

**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). Lecture 1 hour.

**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)

**Student Learning Outcomes:**

Upon completing the course, the student will be able to

- a. Describe the roles played by Hooke, Leeuwenhoek, Needham, Lister, and Pasteur in the development of the science of microbiology;
- b. List several ways in which microbes affect our lives;
- c. Explain the Germ Theory of Disease;
- d. List the differences between prokaryotic and eukaryotic cellular structure and function;
- e. Describe bacterial structure, reproduction, and metabolism;
- f. Describe viral structure and replication;
- g. Describe the structure of protozoans and fungi;
- h. Discuss the role of the human immune system to defend against microbial infection;
- i. Describe lab techniques for growth, control, and diagnostic testing of microbes; and
- j. 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:**

- a. Introduction to Microbiology
- b. Bacterial Structure and Function
- c. Overview of Fungi, Protozoans, and Viruses
- d. Immune Response
- e. Laboratory Techniques and Control
- f. Microbial Diseases of the Integumentary, Genitourinary, Respiratory, and Digestive Systems

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