

MCB: Microbiology Courses

Courses

MCB 1000 Fundamentals of Microbiology

College of Health, Department of Medical Lab Sciences

3 sh (may not be repeated for credit)

An introductory microbiology course for non-science majors specifically designed to meet the microbiology pre-requisite requirement for the 4 year BSN degree. Will cover the principles of microbiology, including cellular organization, growth, and metabolism of major microbial groups (bacteria, fungi, viruses and protozoa); cultivation and control of microbes; and the interaction between microorganisms and humans as it relates to disease transmission, pathogenesis, control measures, and treatment. Meets General Education requirement in Natural Sciences.

MCB 1000L Fundamentals of Microbiology Laboratory

College of Health, Department of Medical Lab Sciences

1 sh (may not be repeated for credit)

Prerequisite: [MCB 1000*](#)

Co-requisite: [MCB 1000](#)

An introductory microbiology laboratory course for non-science majors specifically designed to meet the microbiology pre-requisite requirement for the 4 year BSN degree. The lab will focus on basic microbiological techniques relating to isolating, growing, and identifying medically significant microorganisms. Laboratory exercises include microscopy and staining techniques; asepsis and culturing of microorganisms; appropriate handling techniques, including sterilization and disinfection; and methods of enumeration and identification of bacteria. Emphasis will be placed on those concepts and methods that are significant in the medical setting. Material and supply fee will be assessed.

MCB 2510L Phage Finders

College of Sci and Engineering, Department of Biology

1 sh (may not be repeated for credit)

Co-requisite: [BSC 2010](#)

A laboratory course introducing principles of biological research through hands-on experimental work. The Phage Hunters Advancing Genomics & Evolutionary Science (PHAGES) program generates real scientific data for studying environmental virology. Students will discover, isolate, and purify new bacteriophages from the environment. Students will obtain microscopic images of their phage as well as isolate the DNA and begin to characterize it on a molecular level. Along the way, students will learn what it is like to be a part of a scientific research group, how to do microbiological and molecular experiments, how to discuss and analyze data, and how to communicate their findings.

MCB 3020 Microbiology

College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)

Prerequisite: ([BSC 2011/L](#) OR ([BSC 1085/L](#) AND [BSC 1086/L](#))) AND ([CHM 2210](#)) AND ([MCB 3020L*](#))

Microbial morphology, physiology and taxonomy; relationships of microorganisms to total environment.

MCB 3020L Microbiology Laboratory

College of Sci and Engineering, Department of Biology

1 sh (may not be repeated for credit)

Prerequisite: [MCB 3020*](#)

Microbial morphology, physiology, and taxonomy; relationships of microorganisms to total environment. Material and Supply Fee will be assessed.

MCB 3905 Directed Study

College of Sci and Engineering, Department of Biology

1-12 sh (may be repeated indefinitely for credit)

MCB 4203 Microbes & Disease

College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)

Prerequisite: [MCB 3020](#)

This course will enable the student to identify and use concepts, principles and theories that constitute the core discipline of human pathogenic microbiology. The focus will be on microbes and their pathogenic mechanisms, rather than the host immune response. Topics will include: cellular morphology and structure, physiology, ecology, and taxonomy of model microbial etiological agents as well as virulence factors that make them human pathogens. Offered concurrently with [MCB 5205](#). Graduate students will be assigned additional work.

MCB 4276 Epidemiology of Infectious Disease

College of Health, Department of Health Sciences & Admin

3 sh (may not be repeated for credit)

The basic principles of epidemiology as they apply to infectious disease and the impact of infectious disease on human civilization will be addressed. The causes and distribution of current epidemics of infectious disease, including newly emerging and reemerging diseases, and the approaches being applied to defeat these diseases will be discussed. Offered concurrently with [MCB 5273](#); graduate students will be assigned additional work.

MCB 4631 Molecular Aquatic Microbial Ecology

College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)

Prerequisite: [BSC 2011/L](#) AND [CHM 2210/L](#)

Microbial processes, Aquatic microbial ecology, Molecular methods for microbial surveys and processes, Microbial morphology, physiology and taxonomy; relationships of microorganisms to total environment. Offered concurrently with [MCB 5633](#). Graduate students will be assigned additional work.

MCB 4905 Directed Study

College of Sci and Engineering, Department of Biology

1-12 sh (may be repeated indefinitely for credit)

MCB 5205 Microbes & Disease

College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)

This course will enable the student to identify and use concepts, principles and theories that constitute the core discipline of human pathogenic microbiology. The focus will be on microbes and their pathogenic mechanisms, rather than the host immune response. Topics will include: cellular morphology and structure, physiology, ecology, and taxonomy of model microbial etiological agents as well as virulence factors that make them human pathogens. Offered concurrently with [MCB 4203](#). Graduate students will be assigned additional work.

MCB 5273 Epidemiology of Infectious Disease

College of Health, Department of Public Health

3 sh (may not be repeated for credit)

The basic principles of epidemiology as they apply to infectious disease and the impact of infectious disease on human civilization will be addressed. The causes and distribution of current epidemics of infectious disease, including newly emerging and reemerging diseases, and the approaches being applied to defeat these diseases will be discussed. Offered concurrently with [MCB 4276](#); graduate students will be assigned additional work.

MCB 5633 Molecular Aquatic Microbial Ecology

College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)

Microbial processes, Aquatic microbial ecology, Molecular methods for microbial surveys and processes, Microbial morphology, physiology and taxonomy; relationships of microorganisms to total environment. Offered concurrently with [MCB 4631](#). Graduate students will be assigned additional work.

MCB 5905 Directed Study

College of Sci and Engineering, Department of Biology

1-12 sh (may be repeated indefinitely for credit)

MCB 6905 Directed Study

College of Sci and Engineering, Department of Biology

1-12 sh (may be repeated indefinitely for credit)

* This course may be taken prior to or during the same term.