

Common Course Outline
BIOL 108
Investigating the Living World
4 Credits

Community College of Baltimore County

Description

BIOL 108 – Investigating the Living World provides a general overview of the basic principles of biology, an introduction to scientific thought, and methodology and necessary skills for science literacy. Topics include human biology, cell structure and function, evolution, genetics and ecology.

4 credits: 3 lecture hours and 3 laboratory hours per week.

Prerequisite: (ESOL 052 and ESOL 054) or ACLT 052 or ACLT 053 and MATH 081

Overall Course Objectives

Upon completion of this course students will be able to:

1. assess basic biological questions using current scientific literature;
2. explain current events and discoveries based on biological information;
3. evaluate current biological and biotechnological advances from social and ethical perspectives;
4. propose solutions to everyday problems using biological knowledge;
5. apply the steps of scientific methodology and appropriate technology;
6. explain the functions and interrelationships of organ systems of the human body;
7. describe how cell structure and cell reproduction contribute to functions of human organ systems;
8. apply concepts of Mendelian genetics to explain ethnic diversity in the areas of genetic inheritance and disorders;
9. determine how one's biological past has an impact on one's future;
10. discuss how humans have developed in a direct relationship with their environment;
11. explain the interrelationships between organisms and their environment;
12. discuss the impact that humans have on the future of their environment;
13. organize data into graphs and tables and employ basic mathematical skills to quantify data; and
14. effectively communicate scientific results and information to others.

Major Topics

- I. Cell structure and function
- II. Organ Systems
 - A. Interactions among organ systems
 - B. Homeostasis
 - C. Response to stimuli
 - D. Obtaining energy

- E. Reproduction
- III. Genetics
 - A. Transmission genetics
 - B. Molecular genetics
- IV. Evolution
- V. Conservation and ecology

Course Requirements

Multiple assignments will infuse CCBC General Education Program objectives into the course. Grading procedures will be determined by the individual faculty member but will include:

Grading/exams:

1. a minimum of three lecture exams; and
2. a term project or written research paper.

Students must attend a weekly laboratory session. Students will collaborate and use technology and oral communication in the analysis of data collected during the laboratory exercises. Lab will account for 20-40% of the total course grade. At least two of the following will be used in assessing lab performance as determined by the individual instructor:

1. weekly lab reports
2. pre-lab assignments
3. lab notebook
4. at least two lab practicals
5. quizzes
6. one formal lab report

Students **MUST** complete the following assignment:

Osmosis Lab interpretation paper – worth 5% of the total course grade that allows students to demonstrate at least 5 of the 7 General Education Program outcomes.

Written Assignments: Students are required to use appropriate academic resources.

Other Course Information

This course is an approved 4-credit Biological and Physical Sciences General Education course that meets both the lecture and laboratory requirements.

This course is required for students in the early childhood and elementary education curricula. This course has MSDE approval.