

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

Course Prefix and Number: BIO 149

Credits: 1

Course Title: Microbiology for Allied Health

Course Description: Studies the characteristics of microorganisms that are especially important to programs in the Allied Health fields. This course also emphasizes these characteristics in regard to individual and community health. Prerequisites: ENG 111, MTH 126, and BIO 141 (or NAS 161 or BIO 231).

General Course Purpose: Provides a single-credit, non-laboratory experience for allied health students required to have general knowledge of microbiology and affiliated practical content.

Course Prerequisites and Co-requisites:

Prerequisites: ENG 111, MTH 126, and BIO 141 (or NAS 161 or BIO 231)

Course Objectives:

Upon completing the course, the student will be able to

- Describe the roles played by Hooke, Leeuwenhoek, Needham, Lister, and Pasteur in the development of the science of microbiology;
- List several ways in which microbes affect our lives;
- Explain the Germ Theory of Disease;
- List the differences between prokaryotic and eukaryotic cellular structure and function;
- Describe bacterial structure, reproduction, and metabolism;
- Describe viral structure and replication;
- Describe the structure of protozoans and fungi;
- Discuss the role of the human immune system to defend against microbial infection;
- Describe lab techniques for growth, control, and diagnostic testing of microbes; and
- Describe the physiology, transmission, symptoms, complications, and treatment of various microbial diseases of the genitourinary, integumentary, respiratory, and digestive systems.

Major Topics to Be Included:

- Introduction to Microbiology
- Bacterial Structure and Function
- Overview of Fungi, Protozoans, and Viruses
- Immune Response
- Laboratory Techniques and Control
- Microbial Diseases of the Integumentary, Genitourinary, Respiratory, and Digestive Systems

Effective Date of Course Content Summary: July 15, 2017