

## NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE COURSE SYLLABUS

**Course Title:** PRINCIPLES OF THE HUMAN BODY LAB      **Course #:** BIO\* 110L

**Course Description:** 1 semester hours (2 lab hours)

The laboratory to accompany BIO 110 - Principles of the Human Body lecture. Laboratory activities supplement lecture content. Principles of animal cells and human body systems will be explored. This course cannot be used as the prerequisite for BIO 211 or BIO 235.

**Pre-requisite/Co-requisite:** Eligibility for or completion of ENG\* 101. Computer skills, including email, word processing, and web navigation **are critical** for this course.

### Goals:

The goal of this course is to provide students with

- An appreciation for the organization and function of human body.
- The ability to use the metric system to measure mass, volume and length.
- Describe the chemical basis of life and explain osmosis/diffusion.
- A demonstrated understanding of the structure and function of cells.
- An understanding of the basic principles of genetic inheritance
- A demonstrated understanding of the structure and function of a variety of tissues, digestive system, cardiovascular system, respiratory system, skeletal system, muscular system, nervous system, sensory system, urinary system, and reproductive system using slides, preserved specimens, ADAM interactive anatomy, models, diagnostic imaging and experimentation

### Outcomes:

Upon the completion of this course, students should be able to describe:

- a. Recognize metric units and use the appropriate instruments to take accurate measurement of mass, length and volume.
- b. Convert common measurements from standard to metric.
- c. Design and conduct an experiment using the scientific method.
- d. Formulate a testable hypothesis.
- e. Use biochemical tests to recognize the presence of carbohydrates, protein, and lipids.
- f. Use a microscope and identify its parts.
- g. Recognize various types of cells and tissues under the microscope and compare plant cells to animal cells
- h. Use a dissecting microscope to view skin, hair and nails.
- i. Describe the process of diffusion and osmosis and predict the results when a cell is placed into various solutions of different tonicity.
- j. Identify major representative muscles and bones in the body.
- k. Use ADAM, models, dissections, and illustrations to identify structures of the central and peripheral nervous systems.
- l. Identify the structure and function of the major regions of the brain.
- m. Demonstrate an understanding of the process of Mendelian genetics using human monogenetic and polygenetic traits.

- n. Describe the importance of the sense of smell and taste, identify the parts of the ear using a model and ADAM, and recognize the parts of the eye using a dissected eye, models, and ADAM.
- o. Use ADAM, models, dissections, and illustrations of the heart to identify anatomical features of the heart and major blood vessels.
- p. Demonstrate the ability to record the blood pressure on their lab partner and use a standardized test to evaluate an individual's cardiovascular health.
- q. Identify different types of blood cells under a microscope.
- r. Use ADAM, models, dissections, and illustrations to identify anatomical features of the lungs.
- s. Recognize the effect of smoking on human lung tissue and compare the effects to those of nonsmokers using histology slides, models, ADAM interactive anatomy and chest x-rays.
- t. Use ADAM, models, dissections and illustrations of the digestive system to identify various components.
- u. Demonstrate the mechanical and chemical digestion of starch in the presence of amylase.
- v. Using ADAM, models, dissections, and illustrations, locate the kidneys and other urogenital organs.

### College Policies:

**Plagiarism:** Plagiarism and Academic Dishonesty are not tolerated at Northwestern Connecticut Community College. Violators of this policy will be subject to sanction. Please refer to your "Student Handbook" under "Policy on Student Rights," the Section entitled "Student Discipline," or the College catalog for additional information.

**Americans with Disabilities Act (ADA):** The College will make reasonable accommodations for persons with documented learning, physical, or psychiatric disabilities. Students should notify Roseann Dennerlein, the Counselor for Students with Disabilities. She is located at Green Woods Hall, in the Center for Student Development. Her phone number is 860-738-6307 (V/TTY) and her email is [rdennerlein@nwcc.commnet.edu](mailto:rdennerlein@nwcc.commnet.edu).

**School Cancellations:** If snowy or icy driving conditions cause the postponement or cancellation of classes, announcements will be made on local radio and television stations. Students may also log onto the College's website at [www.nwcc.commnet.edu](http://www.nwcc.commnet.edu) or call the College directly at (860) 738-6464 to hear a recorded message concerning any inclement weather closings. Students are urged to exercise their own judgment if road conditions in their localities are hazardous.