BIO 154: Human Physiology

This course acquaints the student with the biological, chemical and physical functions of the human body. The focus of the course is on the cardiovascular, respiratory, gastrointestinal, endocrine, and excretory systems. Laboratory activities will include tests on blood, urine, the heart, and occasional dissections. Prerequisite: High school Biology or BIO 111, and high school Chemistry or CHM 090. Not available for credit to students with a C or better in BIO 233 or 234. Three class hours and two laboratory hours per week. Instructional Support Fee applies. Gen. Ed. Competencies Met: Scientific Reasoning and Discovery.

Course Student Learning Outcomes

1. Define physiology and how the physiology of a structure is related to its anatomy. Give the steps of the Scientific Method and describe the role of clinical trials, such as double blind studies, to development of new therapies. 2. Describe and explain the concept of homeostasis, how it is maintained by negative feedback, and how failure to maintain homeostasis causes diseases with a particular focus on diabetes. 3. Demonstrate knowledge of the basic physical and chemical underpinnings of physiology and its clinical application such as acid-base and pH, osmosis, electrolytes, radioisotopes, hydrogen bonding, protein structure, membrane structure & function. 4. Demonstrate knowledge of the physiology, and its related anatomy, of the cardiovascular, endocrine, urinary, and respiratory systems and disorders (homeostatic imbalances) of those systems. 5. Complete laboratory exercises in a safe and proper manner, including those that may involve dissections of preserved or fresh animal specimens, the acquiring and handling of human blood and body fluid specimens, proper handling of laboratory models, microscopes, and spectronic analysis of fluids. Demonstrate knowledge of the Scientific Method & the application of this method to the performance and analysis of laboratory experiments, such as hematocrit, RBC count, ECG, urnanalysis, as well as proper graphic representation and interpretation of the data.

Credits: 4
Program: Biology