

BIOL 120 - General Biology Course Outline

Approval Date: 09/12/2019

Effective Date: 06/08/2020

SECTION A

Unique ID Number CCC000253032
Discipline(s) Biological Sciences
Division Science and Engineering
Subject Area Biology
Subject Code BIOL
Course Number 120

Course Title General Biology
TOP Code/SAM Code 0401.00 - Biology, General / E - Non-Occupational

Rationale for adding this course to the curriculum Updating textbook author and edition. Top code added

Units 4

Cross List N/A

Typical Course Weeks 18

Total Instructional Hours

Contact Hours

Lecture 54.00

Lab 54.00

Activity 0.00

Work Experience 0.00

Outside of Class Hours

Lecture content includes:

- A. Characteristics of life
- B. Scientific method
- C. Levels of organization
- D. Biological chemistry
 - a. Principles of chemical bonds and reactions
 - b. Properties and the importance of water
 - c. Structure and functions of biological molecules (Proteins, lipids, carbohydrates, nucleic acids)
- E. Membrane structure and function
- F. Cellular transport
- G. Structure and functions of prokaryotic and eukaryotic cells
- H. Cellular organelles structure and functions
- I. Cell communication
- J. Energy and metabolism
 - a. Enzymes
 - b. Cellular respiration
 - c. Fermentation
 - d. Photosynthesis
- K. Cell Cycle
 - a. DNA replication
 - b. Cell division and its regulation
 - c. Protein Synthesis
 - d. Gene structure, expression and regulation
- L. Genetics
 - a. Mendelian genetics
 - b.a.

- J. Observing cells undergoing mitosis
- K. Determining the elements required for photosynthesis to occur
- L. Culturing and observing bacterial cells
- M. Presenting oral reports
- N. Writing written scientific lab reports
- O. Exploring the topic of evolution and natural selection
- P. Discussing current scientific literature
- Q.

4. Methods of Instruction:

Example 1: Write a laboratory report on the photosynthesis experiment, including an abstract, introduction, methods, results, discussion and conclusion sections.

Example 2: Solve chemistry problems including metric conversions.

C. Other Assignments

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7. Required Materials

A. EXAMPLES of typical college -level textbooks (for degree -applicable courses) or other print materials.

Book #1:

Author: Urry, L. A. et. al.
Title: Campbell Biology
Publisher: Pearson
Date of Publication: 2017
Edition: 11th

Book #2:

Author: Raven, P. et al.
Title: Biology
Publisher: McGraw Hill
Date of Publication: 2014
Edition: 10th

Manual #1:

Author: NVC Biology Department
Title: BIOL-120 Lab Manual