BIOL - BIOLOGY POST BACCALAUREATE

BIOL 1010 Biology I (4 Credit Hours)
This online course is a four credit-hour course that includes a laboratory component. The overall goal of this course is to provide the student with an introduction to biology that emphasizes concepts that will be important for, and provide the basis for, the topics considered in biochemistry, molecular biology, cell biology, pharmacology, and physiology, which the student will encounter in his/her professional studies. The course content considers cell structure and function, metabolism, mitosis and meiosis, inheritance patterns, and molecular biology.
Equivalent to DPPP 360. Additional fees may exist.
Academic Level: Undergraduate

BIOL 1011 Biology II (4 Credit Hours)
This online course is a four credit-hour course that includes a laboratory component. The overall goal of this online course is to provide the student with an introduction to biology that emphasizes concepts that will be important for, and provide the basis for, the topics considered in biochemistry, molecular biology, cell biology, pharmacology, and physiology, which the student will encounter in his/her professional studies. The course content considers principles of evolution related to biological thought, surveys the six kingdoms and population biology, and discusses several "special topics" relevant to human biology. Course pre-req: One semester of college biology, preferably Medical Biology I (BIOL 1010.)
Equivalent to DPPP 361. Additional fees may exist.
Academic Level: Undergraduate

BIOL 1015 Introduction to Zoology (3 Credit Hours)
This course explores the animal branch of the family tree of all living things, focusing especially on vertebrates. We will learn what makes animals different from other organisms like plants or fungi, and also how the various animal species differ from each other. Major themes running through the course include: phylogenetics (how animal species are related to each other); evolution (how we got all the different kinds of animals); metabolism (how different animals survive and regulate their bodies); reproduction strategies (how animals make more animals); and ecology (how animals interact with other living things and their environments). Course Prerequisite: N/A
Additional fees may exist.
Academic Level: Undergraduate

BIOL 1020 Microbiology Lecture (3 Credit Hours)
This course is designed to meet the microbiology prerequisite for students who are applying for admission to health profession programs. Most students taking this course will have an undergraduate degree and will be in the process of a career change. Online Microbiology is a one-semester course. It will emphasize the concepts that provide the necessary foundation for courses the student will take in his/her professional studies. Topics covered in this course include: the history of microbiology, microbial morphology and physiology, bacterial metabolism, genetics, and ecology, and the classification of microorganisms. The course will emphasize medically-important Eubacteria and protists. This is a Lecture Only course. Course Pre Req: One semester of College Biology. Prefer one semester of College Anatomy and Physiology.
Additional fees may exist.
Academic Level: Undergraduate

BIOL 1020L Microbiology Lab/Lecture (4 Credit Hours)
This course is designed to meet the microbiology prerequisite for students who are applying for admission to health profession programs. Most students taking this course will have an undergraduate degree and will be in the process of a career change. Online Microbiology is a one-semester course with a hands-on laboratory. It will emphasize the concepts that provide the necessary foundation for courses the student will take in his/her professional studies. Topics covered in this course include: the history of microbiology, microbial morphology and physiology, bacterial metabolism, genetics, and ecology, and the classification of microorganisms. The course will emphasize medically important Eubacteria and protists. The hands-on laboratory provides a review of procedures used to isolate and identify microorganisms, including biochemical tests, molecular biology, and serological techniques. Course Pre Req: One semester of College Biology. Prefer one semester of College Anatomy and Physiology.
Equivalent to BIO 242, BIO 242L, DPPP 376.
Academic Level: Undergraduate

BIOL 1030 Pathophysiology (3 Credit Hours)
Pathophysiology is the study of disordered physiological processes associated with disease or injury. This course is an introduction to pathophysiology designed specifically to meet the needs of students preparing for careers in the health professions. This course focuses on the changes in cellular and systemic physiology that occur in prevalent or important medical conditions. At the cellular level, the course covers the responses to tissue injury, abnormal cell growth, and the immune system. From there, the course emphasizes the physiological basis of problems associated with most common diseases with most of the major human organ systems. In each case, the effects upon whole body homeostasis are discussed. This course will build on prior knowledge of anatomy, physiology, and medical terminology, as it explores body functions in altered health conditions. The primary teaching methods will include online audio lectures with slides supplemented with multi-media resources such as animations, case studies, and video tutorials where applicable. In addition, the curriculum includes dissection of some organs to help students gain a better spatial orientation of where pathophysiological processes take place. The course prerequisites are a semester of college-level anatomy and physiology and medical terminology.
Additional fees may exist.
Academic Level: Undergraduate

