

MICROBIOLOGY/ IMMUNOLOGY - MD (MIC)

MIC 211 Microbiology and Immunology 8 cr

This course presents the fundamental aspects of pathogenic microbiology including morphology, metabolism and replication of micro-organisms, the basic principles of the use of chemotherapeutic agents, microbial genetics, and medical microbial ecology. The major bacterial, viral, mycotic, and parasitic diseases of humans are covered in detail. The basic principles of immunology and infection in relation to clinical disease of the various body systems are discussed.

MIC 447 Molecular Basis Pathogenesis 1-4 cr

Bench research on the biology of the rickettsiales family of intracellular pathogens and on the pathogenesis of the diseases caused by these organisms. Participation in ongoing research or initiation of new projects are possible.

MIC 530 Microbes & Host Defense 3 cr

Presents the fundamental aspects of microbiology including morphology, metabolism of micro-organisms, the basic principles of the use of antibiotics and chemotherapeutic agents, microbial genetics, virology, and medical microbial ecology. The principles of immunology and infection in relation to clinical disease are discussed with special emphasis on laboratory diagnosis.

MIC 536 Literature Reports 1 cr

Students and faculty participate in a supervised reading of the current literature and meet periodically to interact in a discussion of the selected article or topic. The goal of this course is to maintain the faculty's and students' level of information at a "state of the art" in both methods and theory in the discipline and to develop critical skills in reviewing the literature.

MIC 537 Dir St - Microbiology 1-6 cr

Students participate in research under the direction of a graduate faculty member. This course should be taken by students who have completed their lab rotations, but have not yet submitted a formal research proposal.

MIC 590 Sp Top - 1-3 cr

Each course provides in-depth tutorial exposure to specific areas in the discipline. Student and/or faculty presentations followed by group discussions, examine the subject matter in an area of current interest either to one student or a group of students. Credit and title are arranged with an individual faculty member.

MIC 630 Adv Microbial Pathogenesis 3 cr

This course discusses the fundamentals of this area with particular emphasis on *Escherichia coli* and *Salmonella typhimurium* as model systems. The development of problem solving skills will be stressed. Topics including aerobic vs. anaerobic metabolism, membrane physiology, biosynthesis of macromolecules and regulation of gene expression provide view of microbial cell.

Prerequisite: IDL 580 Minimum Grade of B and IDL 581 Minimum Grade of B

MIC 632 Advanced Immunology 3 cr

Selected topics in immunology are considered using formal lectures followed by student presentations. Design and interpretation of immunological experiments are emphasized throughout the course.

Prerequisite: IDL 580 Minimum Grade of B and IDL 581 Minimum Grade of B

MIC 633 Advanced Virology 3 cr

This course reviews the reproductive cycles of important human viruses and subviral agents and the diseases they cause. The focus is on the molecular biology of animal viruses and their mechanisms of regulation, assembly, and pathogenesis. Human immunodeficiency virus will be considered in detail. The course is constructed as an interactive lecture series with student reports and literature surveys.

Prerequisite: IDL 580 Minimum Grade of B and IDL 581 Minimum Grade of B

MIC 636 Microbiology-Immun Res Sem 1 cr

Students present a research topic for discussion before members of the department. Usually scheduled on a rotational basis. Student participation required after end of second year. Attendance required.

MIC 799 Research-Dissertation 1-6 cr

Independent research by the student under the sponsorship of the graduate faculty in individual departments in the Basic Medical Sciences. Students are required to submit a research project description form before enrolling in this course. Progress reports of the work accomplished are required every six months.