Biology - Student Learning Outcomes

BIOL 090	Human Anatomy and Physiology for Health Professionals	1. Explain how the major organ systems function. (ILO2, ILO5)
		2. Apply his/her knowledge of organ system function to solve problems based on materials and situations not covered directly in class. (ILO1, ILO2, ILO5)
		3. Keep up-to-date with the materials that are covered in class. (ILO3, ILO4)
BIOL 092	Microbiology For Advanced Placement of VN to RN Nursing Students	1. understand research contributions of various scientists that have lead to the development of modern day microbiology. (ILO4, ILO5)
		2. understand the relationship between microbial morphology and function. (ILO2)
		3. isolate pure microbial cultures using various aseptic techniques. (ILO2)
		4. understand and explain microbial pathogenicty and etiology of disease. (ILO1)
BIOL 100	Principles Of Biological Science	1. demonstrate an understanding of the steps of the scientific method. (ILO2)
		2. communicate an understanding of the various patterns of inheritance of genetic traits. (ILO1, ILO2)
		3. explain how the processes of natural selection influence evolution. (ILO1, ILO2)
		4. perform lab activities properly, and correctly analyze lab data. (ILO1, ILO2)
BIOL 120	General Zoology I	1. display oral communication effectiveness by doing an oral presentation of a research paper. (ILO1)
		2. display the ability to show critical thinking by answering short essay type questions on exams. (ILO2)
		3. display ability to understand written and illustrated information on the subject matter. (ILO4)
		4. display an understanding of global impact on and by invertebrate animals. (ILO5)
BIOL 122	General Zoology II	1. display oral communication effectiveness by an oral presentation of a research paper subject. (ILO1)
		2. display the ability to show critical thinking on the subject by answering short answer questions on exams. (ILO2)
		3. display the ability to understand written and illustrated information on the subject matter on exam questions. (ILO4)
		4. display an understanding of the global impact on and by vertebrate animals. (ILO5)
BIOL 140	General Botany	1. identify an important issue in botany, conduct research via literature, interviews with experts and hands-on projects, and clearly communicate content learned about the project by writing a research paper. (ILO1)
		2. identify an important issue in botany, conduct research via literature, interviews with experts and hands-on projects, and document the information sources utilized by citing references within a research paper and at the end, using a standard documentation style (e.g. MLA style). (ILO4)
		3. use systems thinking to explain how a selected topic in botany interconnects with global communities, ecosystems or human societies and cultures. (ILO5)
BIOL 150	Human Genetics	1. answer exam questions that deal with population genetics. (ILO5)
		2. show personal responsibility by turning in homework assignments on time. (ILO3)
		3. answer exam questions that deal with critical thinking problem solving. (ILO2)
BIOL 180	General Biology: Molecules, Cells & Genetics	1. write lab reports that demonstrate an understanding of the lab and the ability to draw conclusions based on data. (ILO1, ILO2)
		2. discuss primary research literature and understand how science is performed and described. (ILO4)
		3. demonstrate the ability to think like a scientist by coming up with a valid experimental design. (ILO2)
		4. demonstrate critical-thinking skills on exam essay questions. (ILO2)
BIOL 182	General Biology: Principles of Organismal Biology	1. Explain the outcome of conducting the process of science.(ILO 1,2)
		2. Write a review of a scientific article using primary literature from peer-reviewed scientific journals. (ILOs 1,2,4)
		3. Illustrate an understanding of evolution through natural selection. (ILO 1, 2)
		4. Formulate a dichotomous key using organisms from within and between phyla. (ILO 1, 2)

BIOL 200	Human Anatomy and Physiology I	1. Illustrate competency related to topics in human anatomy and physiology using pre- and post-examination. (ILO 1,2)
		2. Identify the anatomy and/or physiology processes related to cells, tissues, or organ systems.(ILO 1,2)
		3. write a paper that synthesizes the interactions of the skeletal muscle system during an exercise in personal responsibility. (ILO 1,2,3)
		4. Describe the components of the human skeleton and its articulations.(ILO 1, 2)
BIOL 202	Human Anatomy and Physiology II	1. Display critical thought related to key concepts in human anatomy and physiology using written forms of expression and examination. (ILO2, ILO3, ILO4, ILO5)
		2. Display effective communication skills related to topics in human anatomy & physiology. (ILO1, ILO5)
		3. Display ability to read, comprehend, summarize and orally present research articles related to human anatomy & physiology. (ILO1, ILO2, ILO3, ILO4, ILO5)
		4. Display an understanding of global human health issues. (ILO3, ILO4, ILO5)
BIOL 204	Human Anatomy	1. Display critical thought related to topics in human anatomy using written forms of expression and examination. (ILO2, ILO3, ILO4)
		2. Display knowledge of anatomy and dissection competency using cat specimens as subjects. (ILO2, ILO3)
		3. Display critical thought related to topics in human anatomy as it applies to a global perspective. (ILO2, ILO5)
		4. Demonstrate competency in communicating information related to the anatomy of the heart. (ILO1, ILO3, ILO4)
BIOL 206	Human Physiology	1. Conduct and analyze an electroencephalogram, electromyogram, or electrocardiogram performed on another person. (ILO 1, 2)
		2. Conduct and interpret the results of a urinalysis (ILO 1,2)
		3. Demonstrate understanding about the physiology associated with cells, tissues, organs, or organ systems (ILO 1 ,2)
		4. Monitor the fertilization of an egg by a sperm and the subsequent zygotic development (ILO 1, 2)
BIOL 220	General Microbiology	1. accurately explain the basic principles of microbiology, which include but are not limited to: structure and functions of prokaryotic and eukaryotic cells, microbial metabolism, bacterial/molecular genetics, pathogenesis, virology, and immunology. (ILO1, ILO2)
		2. devise a dichotomous key to aid in the identification of disease-causing bacteria in the lab, and accurately identify disease-causing bacteria by using the key and experimental techniques. (ILO1, ILO2)
		3. perform experimental techniques in microbiology correctly to test hypotheses, determine characteristics of microbes and perform diagnostics. (ILO2)
		4. apply lecture and laboratory concepts with critical thinking to explain experimental data and scenarios in microbiology not addresses directly in class/laboratory. (ILO1, ILO2)
		5. fully participate in classroom and laboratory activities. (ILO3)