

Course discipline/number/title: BIOL 1107: Fundamentals of Anatomy and Physiology

A. CATALOG DESCRIPTION

1. Credits: 4
2. Hours/Week: 3 lecture, 2 lab
3. Prerequisites (Course discipline/number): None
4. Other requirements: None
5. MnTC Goals (if any): Goal 3/Natural Sciences

B. COURSE DESCRIPTION: This one-semester course provides a comprehensive overview of introductory human anatomy and physiology of the major body systems. The course introduces students to biological molecules, cells, tissues, and organ systems of the human body and incorporates anatomical terminology. The laboratory curriculum does not include physical dissection of organisms.

C. DATE LAST REVISED (Month, year): December, 2022

D. OUTLINE OF MAJOR CONTENT AREAS:

1. Organization and orientation of the body and anatomical terms
2. Biological macromolecules
3. The Cell
  - a) Cell Theory
  - b) Structure and function
  - c) Cell Cycle and Mitosis
  - d) Cell Metabolisms
4. Tissue types
5. Body systems
  - a) Integumentary
  - b) Skeletal
  - c) Muscular
  - d) Nervous
  - e) Senses
  - f) Endocrine
  - g) Cardiovascular
  - h) Lymphatic
  - i) Respiratory
  - j) Digestive
  - k) Urinary
  - l) Reproductive

E. LEARNING OUTCOMES (GENERAL): The student will be able to:

1. Demonstrate knowledge of the anatomical organization and terminology of the human body.
2. Identify major tissues and organs of the body.
3. Describe the anatomy and physiology of major organs of each system.
4. Describe the basic physiological processes of each system.
5. Exhibit a basic understanding of relationships between and among body systems.
6. Analyze and apply basic anatomy and physiology concepts to human health and disease.
7. Conduct scientific investigations, evaluate results, and draw logical conclusions

F. LEARNING OUTCOMES (MNTC):

Goal 3/Natural Sciences: The student will be able to:

1. Demonstrate understanding of scientific theories.
2. Communicate their experimental findings, analyses, and interpretations both orally and in writing.
3. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.

- G. METHODS FOR EVALUATION OF STUDENT LEARNING: Methods may include but are not limited to:
1. Objective and short answer exams
  2. Lab practical exams
  3. Essay exams
  4. Lab experiments, simulations, and reports
  5. Group work and presentations
  6. Skill performance
- H. RCTC CORE OUTCOME(S) ADDRESSED:  
Critical Thinking. Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.
- I. SPECIAL INFORMATION (if any):  
General information about safety rules, procedures, and safety equipment in the laboratory is provided by the instructor during the first laboratory session. In subsequent laboratory sessions, the hazardous characteristics of any materials to be used and the necessary precautions for the handling of these materials will be discussed at the beginning of the session by the instructor. The instructor will direct all students to wear necessary protective equipment when working with hazardous chemicals. Copies of the Material Safety Data Sheets (MSDS) for all chemicals used are available online.