

JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Microbiology

Course Abbreviation and Number: BIO 2531

Credit Hours: 3

Course Type: Lecture

Course Description: Students will identify the microorganisms of importance to medicine, industry, and the natural world. Topics include microbial taxonomy; cultivation; metabolism; genetics; physical, chemical, and chemotherapeutic agents of microbial control; host defense mechanisms and immunology; biology; epidemiology; and selected bacterial, fungal, protozoan, and viral pathogens of medical significance.

Prerequisite: ENG 1510 and BIO 1570 or BIO 2510.

General Education Requirements Met

SUNY
Natural Sciences

JCC
Scientific Reasoning

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Understand the structures and functions of prokaryotic and eukaryotic microorganisms, including cellular components, metabolic pathways, and genetic mechanisms.
2. Analyze the interactions between microorganisms and their environments, including host-pathogen relationships, mechanisms of microbial pathogenesis, and the role of microbes in human health and disease.
3. Application of scientific data, concepts, and models in one of the natural sciences. [SUNY Gen Ed – Natural Sciences SLO 2]

Topics Covered:

- Introduction to Microbiology
- Chemistry of Life
- Survey of Prokaryotic Cells
- Survey of Eukaryotic Cells
- Introduction to Viruses
- Microbial Nutrition and Ecology
- Microbial Metabolism
- Microbial Genetics
- Microbial Control
- Elements of Chemotherapy (Antibiotics)
- Human-Microbe Interactions
- Immune System
- Overview of Medically Relevant Microbes

Information for Students

- Expectations of Students
 - [Civility Statement](#)
 - [Student Responsibility Statement](#)
 - [Academic Integrity Statement](#)

- [Accessibility Services](#)

Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.

- [Get Help: JCC & Community Resources](#)
- [Emergency Closing Procedures](#)

- Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0
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- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.

Effective Date: Spring 2026