Common Course Outline
BIOL 221
Human Anatomy and Physiology II
4 Credits

Community College of Baltimore County

Description

BIOL 221 – Human Anatomy and Physiology II provides further study of the structure and function of the human body. This course emphasizes the circulatory, respiratory, reproductive, urinary, and digestive systems.

3 Credits: 3 lecture hours and 3 laboratory hours per week

Prerequisites: BIOL 220 or a college equivalent with a minimum grade of C, ACLT 052 or (ESOL 052 and ESOL 054), and (MATH 083 or MATH 073)

Overall Course Objectives

Upon completion of this course students will be able to:

1. apply the concepts of homeostasis, regional and directional terminology, and histology to the study of body systems;
2. explain how feedback loops maintain homeostasis within the reproductive, cardiovascular, lymphatic, respiratory, digestive, and urinary systems;
3. relate the structural features of the male and female reproductive systems to their roles in functional reproduction and inheritance;
4. relate the components of the blood to their functional roles in distribution of substances, regulation, and protection;
5. relate the structural properties of the heart and blood vessels to their functional roles in hemodynamics;
6. relate the structural properties of the lymphatic system to their functional roles in fluid dynamics and immunity;
7. relate the structural properties of the respiratory system to their functional roles in ventilation, external and internal respiration, and transport of respiratory gases;
8. relate the structural properties of the digestive system to their functional roles in digestion, absorption, and excretion;
9. explain the metabolism of major nutrients required by the human body;
10. explain the mechanisms of thermoregulation;
11. relate the structural properties of the urinary system to their functional roles in urine formation and excretion, and hemodynamics;
12. discuss the major electrolytes of the body and the homeostatic mechanisms that control fluid and electrolyte balance;

13. explain how the body maintains acid-base balance;
14. use current technology to calculate physiological parameters, collect, validate, and interpret data;
15. find, evaluate, use, and cite credible resources and incorporate the information effectively to explain the anatomical and physiological interrelationships within and between systems of the human body;
16. apply knowledge of the systems to practical problem-solving situations;
17. apply biological concepts to predict the consequences of physiological and anatomical changes on the body;
18. examine the ethical use of biomedical or biotechnological advances; and
19. compare and contrast effects of ethnicity and/or culture on anatomy and/or physiology.

Major Topics

I. Reproductive Systems
II. Cardiovascular System
    A. Blood
    B. Heart
    C. Circulation
III. Lymphatic System
IV. Resistance to Disease
V. Respiratory System
VI. Digestive System
VII. Metabolism and Thermoregulation
VIII. Urinary System
IX. Fluid and Electrolyte Balance
X. Acid/Base Balance

Course Requirements

Grading procedures will be determined by the individual faculty member but will include the following:

Grading/exams

Lecture Portion:

- A minimum of two interim exams
- A comprehensive final examination

50-70% of the grade will be derived from the lecture component of course. No more than 30% of a student's total grade may come from homework, non-proctored work, or open book tests.

Lab Portion: A minimum of two laboratory practical exams

Students must pass both the lab and lecture components with a 60% or better; failure to earn a minimum of 60% in either lab or lecture will result in failure of the entire course. Lecture and lab are not separate courses and must be taken concurrently.

Written Assignments: Students are required to use appropriate academic resources. The individual faculty member may require specific writing assignments.

Individual faculty members may include additional course objectives, major topics, and other course requirements above the minimum expectations stated in the Common Course Outline.

Other Course Information

This course is an approved 4-credit General Education course in the Biological and Physical Sciences category that fulfills the laboratory requirement. Please refer to the current CCBC Catalog for General Education course criteria and outcomes.

Date Revised: 12/04/2018