

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY BIO 231 – HUMAN ANATOMY AND PHYSIOLOGY I (4 CR.)

Course Description

Integrates the study of gross and microscopic human anatomy with physiology, emphasizing the analysis and interpretation of physiological parameters, as they relate to clinical scenarios. Covers the integumentary system, skeletal system (including articulations), muscular system, and nervous system. Part I of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

General Course Purpose

The goal of BIO 231 is to provide students with knowledge of the interrelationship between the organ systems and their contribution to homeostasis.

Course Prerequisites/Corequisites

Prerequisites: BIO 101-102 and CHM 111-112

Course Objectives

Upon completing the course, the student will be able to:

Introduction to Anatomy and Physiology

- Define anatomy and physiology and explain the interrelationship between them
- Apply descriptive anatomical and directional terminology to the human body
- Describe each organ system and explain the functional interrelationship among them

Homeostasis

- Describe the principle of homeostasis and the feedback mechanisms that are used to maintain internal balance.

Histology

- Describe the structure of the primary tissue classes, their functions, and representative locations in the human body and visually identify specific examples of each tissue type.
- Describe the structure and function of cellular junctions.
- Describe the structure, location, and function of body membranes.

Organ systems

- Describe and visually identify microscopic and macroscopic anatomical features of the integumentary, skeletal (including articulations), muscular, and nervous systems.
- Explain the mechanisms used by the integumentary, skeletal, muscular, and nervous systems that contribute to homeostasis.

Pathophysiology

- Predict the effects of a disturbance in homeostasis for the integumentary, skeletal, muscular, and nervous systems.

Major Topics to be Included

- a) Introduction to Anatomy & Physiology
- b) Homeostasis
- c) Histology
- d) Organ Systems
- e) Pathophysiology