

SYLLABUS  
PART I  
EDISON STATE COMMUNITY COLLEGE  
BIO 240S MICROBIOLOGY  
2 CREDIT HOURS

**COURSE DESCRIPTION**

Introduction to microbiology with emphasis on medically related phenomena. Includes a general survey of microorganisms, host-microbe relationships, and principles of immunity. Prerequisite: CHM 111S, BIO 121S, BIO 124S, BIO 125S or BIO 126S.

**COURSE GOALS**

The student will:

Bloom's Level		Gen Ed Outcomes
2	1. Summarize historical and recent perspectives, methods and discoveries of microbiology.	1, 2, 4, 5, 6
2	2. Describe the ubiquitous, diverse nature of microorganisms and their interrelationships with humans and other higher organisms.	2, 4, 5, 6
4	3. Analyze the differences in the prokaryotic and eukaryotic cell as they apply to clinical diagnostics, antimicrobial therapy and antibiotic resistance.	1-6
5	4. Summarize the microorganisms of medical importance and describe the role of opportunistic pathogens in health care.	1, 2, 5, 6
5	5. Assess the interactions between microbes and host diseases and epidemiology as well as mechanisms of pathogenicity.	2, 3, 4, 5, 6
2	6. Describe a basic understanding of immunology as it relates to nonspecific and specific body defenses, including applications of immunology.	2, 5, 6

**CORE VALUES**

The Core Values are a set of principles that guide in creating educational programs and environments at Edison State. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goals, objectives, and activities in this course will introduce/reinforce these Core Values whenever appropriate.

**TOPIC OUTLINE**

1. Scope and History of Microbiology
2. Importance and Limitations of Microscopy
3. Comparison of Prokaryotic and Eukaryotic Cell Structure and Function
4. Bacterial Classification
5. Viruses and Viral Production
6. Culturing of DNA and RNA Viruses
7. Diseases Caused by DNA and RNA Viruses
8. Microbial Nutrition, Ecology and Growth
9. Anatomy of an Infection and Epidemiology
10. Immunity and the Systems Involved in Immune Defenses
11. Nonspecific and Specific Immune Reactions
12. Practical Applications of Immunological Function
13. Medically Significant Groups of Bacteria and Their Identification