

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. Demonstrate an understanding of the methods scientists use to explore natural phenomena, including observation, hypotheses development, measurement and data collection, experimentation, evaluation of evidence, and employment of data analysis or mathematical modeling. [SUNY Gen Ed – Natural Sciences]
 2. Application of scientific data, concepts, and models in one of the natural sciences. [SUNY Gen Ed – Natural Sciences]
-

Topics Covered:

- Introduction: The World of Microbiology
 - Prokaryotic Profiles: Bacteria & Archaea
 - Eukaryotic Cells & Microbes
 - An Introduction to the Viruses
 - Microbial Nutrition, Growth & Ecology
 - Microbial Metabolism
 - Microbial Genetics
 - Physical & Chemical Control of Microbes
 - Drugs, Microbes, & Host – The Elements of Chemotherapy
 - Microbe – Human Interactions: Infections & Disease
 - The Nature of Host Defenses
 - Acquisition of Specific Immunity & Its Applications
 - Disorders in Immunity
 - The Cocci of Medical Importance
 - The Bacilli of Medical Importance
 - Other Bacterial Agents of Disease
 - Fungal & Other Parasitic Diseases of Humans (selected)
 - Conclusions
-

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
-------	--------	-----	--------	-----	--------	-----	-----

- 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: Fall 2023