

# **Biology 100**

## **Exploring Biology**

3 Credits

Community College of Baltimore County  
Common Course Outline

### **Description**

**Biology 100 – Exploring Biology:** is a course that examines modern biological principles to increase awareness of the relationships between scientific thought, current knowledge in biology, and everyday living. This course does not serve as a prerequisite for other biology courses.

**Pre-requisites:** ACLT 053 or (ESOL 052 and ESOL 054) and MATH 081

### **Overall Course Objectives**

Upon completion of this course, students will be able to:

1. identify the characteristics common to all living things;
2. describe the elements of a sound scientific investigation, such as scientific question, hypothesis, proper experimental design, logical conclusion and identification of bias;
3. differentiate between scientific theory and hypothesis;
4. find, evaluate, use, and cite appropriate sources in scientific reasoning and/or inquiry;
5. relate the structure of organelles found in a typical eukaryotic cell to their function;
6. define evolution of species as change in genetic makeup of a population;
7. relate the process of species adaptation to the environmental conditions through natural selection;
8. describe the role of the four classes of macromolecules in living organisms;
9. apply the laws of Mendelian genetics and their extensions to describe the patterns of inheritance of the autosomal dominant, autosomal recessive, and sex-linked traits;
10. describe how genetic information is transferred to the next generation through cell division;
11. indicate the mechanisms of energy conversion by autotrophs and heterotrophs in an ecosystem;
12. summarize scientific data using words and figures in an electronic format;
13. relate how information stored in DNA is expressed in an organism's phenotype;
14. identify how scientific advances in medicine, genetics, and biotechnology impact human life; and
15. relate the effect of evolutionary mechanisms such as bottleneck effect and heterozygote advantage to genetic variability and disease prevalence within different ethnic communities.

The Common Course Outline (CCO) determines the essential nature of each course.  
For more information, see your professor's syllabus.

## **Major Topics**

- I. Scientific Method
- II. Characteristics of Living Things
- III. Evolution
- IV. Diversity of Species
- V. Cell Theory
- VI. Biological Molecules
- VII. Genetics
- VIII. Advances in Science and Biotechnology

## **Course Requirements**

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- Three unit exams
- Six quizzes
- Written Assignments:
  - one formal research assignment
  - two additional graded assignments

Written assignments and research projects: Students are required to use appropriate academic resources in their research and cite sources according to the style selected by their professor.

## **Other Course Information**

This course is an approved 3–credit General Education course in the Biological and Physical Sciences but does not fulfill the laboratory requirement.

One or more assignments will infuse CCBC General Education Program outcomes and will account for a minimum of 10% of the total course grade. The assignment(s) will allow students to demonstrate at least 5 of the 7 General Education program outcomes.

BIOL 100 is a course intended for students who are not planning to enroll in higher level biology. Students may receive credit for only one of the following: BIOL 100, BIOL 108 or BIOL 110.

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