South Central College

BIOL 100 Introduction to Biology

Course Outcome Summary

Course Information

Description Introduction to Biology familiarizes students with fundamental biological principles and processes occurring in our natural world. Students will be introduced to issues in science and society and engage in scientific inquiry. Topics include evolution, ecology, human impacts on the environment, human biology, cells and genetics. (Prerequisites: READ 0090) (MnTC Goal Area 3: Natural Sciences)

Total Credits 4

Total Hours 80

Types of Instruction

Instruction Type	Credits/Hours
Lecture	3/48
Lab	1/32

Pre/Corequisites

READ 90

Institutional Core Competencies

Communication - Students will be able to demonstrate appropriate and effective interactions with others to achieve their personal, academic, and professional objectives.

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Describe the nature of science

Learning Objectives

Identify several characteristics of science
Explain how scientific knowledge is gained
List steps typically included in a scientific method
Describe a theory in the context of science
Explain the importance of science in society

2. Engage in scientific inquiry

Learning Objectives

Recognize appropriate scientific methodologies
Identify reputable resources of scientific information
Apply an appropriate scientific method to solve a problem or answer a question
Communicate the findings of a scientific inquiry

3. Describe what the science of biology entails

Learning Objectives

List unifying properties of life
Define biology and list the levels of biological organization
Explain the importance of biology in society
Identify several factors that contributed to the existence of life on earth

4. Examine the nature of evolution

Learning Objectives

Define biological evolution
Identify factors that contribute to evolution
Explain outcomes of biological evolution
Describe evidences of evolution
Identify misconceptions about evolution

5. Explain evolution by natural selection

Learning Objectives

Differentiate between evolution and natural selection
Identify conditions necessary for natural selection to occur
Illustrate the process of natural selection
Explain the role of the environment in natural selection
Explain the role of genetics in natural selection

6. Examine biodiversity

Learning Objectives

Differentiate between levels of biodiversity
Explain factors that contribute to biodiversity
Identify ways in which organisms are classified
Explain why biodiversity loss is important

7. Summarize key features of animals

Learning Objectives

List unifying characteristics of animals
Categorize the major groups of animals
Describe several animal adaptations
Explain why knowledge of animals is important

8. Summarize key features of plants

Learning Objectives

List unifying characteristics of plants
Categorize the major groups of plants
Describe several plant adaptations
Explain why knowledge of plants is important

9. Summarize key features of protists

Learning Objectives

List the major characteristics of protists
Categorize the major groups of protists
Explain why knowledge of protists is important

10. Summarize key features of fungi

Learning Objectives
List the major characteristics of fungi
Categorize the major groups of fungi
Explain why knowledge of fungi is important

11. Describe key features of prokaryotes

Learning Objectives
List the unifying characteristics of prokaryotes
Differentiate between prokaryotes and eukaryotes
Identify the major groups of prokaryotes
Explain the importance of prokaryotes

12. Express principles of ecology

Learning Objectives
Define ecology and list the levels for which it is studied
Illustrate energy flow and chemical cycling in an ecosystem
Describe different types of interspecies interactions
Define ecological niche and describe examples
Compare and contrast population growth models

13. Evaluate environmental issues

Learning Objectives
Describe the nature of environmental science
Describe past and current trends in human population growth
Identify the causes, consequences and potential solutions of major environmental problems

14. Analyze structures, functions and processes occurring in the human body

Learning Objectives
Define homeostasis and explain how it is regulated
Explain the relationship between biological structure and function
Identify tissues and organs of the body and explain their functions
Describe the structures and functions of the body’s organ systems

15. Describe key features of the cell

Learning Objectives
Identify intracellular structures and explain their functions
Illustrate the process of cell division
Explain how cell division is controlled and regulated
Compare and contrast mitosis and meiosis

16. Apply basic knowledge of genetics

Learning Objectives
Describe the nature of inheritance
Illustrate the process of DNA replication
Illustrate the process of protein synthesis
Assess several DNA technologies

17. Demonstrate safe laboratory practices

Learning Objectives
Be aware of any hazardous materials that may be used during experiments
Handle chemicals and equipment in a safe manner

18. Examine the process of evolution

SCC Accessibility Statement

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request

and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: www.southcentral.edu/disability

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