**BI 161. Ecology/Field Bio: Great Basin. 2 Credits.**
Introduces the relationships among plants, animals and the general geological formations of various life zones for the Great Basin and/or Cascade geographical areas through a field trip experience. Audit available.

**BI 163. Organic Gardening. 4 Credits.**
Introduces the structure and function of soils including the soil food web, composting and compost tea, and the basics of biogeochemical cycling. Explores basic plant anatomy and the growing of flowers, vegetables and fruits in the Pacific Northwest. Includes discussion of organic pest control, beneficial insects, and pruning and grafting and exploration of these concepts in laboratory. An interest in plants and a basic high school biology course are recommended. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AOAT, Science, Math, Computer Science/AS.

**BI 164. Bird ID and Ecology. 4 Credits.**
Introduces the biology of birds of the Pacific Northwest. Emphasizes learning bird identification in the field by sight and sounds. Covers the study of avian ecology, natural history and behavior. Introduces field techniques for identifying and studying birds. Prerequisites: (WR 115 and RD 115) or IRW 115 and MTH 20 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AOAT, Science, Math, Computer Science/AS.

**BI 198. Independent Study - Biology. 1-4 Credit.**
Provides an opportunity for students to work independently on an individualized area of study within biology under the sponsorship and guidance of a biology faculty member. Prerequisite: Instructor permission. Audit available.

**BI 200B. Principles of Ecology: Field Biology. 4 Credits.**
Introduces concepts of ecology. Includes lecture component covering the concepts of ecology and diversity of life and a field component surveying plants, animals, or other kingdoms, and interactions with their environment. May involve national or international travel. Prerequisites: (WR 115 and RD 115) or IRW 115 and MTH 20 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AOAT, Science, Math, Computer Science/AS.

**BI 202. Botany: An Introduction to the Plant Kingdom. 4 Credits.**
A laboratory science course designed to have students develop knowledge about plant anatomy, physiology, how humans interact with plants, and particularly taxonomy with an evolutionary focus. Areas covered include mosses, ferns, conifers, and flowering plants. Recommended for students interested in agriculture, horticulture, ethnobotany, and general botany. Prerequisites: (WR 115 and RD 115) or IRW 115 and MTH 20 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AOAT, Science, Math, Computer Science/AS.

**BI 211. Principles of Biology. 5 Credits.**
Includes introduction to biology, biochemistry, metabolism, the cell, molecular biology, and reproduction. The first course of a three-course sequence for students majoring in biology and the sciences, including pre-medical, pre-dental, chiropractic, pharmacy, and related fields. Recommended: High school biology and chemistry within the past seven years. Prerequisites: (WR 115 and RD 115) or IRW 115 or equivalent placement, and MTH 95 or higher. Prerequisite/Concurrent: CH 151 or higher or pass the Chemistry 151 competency exam or instructor permission. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AOAT, Science, Math, Computer Science/AGS, Science, Math, Computer Science/AS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AS.

**BI 212. Principles of Biology. 5 Credits.**
Includes inheritance, the genetic code, modern and classical genetics, evolution, diversity, and systematics. May include some dissection of plants and animals. The second course in a three-course sequence for students majoring in biology and the sciences, including pre-medical, pre-dental, chiropractic, pharmacy, and related fields. Prerequisites: BI 211 and its prerequisite requirements. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AS.

**BI 213. Principles of Biology. 5 Credits.**
Includes plant and animal anatomy and physiology, and individual, population, community and ecosystem ecology. The third course of a three-course sequence for students majoring in biology and the sciences, including pre-medical, pre-dental, chiropractic, pharmacy, and related fields. Prerequisite: BI 212 and its prerequisite requirements. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/AS, Science, Math, Computer Science/AOAT, Science, Math, Computer Science/ASOT-B.

**BI 222. Human Genetics. 3 Credits.**
Presents the fundamentals of human genetics. Includes physical basis of inheritance, the mechanics of inheritance, polymorphism, sex chromosomal abnormalities, autosomal anomalies, gene structure and function, molecular genetics, behavioral genetics, twinning and contemporary issues in human genetics. Prerequisites: (WR 115 and RD 115) or IRW 115 and MTH 20 or equivalent placement, AND (BI 101 and BI 102), or (BI 211 and BI 212), or BI 112. This course fulfills the following GE requirements: Science, Math, Computer Science/AOAT, Science, Math, Computer Science/AS, Science, Math, Computer Science/ASOT-B.

