MONROE COUNTY COMMUNITY COLLEGE
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Course Outcome Summary

General Education Satisfier Course

BIOL 151 Biological Sciences I

Course Information

Division	Science/Mathematics
Course Number	BIOL 151
Course Name	Biological Sciences I
Contact Hours	45
Lab Hours	45
Total Credits	4

Prerequisites

Reading 090, English 090 and MATH 090 or qualifying scores on accepted placement tests

Course Description

General Biology is designed to cover selected biological topics which should help the student gain an understanding and appreciation of basic life functions, man's relationship to the environment, and the application of biological data to effective decision making. The class includes units of modern cell biology, chemistry, metabolism, genetics, evolution and ecology. This is the first semester of a two-semester sequence.

Exit Learning Outcomes

General Education Goal: Critical Thinking
Competency: Understand and apply the elements of scientific inquiry and scientific principles in a natural science laboratory course setting.

General Education Objectives

A. Observe and describe natural phenomena and formulate hypotheses.
B. Plan and implement scientific experiments to test hypotheses.
C. Utilize scientific laboratory skills for data collection within a college laboratory setting.
D. Evaluate experimental data and propose solutions based on this data.
E. Evaluate the proposed implications of a solution.

Course Outcomes

In order to evidence success in this course, the students will be able to:

1. Achieve an understanding of how science influences our daily lives.
   Linked General Education Objectives
   A. Observe and describe natural phenomena and formulate hypotheses.
   B. Plan and implement scientific experiments to test hypotheses.
   C. Utilize scientific laboratory skills for data collection within a college laboratory setting.
   D. Evaluate experimental data and propose solutions based on this data.
   E. Evaluate the proposed implications of a solution.

2. Ability to apply the process of science (scientific method).
   Linked General Education Objectives
   A. Observe and describe natural phenomena and formulate hypotheses.
   B. Plan and implement scientific experiments to test hypotheses.
   C. Utilize scientific laboratory skills for data collection within a college laboratory setting.
   D. Evaluate experimental data and propose solutions based on this data.
   E. Evaluate the proposed implications of a solution.

3. Identify how living systems are interconnected and interacting.
   Linked General Education Objectives
   A. Observe and describe natural phenomena and formulate hypotheses.
   B. Plan and implement scientific experiments to test hypotheses.
   C. Utilize scientific laboratory skills for data collection within a college laboratory setting.
   D. Evaluate experimental data and propose solutions based on this data.
   E. Evaluate the proposed implications of a solution.

4. Describe basic units of structure and how they define the functions of all living things.
   Linked General Education Objectives
   A. Observe and describe natural phenomena and formulate hypotheses.
   B. Plan and implement scientific experiments to test hypotheses.
   C. Utilize scientific laboratory skills for data collection within a college laboratory setting.
   D. Evaluate experimental data and propose solutions based on this data.
   E. Evaluate the proposed implications of a solution.

5. Conceptualize the structure and function of the DNA molecule.
   Linked General Education Objectives
   A. Observe and describe natural phenomena and formulate hypotheses.
   B. Plan and implement scientific experiments to test hypotheses.
   C. Utilize scientific laboratory skills for data collection within a college laboratory setting.
   D. Evaluate experimental data and propose solutions based on this data.
   E. Evaluate the proposed implications of a solution.

6. Explain how the diversity of life evolved over time by processes of mutation, selection, and genetic change.
   Linked General Education Objectives
   A. Observe and describe natural phenomena and formulate hypotheses.
   B. Plan and implement scientific experiments to test hypotheses.
   C. Utilize scientific laboratory skills for data collection within a college laboratory setting.
   D. Evaluate experimental data and propose solutions based on this data.
   E. Evaluate the proposed implications of a solution.

7. Explain the processes through which growth and behavior of organisms are activated through the expression of genetic information in context..
   Linked General Education Objectives
   A. Observe and describe natural phenomena and formulate hypotheses.
   B. Plan and implement scientific experiments to test hypotheses.
   C. Utilize scientific laboratory skills for data collection within a college laboratory setting.

D. Evaluate experimental data and propose solutions based on this data.
E. Evaluate the proposed implications of a solution.

8. Explain how biological systems grow and change by processes based upon chemical transformation pathways and are governed by the laws of thermodynamics.

Linked General Education Objectives

A. Observe and describe natural phenomena and formulate hypotheses.
B. Plan and implement scientific experiments to test hypotheses.
C. Utilize scientific laboratory skills for data collection within a college laboratory setting.
D. Evaluate experimental data and propose solutions based on this data.
E. Evaluate the proposed implications of a solution.

TR:4/11/18