

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: BIO 101

Credits: 4

Course Title: General Biology I

Course Description (including lecture hours, lab hours, total contacts)

Explores fundamental characteristics of living matter from the molecular level to the ecological community with emphasis on general biological principles. Introduces the diversity of living organisms, their structure, function and evolution. Part I of II. Lecture 3 hours. Recitation and Laboratory 3 hours. Total 6 hours per week.

General Course Purpose

This course is designed to meet the requirements of a transfer course in a science major's curriculum at a four -year college or university.

Course Prerequisites/Corequisites

Prerequisite: satisfactory score on reading placement test.

Course Objectives (Each item should complete the following sentence.)

Upon completing each of the following units of the course, the student will be able to:

- a. List characteristics of life and give examples of each.
- b. List the major kingdoms into which we group organisms.
- c. Define evolution and briefly state Darwin's contribution to this theory.
- d. Define and be able to apply the following terms: observation, theory, law, controlled experiment, hypothesis, facts, and scientific method
- e. Explain the limitations of science.
- f. Demonstrate the proper use of a microscope.
- g. Name the standard metric units for length, mass, volume, and temperature.
- h. Describe the central role of carbon and the importance of its bonding characteristics to living organisms.
- i. Describe the origin of the earth and how the early environment led to the beginning of living organisms.
- j. List three sources of inheritable variation.

Major Topics to be Included

- a. Introduction to chemistry
- b. Cell morphology, physiology, and reproduction
- c. Introduction to metabolism, cellular respiration, and photosynthesis
- d. Genetics and the Central Dogma
- e. Evolution

Effective Date of Course Content Summary (Month, Date Year): February 13, 2009