

[Outline of the Microbiology Course]

Course Description

This course provides students with a basic understanding of microbiology through studying the fundamentals of microbial diversity, ecology and metabolism. Courses often include topics like immunology, microbial applications in health, ecology, and disease.

Typical Course Mechanics

Approximately 4 hours of lecture a week (or 5 hours of online video)

Approximately 4 hours of lab a week

Expect at least one midterm and a final along with lab practical exams. Most classes break up the tests into 4-5 midterms.

Generally, a student should expect to spend 8 hours a week covering lecture and lab instruction and an additional 5-10 hours a week doing homework and studying.

Topics Generally Covered

Cell Structure – Prokaryotes vs Eukaryotes
Microbial Diversity
Microbial Ecology
Metabolism
Prokaryotic DNA replication
Prokaryotic Genetics
Microbial Growth
Control of Microbial Growth
Bacterial Diseases
Fungal Diseases
Viral Diseases
The Immune System
Microbes & Technology
Food Microbiology

Pre-Requisite Knowledge or Skills

Most often completion of the Anatomy & Physiology series is a pre-requisite to taking Microbiology, but some school may only require taking introductory Biology or Chemistry. Most knowledge and skills for both lecture and lab tend to be drawn from both Biology & Chemistry. Pre-requisite science knowledge you will use in Microbiology:

General Chemistry	General Biology
Chemical Bonding	Cell Biology
Acids & Bases	Diffusion & Osmosis
Biological Molecules	Cell division
Water	Cell communication

*Review for the above topics can be done using online resources such as khanacademy.org or referring to your prior course materials. Brush up on these topics before you start your Microbiology class!

Preparing for the Course

Books & Supplies

Most classes require a textbook and may or may not require a lab manual. Often instructors will post lab and class assignments on online classroom portals rather than making you buy a packet beforehand.

Because Microbiology lab work requires aseptic technique, and you will be working with live organisms, most schools require the purchase of a lab coat which is usually kept in the lab at school.

Study Support

Instructor office hours and institutional study labs are always a great place to get support but the Training Fund also has both in-person tutoring and online (Tutor.com) tutoring options available year-round! Visit: www.healthcareerfund.org/tutoring to learn more!