BIOL 1035 Pathophysiology (3 Credit Hours)
This course provides a broad overview of the most common and important human diseases. Throughout the course, we will address aspects of disease epidemiology, diagnosis, and treatment. The course will begin with an overview of foundational vocabulary and concepts, as well as a broad analysis of the most common and significant diseases. We will then establish a framework for the basic disease processes before moving on to discussions of specific organ systems. The course will conclude with a consideration of diseases that impact multiple organ systems.
Equivalent to BIO 309.
Academic Level: Undergraduate
Enrollment is limited to students with a program in Health Sciences or Cont Ed Post Bacc Pre-Health.

BIOL 1040 Genetics (4 Credit Hours)
This course will take a unified approach to transmission genetics, molecular genetics, cytogenetics, evolutionary genetics, molecular medicine, and developmental genetics. Students will learn from examples drawn from the scientific literature, which stress modern technological and experimental methodologies used in studying the genetics and genomics of prokaryotes, and eukaryotes. Topic presentations will also reflect that genetic mechanisms play a fundamental role in the pathogenesis, treatment of diseases, and the maintenance of health. This course includes a hands-on laboratory component. All course assessments will seek to emphasize important concepts.
Academic Level: Undergraduate

BIOL 1050 Cell Biology (3 Credit Hours)
This course will introduce and explore basic concepts and theories of cell biology with an emphasis on its application in understanding human health. Topics include an introduction to cell theory, the chemical composition of cells, cellular functions and cell signaling, reproduction and genetics. Each of these topics will be explored through course readings, video lectures/demonstrations, discussions, and a variety of experiential activities, including a course project. Students will demonstrate their mastery of cell biology concepts through quizzes and a cumulative final exam. Students will also have the opportunity to apply the concepts learned in this course to evaluate a human disease.
Additional fees may exist.
Academic Level: Undergraduate

BIOL 1055 Molecular Biology (3 Credit Hours)
This course will introduce and emphasize on the basic concepts of molecular biology and the application of these concepts in the medical field. The knowledge attained in the course will be used to understand human diseases. Topics include knowing about biomolecules like DNA, RNA and proteins, central dogma, DNA replication, DNA repair and regulation of gene expression. Each of these topics will be explored through course readings, video lectures, case studies, journal clubs, discussions forums and digital concept mapping. Students will demonstrate their knowledge of molecular biology concepts through quizzes and a cumulative final exam.
Additional fees may exist.
Academic Level: Undergraduate

BIOL 1060 Immunology (3 Credit Hours)
This immunology course provides students with an in-depth understanding of the human immune system. It first introduces students to the structure, functions and capabilities of immune cells, tissues, and organs. Globally, the course informs students of different modes of action and the ability of immune effector populations in combating various types of infections. This course will also emphasize current immunological techniques such as recombinant antibody, flow cytometry, and ELISPOT technology. Further, issues related to vaccine development and therapeutics will also be included in the course. Finally, students will develop disciplinary appreciation through reviews of case studies, research articles, and current perspectives in the field of immunology.
Academic Level: Undergraduate

BIOL 1070 Intro to Pharmacology (3 Credit Hours)
The course introduces the basic concepts of pharmacology and drug usage for allied health professions. It introduces students to the fundamentals of pharmacology, examining the effects of drugs on the human body systems and the effects of those biological systems on drugs. It explores disorders associated with various body systems and the drugs used for diagnosis, treatment and prevention of those disorders. The course topics are presented through readings, instructor led video lessons and an assortment of interactive activities including discussion forums. Students will be assessed throughout the course with worksheets, quizzes and case studies, as well as both a cumulative midterm and final exam.
Academic Level: Undergraduate