Syllabus
BIOS1010
General Biology
2020

Committee Members:
Tanner Jenkins, Central Community College
Harry (Al) Martyn, Little Priest Tribal College
Jaba Inbarasu, Metropolitan Community College
Rob Bogardus, Mid-Plains Community College
Hank Miller, Nebraska Indian Community College
Dr. Irina Weitzmann, Northeast Community College
Dan Fogell, Southeast Community College
Loren King, Western Nebraska Community College

Facilitator: Tanner Jenkins

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

[Signatures and dates]
Chief Academic Officer, Central Community College
03/23/2020

Chief Academic Officer, Little Priest Tribal College
03/20/2020

Chief Academic Officer, Metropolitan Community College
04/01/2020

Chief Academic Officer, Mid-Plains Community College
03/20/2020

Chief Academic Officer, Nebraska Indian Community College
03/30/2020

Chief Academic Officer, Northeast Community College
03/20/2020

Chief Academic Officer, Southeast Community College
03/21/2020

Chief Academic Officer, Western Nebraska Community College
03/20/2020
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, organismic, ecosystems, and biosphere level. 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. Teach 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 biological/scientific 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
      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:

      3. Biology – Life on Earth, Audesirk, Audesirk, Byers, 10th edition, 2013, Benjamin Cummings Publisher


B. Other Resources
   - Basic biology laboratory equipment
   - Virtual lab experience software/programming
     1. Labster
     2. SimBio
     3. HHMI BioInteractive

   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, exams, projects, papers and/or a portfolio. Instructors will distribute and discuss evaluation and his/her grading policies with students at the beginning of each term.

VIII. SPECIFIC COURSE REQUIREMENTS
   None