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.
- An overview of chemical basis of life and explanation osmosis/diffusion.
- A demonstrated understanding of the structure and function of cells.
- An demonstrated 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:

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. Use biochemical tests to recognize the presence of carbohydrates, protein, and lipids.
d. Use a microscope and identify its parts.
e. Recognize various types of cells under the microscope and compare plant cells to animal cells
f. Use a dissecting microscope to view skin, hair and nails.
g. Describe the process of diffusion and osmosis and predict the results when a cell is placed into various solutions of different tonicity.
h. Use ADAM, models, dissections and illustrations of the digestive system to identify various components.
i. Demonstrate the mechanical and chemical digestion of starch in the presence of amylase.
j. Use ADAM, models, dissections, and illustrations of the heart to identify anatomical features of the heart and major blood vessels.
k. Demonstrate the ability to record the blood pressure on their lab partner.
l. 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.
m. Use ADAM, models, dissections, and illustrations to identify anatomical features of the lungs.
n. Identify major representative muscles and bones in the body.
o. Describe the importance of the sense of smell on 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.

p. Using ADAM, models, dissections, and illustrations, locate the kidneys and other urogenital organs.

q. Demonstrate an understanding of the process of Mendelian genetics using human monogenetic and polygenetic traits.