

# Common Course Outline

Biology 109

Human Anatomy & Physiology

4 Semester Hours

3 Lecture Hours

3 Laboratory Hours

## The Community College of Baltimore County

### Description

#### **Human Anatomy & Physiology**

Provides a basic understanding of human anatomy and physiology through the study of the structure and function of the human body. In addition to introductory principles of chemistry and cell biology, the following organ systems are examined: integumentary, skeletal, muscular, nervous, endocrine, immune, circulatory, respiratory, digestive, urinary and reproductive. Includes both lecture and laboratory components and is a General Education laboratory science. This course is not a substitute for BIOL 110, 220 or 221 or a prerequisite for other science courses. Note: this course is intended primarily for students preparing for allied health professional careers including: respiratory therapist, radiology technician, radiography (x-ray) technician, massage therapist, EMT (certificates only) and mental health professions; it may be taken by students that want to understand the human body for personal interest or career reasons.

### Overall Course Objectives

After completion of the course the student will be able to:

1. Identify the major human body systems and their organs. I, 1
2. Describe the organization of the human body from molecules to organelles to cells to tissues, organs and organ systems. I, II VI, 1
3. Explain how the nervous and endocrine systems allow communication between parts of the body. I, II, VI, 1, 7
4. Integrate knowledge of the functioning of the skeletal, muscular, endocrine, cardiovascular, lymphatic, excretory, nervous, reproductive and immune systems of the body in order to explain how the body functions as a whole. I, VI, VI, 1, 4, 7
5. Apply knowledge of the major nutritional needs of the body to how the digestive system works. I, VI, 1, 4, 7
6. Analyze the development of the human embryo and fetus with respect to the formation of a normally functioning adult. I, VI, 1, 4, 7
7. Explain how the anatomy and physiology of the human body are basically identical across all racial and cultural groups V
8. Use instruments or other technology to measure physical parameters such as blood pressure, heart rate, respiratory volumes, urine constituents. I, III, IV, 1, 2, 3, 4, 5, 6

### Major Topics

Cell Structure and Development

Tissue Organization, and Skin, including the uniform basis of skin color

Osteology and Articulation

Biological Molecules

The Muscular System  
Muscle Contraction  
Nerve Cells  
The Nervous system  
The Endocrine System  
The Circulatory System  
Lymphatic System  
The Immune System – The Body's Defense  
The Respiratory System  
The Digestive System  
The Urinary System  
Male Reproductive System  
Female Reproductive System, Hormonal Cycle, Contraception technology  
Fertilization and Development

### **Course Requirements**

English Skill 2, Reading Skill 2, Math Skill 2

Grading procedures will include: a minimum of 2 lecture exams and 2 laboratory practical exams. The lecture exams will include at least 25% essay questions.

### **Other Course Information**

The course satisfies the general education requirement for a laboratory science.