BIO 161  
INTRODUCTION TO HUMAN BIOLOGY

COURSE DESCRIPTION:

Prerequisites: RED 090 or satisfactory score on placement test
Corequisites: None

This course provides a basic survey of human biology. Emphasis is on the basic structure and function of body systems and the medical terminology used to describe normal and pathological states. Upon completion, students should be able to demonstrate an understanding of normal anatomy and physiology and the appropriate use of medical terminology. This course covers a general study of each organ system and an overview of common abnormal physiological conditions associated with each system.

Course Hours Per Week: Class, 3. Semester Hours Credit, 3.

COURSE OBJECTIVES:

Upon completion of this course, the student will demonstrate basic knowledge in the following:

a. Basic anatomical characteristics in each of the organ systems.
b. Basic functional characteristics in each of the organ systems.
c. Common diseases and abnormalities of the organ systems.
d. Epidemiology and transmission of infectious disease.

OUTLINE OF INSTRUCTION:

I. Introduction
   A. Anatomical positions and planes
   B. Body cavities
   C. Medical prefixes and suffixes

II. Cells
   A. Composition and function of cell structures
   B. Movement through cell membranes

III. Primary tissues
   A. Epithelial and connective tissues
   B. Glands - exocrine versus endocrine
   C. Muscle and nervous tissues

IV. Integumentary system
   A. Dermis and epidermis
B. Functions of the integumentary system
C. Common skin disorders

V. Skeletal system
A. Bone development and growth
B. Axial and appendicular skeletal bones
C. Articulations
D. Common skeletal disorders

VI. Muscular system
A. Physiology of muscular contraction
B. Neuromuscular junction and chemotransmission
C. Types of movement
D. Common muscular disorders

VII. Nervous system
A. Mechanics of neural and synaptic transmission
B. Central nervous system
C. Peripheral nervous system
D. Autonomic nervous system
E. Common neurological disorders

VIII. Sensory organs
A. Types of receptors
B. Eye
C. Ear

IX. Endocrine system
A. Negative feedback mechanisms
B. Common endocrine hormones
C. Endocrine disorders

X. Blood and lymph
A. Plasma and cellular components
B. Hemostasis
C. Blood groupings
D. Lymphatic system

XI. Cardiovascular system
A. Cardiac structure and function
B. Systemic and pulmonary circulations
C. Cardiac control and vasomotor reflexes
D. Common cardiovascular disorders
XII. Respiratory system
   A. Pulmonary anatomy
   B. Mechanism of breathing
   C. Neural and chemical regulation
   D. Common respiratory disorders

XIII. Digestive system
   A. Anatomy of the gastrointestinal tract
   B. Accessory digestive organs
   C. Mechanical and chemical digestion
   D. Common gastrointestinal disorders

XIV. Urinary system
   A. Nephron and renal anatomy
   B. Urine formation and regulation
   C. Common urinary disorders

XV. Homeostasis of body fluids
   A. Regulation of fluid balance
   B. Regulation of electrolyte balance
   C. Regulation of pH - respiratory and renal compensation

XVI. Reproductive system
   A. Male reproductive system
   B. Female reproductive system
   C. Common reproductive disorders

REQUIRED TEXTBOOKS AND MATERIALS:


SUGGESTED REFERENCES, PERIODICALS, AND VISUAL AIDS:

Numerous supplementary texts, programmed materials, and audiovisual packages are available in the Educational Resources Center. These materials may be utilized to reinforce the lecture and lab material or to provide material for independent study by the student.