SECTION HEADING

BIOL 2202: Human Physiology

Description

Human Physiology covers an applied and systematic approach the physiology of the cells, tissues, organs, and organ systems of the human body. Laboratory exercises support the lecture and include hands-on exercises that coincide with the systems covered in the lecture topics.

Credits

4

Prerequisite

BIOL 2201

Corequisite

None

Topics to be Covered

1. Physiology of cells and their surrounding environment

2. Chemical nature of the human body, enzymes, cellular respiration and metabolism

3. Nervous system function, sensory organ function, endocrine gland function

4. Muscular contraction and neural control, cardiovascular function, immune system function

5. Respiratory, digestive, urinary, and reproductive systems physiology.

6. Homeostasis mechanisms

7. Cellular diffusion and osmosis

8. Cranial nerve function, autonomic nervous system function

9. Cellular respiration and metabolism

10. Sensory function including visual, auditory, gustatory, equilibrium, and cutaneous

11. Cardiovascular function, respiratory function, urinary function nutritional metabolism.

Learning Outcomes

1. Describe and illustrate working knowledge of the physiology of the human body from the cellular level through the tissue, organ, and organ system levels.

2. Summarize the critical and necessary inter-related functions of tissues, organs and organ systems.

3. Compare and contrast normal physiological function from disease related physiological function.

4. Explain and recognize the nature of physiological dysfunctions.

5. Describe human physiology and be able to interpret and understand the medical and physiological articles found in current professional literature, as well as lay publications and news sources.

6. Illustrate or describe and properly use physiological terminology as it applies to the study of human physiology.

7. Identify and utilize Human Physiology knowledge in the student's chosen profession.

Credit Details

Lecture: 3

Lab: 1

OJT: 0

MnTC Goal Area(s): Goal Area 03 - Natural Sciences

Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal Area 03: Natural Sciences

1. Demonstrate understanding of scientific theories.

2. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.

3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.

4. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.