

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY NAS 150 – HUMAN BIOLOGY (4 CR.)

Course Description

Surveys the structure and function of the human body. Applies principally to students who are not majoring in science fields. Lecture 4 hours per week.

General Course Purpose

This is a one semester introduction to human body structure and function designed to fulfill science requirements of the Health Technology Programs core curriculum. The course will examine body structure and function at the cellular, tissue, organ and organ system levels with emphasis on normal anatomy and physiology throughout.

Course Prerequisites/Corequisites

None.

Course Objectives

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

- a) define and use basic anatomical terms
- b) name the principal body cavities and identify the organs located in each of them
- c) identify and describe the functional roles of each of the four major classes of organic macromolecules
- d) draw and/or label a drawing of the main parts of a typical animal cell and describe their functions
- e) list and describe the characteristics of the four basic types of tissues
- f) list and describe the main functions and organs of each organ system
- g) explain how the systems function in order to maintain homeostasis in the body

In addition, more specific objectives will be furnished with each lecture topic to assist the student in learning and understanding the anatomy and physiology of the normal human body.

Major Topics to be Included

- a) Anatomical Terminology and Body Organization
- b) Introduction to Biological Chemistry
- c) Transport Across the Cell Membrane
- d) Cells: Structure, Function, and Division
- e) Tissues and the Integumentary System
- f) Movement: Skeletal and Muscular System
- g) Control: Nervous and Endocrine Systems
- h) Transport: Cardiovascular and Lymphatic Systems
- i) Immunity
- j) Gas Exchange: Respiratory System
- k) Food Processing and Utilization: The Digestive System and Metabolism
- l) Maintenance of Fluid, Electrolyte and Acid-Base Balance: The Urinary System
- m) The Reproductive System and Development