

Prepared by the Department of Natural Sciences & Applied Technology

Date of Departmental Approval: February 15, 2015

Date Approved by Curriculum and Programs: February 22, 2017

Effective: Fall 2017

- 1. Course Number:** BIO105 / BIO105L
Course Title: Survey of Human Anatomy & Physiology
Survey of Human Anatomy & Physiology Laboratory
- 2. Description:** This is an introductory course of human anatomy and physiology. The course starts with anatomical terms and basic cellular biology and then emphasizes the structure and function of several organ systems. The laboratory portion of the course involves the examination of slides, bones, models and the dissection of a rat. (This course does not meet Nursing or Dental Hygiene program requirements for Anatomy and Physiology.) (3 class hours/ 2 laboratory hours)
- 3. Student Learning Outcomes:** Upon successful completion of this course, students are able to do the following:
 - Define Anatomy and Physiology
 - Use anatomical terms to describe the body planes, sections, cavities, and regions
 - Describe the concept of homeostasis and homeostatic control mechanisms
 - Describe the structure and functions of cellular organelles
 - List the components of the integumentary system and describe the structure and function of the integumentary system
 - Identify the bones of the body and describe the anatomy and physiology of bones and articulations
 - Identify major muscles and describe the physiology of muscle movements
 - Analyze and describe the roles of the muscles, bones, and joints during body movements
 - List the components of the Central Nervous System and the peripheral nervous system; and identify the major parts of the brain
 - Describe the way by which a nerve impulse is conducted down a nerve fiber
 - List the components of a nerve reflex
 - List the primary glands of the Endocrine System and describe the methods by which hormones act to control homeostasis
 - List the components of the Cardiovascular System, locate and identify the parts of the heart as well as major blood vessels
 - List factors that act to increase blood pressure
 - List the components of the Lymphatic System and describe its functions
 - List and identify components of the Respiratory System
 - Describe the process of breathing and gas exchange
 - List and identify components of the Digestive System
 - Describe the importance of the pancreas and the liver in digestion
 - Describe the process of mechanical and chemical digestion
 - List and identify the components of the Urinary System and describe the formation of urine
 - List and identify the components of the male reproductive system and the female reproductive system
 - Calculate the total magnification power of a microscope when using different objective lenses
 - Measure, calculate, and compare the rates of diffusion of a gas in a gas, solid, in liquid, and a solid in a solid
 - Measure and compare pulse rates in response to changes in body position and exercise
 - Use electronic media for practice, review, and self-assessment
 - Work cooperatively in a small group setting to complete various laboratory exercises, following the oral and written instructions provided
 - Analyze the relationship between form and function during nerve impulse conduction
 - Identify the parts of a microscope, describe the function of each part, and utilize basic microscopic skills to observe specimens and slides
- 4. Credits:** 4 credits

5. Satisfies General Education Requirement: Natural or Physical Science

6. Prerequisites: MAT020 (Prealgebra) or MAT025 (Pre-Algebra), ENL108 (Critical Reading & Thinking) or satisfactory basic skills assessment scores.

7. Semesters Offered: Fall, Spring, and Summer

8. Suggested General Guidelines for Evaluation: Course grading procedures and make-up policies are detailed in a student handout. In summary, the course grade evaluation is based on achievement on quizzes, hour-exams and a final comprehensive exam. The laboratory portion of the course is based on lab tests and reports.

9. General Topical Outline (Optional):

- A. Organization of the Human Body
 - Introduction to the anatomical terminology & homeostasis
 - The basic structure and function of cells
 - Characteristics of the four principle types of tissue
- B. Support and Movement of the Body
 - The Skeletal System
 - The Muscular System
- C. Integration and Control of Body Functions- The Nervous System
- D. Maintenance of the Body
 - The Cardiovascular System
 - The Respiratory System
 - The Digestive System