Biology 2

Updated May 2020

Course Description:

Biology II is designed to be the equivalent of a college-level introductory Biology course. Students will develop the conceptual framework, factual knowledge, and analytical skills necessary for the study of lab skills, biochemistry, cell structure and function, cell energetics, and genetics. Students will conduct descriptive and experimental laboratory exercises. Assessment of course progress will include laboratory work, special activities, and projects. The Advanced-Placement Biology examination and the CLEP examination become options for students taking this class; however, additional preparation on the student's part will be required. Students may earn 5.0 hours of college credit through enrollment in *BI 173 Cell and Organismal Biology* and *BI 160 Biology Lab* at Southeast Missouri State University.

Big Ideas:

Big Idea 1: Biological systems utilize free energy and molecular building blocks to grow, reproduce, and maintain dynamic homeostasis.

Big Idea 2: Living systems store, retrieve, transmit, and respond to information essential to life processes.

Big Idea 3: Biological systems interact, and these systems and their interactions possess complex properties.

Essential Learning Objectives:

ELO #	Essential Learner Outcome Description	Standards
1	Student will develop skills essential for use in biology laboratories.	IN1. A. Bio- a,b,c,d,e,f,g B. Bio- a,b,c,d,e,f C. Bio- a,b,c,d D. Bio- a,b,c ST1. B. Bio- a ST2. A. Bio- a,b B. Bio a,b ST3. B. Bio- a,b,c C. Bio- a,b,c D. Bio- a,b
2	Students will understand the atomic and chemical processes necessary for life.	ME 1.I. Bio - a
3	Students will be able to identify form and function of cellular structures.	LO1. B. Bio- a,b C. Bio- a,b F. Bio- a,b,c
4	Students will understand, explore, and comprehend how our cells generate and use energy.	LO2. A. Bio- a, b,c B. Bio- a,b D. Bio- a,b,c,d
5	Students will demonstrate an advanced understanding of cell reproduction, as well as how genetic diversity occurs.	LO3. A. Bio- a C. Bio- a,b,c,d D. Bio- a,b,c
6	Students will demonstrate an advanced understanding of the principles of inheritance at the molecular, cellular, and organismal levels.	LO3. E. Bio- a,b,c