

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

Course Prefix and Number: BIO 150

Credits: 4

Course Title: Introductory Microbiology

Course Description: Studies the general characteristics of microorganisms. Emphasizes their relationships to individual and community health. Prerequisites: completion of ENF 2, if required by placement test, and completion of MTE 1-3. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

General Course Purpose: This course emphasizes the application of microbial techniques to selected fields. It provides 4 credits of a laboratory science for the AS in Science degree's Science Specialization and satisfies the microbiology requirement for students interested in Nursing, Physician Assistant, and Dental Hygiene programs.

Course Prerequisites and Co-requisites:

Prerequisites: completion of ENF 2, if required by placement test, and completion of MTE 1-3

Course Objectives:

Upon completing the course, the student will be able to

- a. Explain and demonstrate basic aseptic techniques;
- b. Discuss principles of microbiology and culture of microbes;
- c. Demonstrate culture of microbes in the laboratory;
- d. Identify methods of microbial identification and apply them to identify an unknown microbe; and
- e. Discuss applications of microbiology in biotechnology.

Major Topics to Be Included:

- a. History of microbiology
- b. Cell structure
- c. Microbial metabolism
- d. Microbial genetics
- e. Immunology
- f. Microbes and disease
- g. Microbial ecology

Effective Date of Course Content Summary: August 15, 2016