the physiological functioning of human organs.
Pre-requisite(s): BIOL 1120 with a minimum 'C' grade

BIOL 1225 Credits: 2.5
Pre-Health Sciences Biology 2 Total Hours: 48
This course is the second of two biology courses in the Pre-Health Sciences Program. It provides an introduction to the study of anatomy and physiology of humans and reviews the major themes of anatomy and physiology from Pre-Health Sciences Biology 1. This course subsequently studies a number of human systems in greater depth including the circulatory system, lymphatic system, immune system, respiratory system, digestive system, urinary system, and human growth and development. This course will describe physiological functions that contribute to health and/or disease. Pre-Health Sciences Biology 1 and 2 combine to give the equivalent of BIOL 1602 plus additional material.
Pre-requisite(s): Pre-Health Sciences Biology 1 with at least a 'C-'
Prior Learning Assessment is available.

BIOL 1602 Credits: 3
Human Anatomy & Physiology Total Hours: 60
This course is an admission requirement for entrance into the Practical Nursing Program. This is an intensive course in which learners become familiar with the terminology used in health professions, and the anatomy and physiology of the human integumentary, musculoskeletal, nervous, endocrine, cardiovascular, immune, respiratory, digestive and urinary systems.
Pre-requisite(s): Pre-Calculus 11 with a minimum grade of 'C' or Foundations of Math 11 with a minimum grade of 'C' or equivalent; Biology 12 with a minimum grade of 'C' or equivalent (completion within the last five years is recommended); English 12 with a minimum grade of 'B' or equivalent or English Language Proficiency at a grade 12 level

BIOL 2100 Credits: 4
Cell Biology Total Hours: 120
This course introduces the student to a detailed understanding of the fundamental processes of cellular function. These processes include protein structure and function as they relate to the form and metabolism of the cell; the biochemical processes associated with cellular energetic transformations; the structure and function of cellular membranes and cellular organelles; and how these processes relate to fundamental properties of the cell such as mitosis and signal transduction. Completion of the course will allow the student to integrate concepts of cellular biology and to further understand these processes in heath and disease states.
Pre-requisite(s): BIOL 1100 and BIOL 1200 both with a 'C-'

BIOL 2104 Credits: 3
Introduction to Ecology Total Hours: 60
This course introduces abiotic and biotic environmental relationships and dynamics; ecological concepts; population dynamics, variation, adaptation and evolution. Topics include distribution of organisms, food chain and food web dynamics, energy and matter flow and cycles. Additional topics include species interactions such as competition, predation and symbiosis, and behavioural ecology.
Pre-requisite(s): BIOL 1100 and BIOL 1200 both with a 'C-' minimum

BIOL 2106 Credits: 4
Invertebrate Zoology Total Hours: 120
An introductory survey of the invertebrates including their origins and evolution, classification, anatomy of systems, and ecological relationships.
Pre-requisite(s): BIOL 1100 and BIOL 1200 both with a C+

BIOL 2110 Credits: 4
Microbiology 1 Total Hours: 120
Microbiology 1 is an introductory course designed to familiarize the student with the structure and function of prokaryotic cells. The course builds upon biochemistry knowledge developed from general biology and chemistry courses and extends these concepts to metabolic processes associated with prokaryotic nutrition and growth and genetic diversity. Emphasis is placed on the study of techniques utilized to elucidate prokaryotic form and function.
Pre-requisite(s): BIOL 1100 and BIOL 1200 both with a 'C-'

BIOL 2134 Credits: 4
Genetics 1 Total Hours: 120
Genetics 1 is the first half of a second-year, university transfer course designed to provide fundamental concepts in the study of genetics. The course provides historical context and the role of experimental processes to elucidate inheritance from the molecular level of structural hierarchy to populations.
Pre-requisite(s): BIOL 1100 and BIOL 1200 both with a 'C-'

BIOL 2200 Credits: 4
Biochemistry Total Hours: 120
This course provides foundational principles used to describe biological structure and function at the molecular level. Biology 2200 focuses on basic organic chemistry and applying those foundational concepts to the structure and function of biomolecules. The course places an emphasis on information flow from genetic material to protein structure to metabolic pathways.
Pre-requisite(s): BIOL 1100 and BIOL 1200 both with a C-
Co-requisite(s): CHEM 2130

BIOL 2204 Credits: 4
Plant Biology Total Hours: 120
This course examines the classification, systematics, structure and function, evolutionary origins, adaptational trends, and ecological roles of plants.
Pre-requisite(s): BIOL 1100 and BIOL 1200 both with a C+

BIOL 2210 Credits: 4
Microbiology 2 Total Hours: 120
Microbiology 2 is an introductory course designed to extend the knowledge gained in Microbiology 1 towards a thorough understanding of the structure and function of prokaryotic organisms, especially as they pertain to health and disease.
Pre-requisite(s): BIOL 1100 and BIOL 1200 both with a 'C-'

BIOL 2216 Credits: 4
Comparative Vertebrate Zoology Total Hours: 120
This course will look at the evolution, classification, development, structure, and function of vertebrates. Adaptations and organ systems are studied through comparative anatomy of fish, amphibians, reptiles, birds, and mammals. Students will use microscopes in the lab to look at different tissues, and dissect structures to look at the anatomy and function of organ systems.
Pre-requisite(s): BIOL 1100 and BIOL 1200 both with a C+

BIOL 2234 Credits: 4
Genetics 2 Total Hours: 120
Genetics 2 is the second half of a second-year, university transfer course designed to extend the basic knowledge gained in Genetics 1 towards a thorough understanding of the current foundational concepts and experimental processes in genetics. Genetics 2 focuses on the molecular mechanisms of inheritance and the rapidly evolving technology associated with analysis and manipulation of genetic material.
Pre-requisite(s): BIOL 2134 with a 'C-'