Syllabus
BIOS 1010
General Biology
2026

Committee Members:

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Facilitator: Tanner Jenkins

The Institution agrees to the contents in this syllabus including course prefix, number, course description and other contents of this syllabus.

Chief Academic Officer, Central Community College	02/12/2026	Adopt
Chief Academic Officer, Little Priest Tribal College	02/13/2026	Adopt
Chief Academic Officer, Metropolitan Community College	02/16/2026	Adopt
Chief Academic Officer, Mid-Plains Community College	02/11/2026	Adopt
Chief Academic Officer, Nebraska Indian Community College	02/16/2026	Adopt
Chief Academic Officer, Northeast Community College	02/11/2026	Adopt
Chief Academic Officer, Southeast Community College	02/20/2026	Adopt
Chief Academic Officer, Western Nebraska Community College	02/18/2026	Adopt

I. CATALOG DESCRIPTION

Course Title: BIOS 1010 – General Biology

Prerequisite: None

Recommendations: High school biology and meet college required assessment minimum score.

Course Description:

This course covers fundamental processes of cells and organisms, cell structure, genetics, biotechnology, evolution, classification, diversity, and interaction of organisms at the molecular, cellular, organismal, ecosystems, and biosphere levels. It is designed as both a course for non-majors and as a foundation course for those planning additional work in biology (may or may not transfer as a program requirement for biology majors). Includes lab. (Below are listed the minimum times.)

Credit Hours:	4 semester hours or 6 quarter hours
Lecture/Classroom Hours	3 hours/week (semester) 5 hours/week (quarter)
Laboratory Hours	2 hours/week (semester) 3 hours/week (quarter)
Practicum/Clinical/Recitation Hours:	0
Cooperative Education/Internship Hours	0

II. COURSE OBJECTIVES/COMPETENCIES

A. Course will:
1. Provide a broad knowledge base sufficient to understand core biological concepts
2. Foster critical thinking skills in examining biology-related issues as they relate to societal and individual problems.
3. Relate basic biological concepts to common experience.
4. Illustrate how the process of science can be utilized as part of problem-solving strategies.
5. Introduce students to biological laboratory techniques.
6. Apply skills in quantitative and qualitative analysis, scientific collaboration, and effective communication.

III. STUDENT LEARNING OUTCOMES

A. The student will be able to:
1. Demonstrate and explain scientific theories and methodologies.
2. Describe the characteristics common to living things, and the differences among organism groups in the domain/ kingdom classification system.
3. Demonstrate a working knowledge of plant, animal and prokaryotic cell structure and function.
4. Explain the chemical basis of life, including atomic and molecular structure, overview of metabolic pathways, molecular basis of genetic material and protein synthesis.
5. Describe the genetic principles of Mendelian inheritance, meiosis, mitosis, chromosome structure, mutagenesis, and concepts of modern biotechnology.
6. Explain the interactions and adaptations of plants and animals within their respective ecosystems and biosphere.
7. Describe the theories of evolution and the genetic, morphological, fossil, and historical evidence supporting these theories.

IV. COURSE CONTENT/TOPICAL OUTLINE

A. The following may be taught in the order that the faculty member chooses.
1. Scientific Methods
2. Cell Structure/Function
3. Cell Chemistry/Metabolism
4. Classical / Molecular Genetics and Biotechnology
5. Diversity and Classification
6. Ecology and the Environment
7. Evolutionary Theories

V. INSTRUCTIONAL MATERIALS

A. Textbooks – Any college-level Biology textbook selected must address the objectives listed. Instructor(s) should give priority to the following texts or the most current edition:

1. Campbell Essential Biology 7th edition Simon, Dickey, and Reece, 2020, Pearson Publishing

2. Essentials of Biology, Mader and Windelspecht, 6th edition, 2021, McGraw-Hill Publishing

3. Concepts of Biology, 2016 Edition, Samantha Fowler, Rebecca Roush, and James Wise, Open Stax.

4. Biology 2e, 2018 Edition, Mary Ann Clark, Matthew Douglas, Jung Choi, Open Stax.

5. Biology the Essentials, 4th Edition, 2022 Marielle Hoefnagels, McGraw-Hill Publishing.

6. Essentials of the Living World with Connect, 2025 Edition, Johnson and Bergh, McGraw-Hill Publishing.

B. Other Resources
Basic biology laboratory equipment
Virtual lab experience software/programming

1. Labster
2. SimBio
3. HHMI BioInteractive
4. McGraw-Hill Virtual Labs
5. Pearson Virtual Labs
6. Carolina Biological Lab Kits and Virtual Labs
7. Zooniverse

Publisher resources

C. Outside Reading/Research Required
See course outline

VI. METHOD OF PRESENTATION/INSTRUCTION

A. Lecture
B. Discussion
C. Demonstration
D. Application
E. On-Line/Hybrid/Blended
F. Distance Education
G. Engaged Activities

VII. METHODS OF EVALUATION

Course grades, at the determination of the instructor, will be based on participation, assignments, lab activities, exams, projects, papers and/or a portfolio. Instructors will distribute and discuss evaluation and their grading policies with students at the beginning of each term.

VIII. SPECIFIC COURSE REQUIREMENTS

None