Course Descriptions

Course Code: BIO101M
Course Title: Biology I (4 units)
Course Description: This course is a comprehensive examination of the human organism. It begins with a survey of the principles and structures characteristic of all living things. The remainder of the biology course focuses on molecular biology, biochemistry, cell biology, histology, and genetics.

Course Code: BIO102M
Course Title: Biology II (4 units)
Course Description: Prerequisite: Biology 1 or equivalent. Biology 2 course continues with a comprehensive examination of the human organism. It focuses on histology, anatomy, and physiology of the major organ systems found in the human body. Nutrition and evolution are also discussed. Students gain an understanding of the structure and function of the human body on a variety of complex levels.

Course Code: CHEM101M
Course Title: General Chemistry I (4 units)
Course Description: Within this course, students become conversant with the scientific vernacular, chemical symbols and notation. Students will manipulate mathematical equations in order to appreciate the quantitative nature of atomic interactions. States of matter will be categorized. The Periodic Table of the Elements will be studied to illustrate chemical periodicity and bonding. The gas laws will be introduced in order to understand statistical handling of large populations of atoms and molecules. The laws of thermodynamics will be introduced, including the concepts of enthalpy and entropy.

Course Code: CHEM102M
Course Title: General Chemistry II (4 units)
Course Description: Prerequisite: General Chemistry 1 or equivalent. The General Chemistry 2 course further develops the concepts of chemical bonding in order to appreciate the size, shape, polarity and macroscopic behavior of molecules. The processes of oxidation-reduction will be explained, particularly as they apply to biological systems. Solution chemistry will be introduced, stressing the concepts of equilibriums and colligative properties. Acid/base chemistry, including titrimetry, buffers, and pH will be studied. Nuclear chemistry in the evolution of matter will be considered. Organic chemistry will be introduced as a corollary to concepts presented in the college chemistry course.

Course Code: PHYS101M
Course Title: Physics I (4 units)
Course Description: This non-calculus, algebra/trigonometry based college physics course will include the following topics: Motion in one and two dimensions, velocity, acceleration, forces and Newton's Laws of motion, linear and angular momentum, circular motion, center of mass, torque, mechanics of rigid bodies, work, kinetic energy, and potential energy, Newton's Law of gravitation, Kepler's Laws, and simple harmonic motion. Problem solving skills will be strongly emphasized.
Course Code: PHYS102M  
Course Title: Physics II (4 units)  
Course Description: Prerequisite: Physics 1 or equivalent. This course will review and include the following topics: Sound, wave interference, geometrical optics, heat, temperature, gas laws, thermodynamics, electricity, magnetism, relativity, quantum mechanics, and nuclear physics. A non-calculus approach will be used with only as much algebra and trigonometry as is required to give a precise treatment of physical problems. Problem solving will be emphasized.

Course Code: CHEM201M  
Course Title: Organic Chemistry I (4 units)  
Course Description: Prerequisites General Chemistry 1 & 2 or equivalents. The course will begin with a review of some of the major concepts in inorganic chemistry. The chemistry of carbon compounds will be distinguished from inorganic chemistry. The various classes of aliphatic and aromatic compounds will be examined. The diversity of functional groups will be explored with regard to reactivity and mechanism. Nucleophilic and electrophilic reaction mechanisms will be stressed. Stereochemistry will be explored. Concepts of hydrophobicity and hydrophilicity will be examined in relation to extraction, phase partitioning, absorption and chromatography. Biochemical and physiological analogies will be reviewed.

Course Code: CHEM202M  
Course Title: Organic Chemistry II (4 units)  
Course Description: Prerequisite Organic Chemistry I or equivalent. This course further elaborates functional groups with emphasis on alcohols, phenols, ethers, aldehydes, ketones, amides, esters, amines, and carboxylic acids once the nature and reactivity of these functional groups is understood, important biological examples will be stressed and elaborated. Biochemistry, particularly the properties and metabolism of biological macromolecules such as nucleic acids, lipids, and proteins will be introduced.

Course Code: BIO201M  
Course Title: Anatomy and Physiology I (4 units)  
Course Description: This course will provide a solid overview of the structure and function of the human body and mechanisms for maintaining homeostasis. Topics include the study of cells, tissues, and the integumentary, skeletal, muscular and nervous systems. Emphasis is placed on the integration of systems as they relate to normal health. Laboratory exercises provide first-hand experience with the structures and processes discussed in lecture.

Course Code: BIO202M  
Course Title: Anatomy and Physiology II (4 units)  
Course Description: Prerequisite Anatomy and Physiology I or equivalent. This course will focus on the structure and function of the human body and mechanisms for maintaining homeostasis. Topics include the study of blood, cardiovascular system including lymphatic system, immune system, respiratory system, digestive system, urinary system and male and female reproductive systems. Emphasis is placed on the integration of systems as they relate to normal health. Laboratory exercises provide first-hand experience with the structure and processes discussed in lecture.

Course Code: CHEM304M  
Course Title: Biochemistry (4 units)  
Course Description: Prerequisite: General Chemistry 1 or equivalent, Organic Chemistry 1 or equivalent. Biochemistry examines the structure and function of the following biological macromolecules in the context of cellular integrity, dynamics and metabolism: carbohydrates, lipids, proteins and nucleic acids. The weekend biochemistry topics include enzymology, bioenergetics, catabolism, anabolism, regulation of gene expression,
biotechnology, and hormone regulation of mammalian metabolism and the pre-biotic evolution of life on earth. This course is designed to enhance, deepen, and further integrate knowledge of the subject by developing different problem-solving skills and conceptual organization.

Course Code: BIO120M  
Course Title: Microbiology (4 units)  
Course Description: The course is designed to convey general concepts, methods, and applications of microbiology for health sciences. The role of microorganisms in the environment and in human disease is discussed. Topics include: immunology, bacteriology, virology, and mycology; the morphology, biochemistry, and physiology of microorganisms including bacteria, viruses, and fungi; the diseases caused by these microorganisms and their treatments. Laboratory portion of the course provides first hand experiences that inform, illustrate, expand, and reinforce major concepts discussed in lecture.

Course Code: GEN301M  
Course Title: Human Genetics (4 units)  
Course Description: This course will address the human nature of genetics, genetic development and health and wellness areas related to how genes interplay within the human organism. Historical concepts in research and genetic developments will be explored. Additionally, concepts related to ethics and genetics, research and application will be explored. Students will learn how genes influence physical traits, physiological considerations, and issues related to health, wellness and related applications.

Course Code: PSYC301M  
Course Title: Biological Psychology (4 units)  
Course Description: This course will focus on the central nervous system and how it applies to abnormal behavior. The structure and function of the brain as it relates to thoughts, action, and behavior patterns will be explored. Topics include psychosocial diseases, learning, memory, language, sleep cycles, human sexuality, and addiction. Students will recognize the way biology, anatomy, and physiological factors of the human nervous system apply to psychological problems.