**BI 231. Human Anatomy & Physiology I. 4 Credits.**
Introduces basic anatomical and physiological terms, tissues, the integumentary, skeletal, muscular and nervous systems including nervous histology, physiology, spinal cord and nerves. Includes lecture discussions complemented by laboratories involving microscopy, animal dissection, physiological exercises and computer based exercises. This is the first course in a three-course sequence. Prerequisites: (WR 115 and RD 115) or IRW 115 and MTH 65 or equivalent placement, and BI 112 or (BI 211 and BI 212). Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AGS, Science, Math, Computer Science/AS, Science, Math, Computer Science/AAOT, Science, Math, Computer Science/ASOT-B.

**BI 232. Human Anatomy & Physiology II. 4 Credits.**
Continues the study of the nervous system, including brain, cranial nerves, and autonomic nervous system. Introduces the endocrine, cardiovascular and immune systems. Includes lecture discussions complemented by laboratories involving microscopy, animal dissection, physiological exercises and computer based exercises. Concludes a three-course sequence. Prerequisite: BI 231. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AGS, Science, Math, Computer Science/AS, Science, Math, Computer Science/ASOT-B.

**BI 233. Human Anatomy & Physiology III. 4 Credits.**
Introduces the respiratory, digestive, urinary and reproductive systems, metabolism and fluid and electrolyte balances, embryology and genetics. Includes lecture discussions complemented by laboratories involving microscopy, animal dissection, physiological exercises and computer based exercises. Concludes a three-course sequence. Prerequisite: BI 232. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAOT, Science, Math, Computer Science/AGS, Science, Math, Computer Science/AS, Science, Math, Computer Science/ASOT-B.

**BI 234. Microbiology. 5 Credits.**
Lecture, recitation, and laboratory cover: bacterial identification, morphology, metabolism and genetics; bacterial, viral, and parasitic relationships with human health and disease, and basic immunology. Laboratory stresses aspetic technique, bacterial identification and physiology using a variety of culture media, culturing techniques, and staining techniques. Recommended BI 231. Prerequisites: BI 112 or (BI 211 and BI 212) and their prerequisite requirements. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAOT, Science, Math, Computer Science/AS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AGS, Science, Math, Computer Science/AS.

**BI 241. Pathophysiology. 3 Credits.**
Lecture/discussion presentation of alterations in homeostasis, alterations in cellular function; and diseases of the immune, muscular, skeletal, integumentary, nervous, cardiovascular, respiratory, digestive, endocrine, urinary, and reproductive systems. BI 231 and 232. BI 233 is either a prerequisite or may be taken concurrently. Audit available.

**BI 280A. Cooperative Education: Biology. 1-10 Credit.**
Offers relevant experience in the field or laboratory in an area of biology or environmental sciences. Provides an opportunity to make a cooperative education training agreement with an instructor, an employer/supervisor, and a cooperative education specialist. Prerequisite: BI 101 or BI 211, and instructor permission. Audit available.
**BI 287. Introduction to Immunology. 4 Credits.**

Introduces the principles of immunology including: development of the immune system, innate immunity, immunoglobulin structure and genetics, antigen-antibody reactions, the major histocompatibility complex reactions and antigen presentation, T cell receptors (genetics, structure, selection), T cell activation and effector functions, energy and apoptosis, cytokines, phagocytic cell function, immune responses to infectious organisms and tumors, autoimmune diseases, autoimmunity, allergies, and immune deficiencies. Recommended for students who seek admission into the allied health programs or clinical technology programs. Prerequisites: BI 112 or (BI 211 and BI 212) Audit available.

**BI 298. Independent Study. 1-4 Credit.**

Provides an opportunity for students to work independently on an advanced individualized area of study within biology under the sponsorship and guidance of a biology faculty member. Recommend: Prior study in biology. Prerequisites: Instructor permission. Audit available.