BI-BIOLOGY

BI 100 4 (4-0)
Fundamentals of Biology
Developmental in nature, this course is designed to familiarize those students who have weak backgrounds in high school science with the world of science in general and human biology in particular. Being developmental, this course does not fulfill requirements toward any degree. Normally offered once a year.

BI 103 4 (3-2)
Essential Biology
This course is a single semester survey of the most important biological concepts and issues relevant to life on earth including evolution, genetics, and ecology. It is designed to fulfill general education requirements for non-science, liberal arts majors. If you plan to transfer to a four year institution and major in engineering, social science, computer science, or any basic or applied physical or life science, you should consider taking the two semester introductory biology sequence (BI 110-112) instead of this course. (Note: There are no dissections in the lab). Prerequisites: None, although students will benefit from having had a least 1 year of natural science in high school or BI 100. Offered each semester.

BI 104 4 (3-2)
Human Biology
This course emphasizes human structure and function at the chemical, cellular, tissue, organ, and organ system levels. It is designed primarily for the social scientist and to fulfill general education requirements for non-science, liberal arts majors. It typically does not transfer for credit as part of biology major. (Note: dissections are a required part of the lab). Prerequisites: None, although students will benefit from having had at least 1 year of natural science in high school or BI 100. Offered each semester.

BI 107 3 (3-0)
Environmental Science
This course provides a broad introduction to natural systems, ecological concepts, and the social and cultural institutions that affect human interactions with the natural world. It presents an interdisciplinary perspective on current environmental issues while developing analytical and problem solving skills. To meet natural science lab requirements for A.A. or A.S. degrees, and for many transfer programs, BI 107 should be taken concurrently with BI 108, Environmental Science Lab. Prerequisites: None, although students will benefit from having had at least 1 year of natural science in high school or BI 100. Normally to be offered each semester.

BI 108 1 (0-2)
Environmental Science Lab
This course provides lab experiences associated with BI 107. BI 108 should be taken concurrently with BI 107.

BI 110 4 (3-3)
General Biology I: Evolution & Diversity of Organisms
This course surveys the diversity of life on earth with an emphasis on evolutionary theory, ecology, Mendelian genetics, and population genetics. It is intended for all students with a strong interest in the life sciences. It is the first semester of an introductory biology sequence intended for students planning to transfer to a four year institution and major or minor in a life science, engineering, social science, computer science, or any physical science. Prerequisites: None, but students will benefit in this course from having had at least 2 years of natural science in high school (including biology and chemistry). This course and its companion (BI 112) can be taken in any order. However, BI 110 covers material that is more accessible to students based on their past experience; consequently, most students would be advised to take BI 110 first. Offered fall semester.

BI 112 4 (3-3)
General Biology II: Introduction to Cell and Molecular Biology
This course focuses on the structural, physiological, and genetic characteristics of cells. Topics covered include the chemistry of life, cell structure and function, cell physiology, molecular genetics, and biotechnology. It is intended for all students with a strong interest in the life sciences. It is the second course of an introductory biology sequence for science majors. See the BI 110 description for details. Prerequisites: None. Offered in the winter semester.

BI 200 4 (3-3)
Plant Biology
In this course, students study the diversity, structure, function, and ecology of plants. Prerequisite: BI 103, or BI 110 and 112, or consent of the instructor. Offered on demand.

BI 202 4 (3-3)
General Biology III: Plant and Animal Form and Function
This course emphasizes a comparative study of plant and animal anatomy and physiology. Plant topics covered will include structure, growth, transport, nutrition, reproduction, and development. Animal topics covered will include behavior, anatomy, nutrition, circulation, defense, regulation, signaling, reproduction, development, nervous system, sensory and motor mechanisms. Prerequisites: BI 110 and BI 112 or BI 103. Offered in the fall semester.

BI 213 4 (3-2)
Anatomy and Physiology I
A study of the structure and function of the human body. This is an in-depth course for science and life science majors. It covers cells, tissues, nervous, sensory, circulatory, lymphatic, and respiratory systems. It will include extensive dissection of various vertebrates, and written laboratory reporting. Prerequisites: One year of high school biology or BI 104. One year of high school chemistry, or CH 107, or permission of the instructor.

BI 214 4 (3-2)
Anatomy and Physiology II
A continuation of Anatomy and Physiology I. It will cover the digestive, integumentary, skeletal, muscular, endocrine, and reproductive systems; plus fluids, metabolism, and developmental subjects. Prerequisites: BI 213 with a "C" or better.

BI 220 4 (3-3)
Animal Biology
In this course, students study the diversity, structure, function, and ecology of animals. Prerequisite: BI 103, or BI 110 & 112, or consent of the instructor. Normally offered in the fall semester. Offered on demand.

BI 225 2 (2-0)
Medical Microbiology
An introductory Microbiology course emphasizing the medical applications of microbiology. The subject matter will include microscopic techniques, prokaryotic and eukaryotic structure, and control of growth, diversity of microbial life, epidemiology, the immune system, and common microbial diseases. Prerequisites: Human Chemistry or equivalent and at least 1 semester of college level Biology.

BI 226 4 (3-3)
Microbiology
An introductory course designed to give the student an understanding of the means by which microorganisms' growth can be controlled and regulated, their symbiotic relationships, and host responses to their presence. Prerequisite: Eight credits of Biology or permission of the instructor. Exposure to biochemical principles is recommended. Normally offered winter semester of even numbered years. (2008, 2010,.....)

BI 227 2 (1-3)
Environmental Microbiology
The subjects covered are chemical principles, metabolism, growth and the genetics of microbes, biotechnology, pathogenicity, and microbes in nonmedical environments. The laboratory will cover introductory microbiological techniques including identification of unknown microbes. Prerequisite: One semester of chemistry and BI 225. Offered on demand.

BI 255 **3 (3-0)**
Genetics
This course emphasizes the development of analytical and problem solving skills in molecular, Mendelian, and population genetics. To meet natural science breadth requirements for A.A. or A.S. degrees, and for many transfer programs, BI 255 must be taken concurrently with BI 256, Genetics Lab. Prerequisite: BI 103, or BI 110 & 112, or consent of the instructor. Offered on demand.

BI 256 **1 (0-3)**
Genetics Lab
This course provides lab experiences associated with BI 255. BI 256 should be taken concurrently with BI 255.

BI 270 **3 (3-0)**
Ecology
This course emphasizes the study of the interactions between organisms and their environment from an evolutionary perspective. Ecological concepts relating to the individual, population, community, and ecosystem levels of biological organization are emphasized. To meet the natural science breadth requirements for A.A. or A.S. degrees, and for many transfer programs, BI 270 must be taken concurrently with BI 271, Ecology Lab. Prerequisite: BI 103, or BI 110 & 112, or consent of the instructor. Offered on demand.

BI 271 **1 (0-3)**
Ecology Lab
This course provides lab experiences associated with BI 270. BI 271 should be taken concurrently with BI 270.

BI 276 **3 (3-0)**
Pathophysiology
The purpose of this course is to define and analyze significant pathophysiological processes of common diseases and illnesses utilizing a systematic approach. The etiology, pathogenesis, and clinical manifestations of common disease processes are covered. Prerequisite: BI 213, BI 214.

BI 290 **1 (0-2)**
Field Biology
This course is designed to expose the student to field procedures. It may include collection and identification of organisms, ecological investigation, preparation and analysis of field data for reports, and other methodology pertinent to the topic being considered. Recommended prerequisite: BI 110 with a “C” grade or better. Offered on demand.