M M & I 301 — PATHOGENIC BACTERIOLOGY
2 credits.

Lectures on medically important bacteria, emphasizing the process of pathogenesis and host/parasite interactions, as well as intervention strategies, immunity and genetics as they apply to the pathogens. Open to non-majors.

Requisites: MMI 341 (or con reg), 2 sem intro biol w/lab or Biocore series 301-304; 1 sem org chem; or cons inst

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Fall 2017

M M & I 302 — MEDICAL MICROBIOLOGY LABORATORY
3 credits.

Lab covering procedures and aseptic techniques for isolation and identification of pathogenic microorganisms (bacteria, fungi, and viruses).

Requisites: 2 sem intro biol w/lab or Biocore series 301-304; prev or con req in MMI 301 or equiv

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Fall 2014

M M & I 341 — IMMUNOLOGY
3 credits.

Lecture, discussion. An introduction to the immune response to infectious disease. Examines the role of the host in host-parasite relationships using select microbial agents or antigens to illustrate the nonspecific and specific mechanisms of host defenses. Includes study of the nonspecific inflammatory response, the nature of microbial antigens, current concepts of antibody and cell-mediated immune reactions to infectious agents and the principles underlying the development of vaccines.

Requisites: HS biol, chem, 1 sem of college biol; So st; to receive cr for both MMI 341 528, MMI 341 must be completed first

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Fall 2017

M & I/ENTOM/PATH-BIO/ZOOLOGY 350 — PARASITOLOGY
3 credits.

The biology of water-borne, food-borne, soil-borne and vector-borne parasites of animals including humans. Parasites are explored in the context of transmission, associated disease, diagnosis and treatment options, and environmental, cultural and socioeconomic drivers of disease epidemiology.

Requisites: BIOLOGY/ZOOLOGY/BIOLOGY 101 and 102, or BIOLOGY/BOTANY/ZOOLOGY/BIOLOGY/BOTANY 152 or ZOOLOGY 153, or BIOCORE 381

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Spring 2017

M & I/PATH-BIO/ZOOLOGY 351 — PARASITOLOGY LABORATORY
2 credits.

Optional laboratory component of Zoology/Med Micro/AHABS 350. Emphasis on experiments involving live animal parasites, including: trematodes, tapeworms, gapeworms, hookworm, ascarids, trichina, filaria, trypanosomes, coccidia, and malaria.

Requisites: cons reg in Zoo/MMI/AHABS 350

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Spring 2011

M & I 410 — MEDICAL MYCOLOGY
2 credits.

Lectures and discussions. Pathogenesis, molecular biology, host-parasite interactions, immunology, epidemiology, and diagnosis of systemic, subcutaneous, and superficial fungal infections.

Requisites: 2 sem intro biol w/lab or Biocore series 301-304; a crse in immunology or cons inst

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Advanced

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Spring 2015

M & I 412 — MEDICAL MYCOLOGY LABORATORY
1 credit.

Laboratories and discussions on the ecology, sample collection, culture techniques and identification of medically important mycotic microorganisms. This is a companion lab to MMI 410. Priority given to MMI majors.

Requisites: MMI 301 302 and con req in MMI 410

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Advanced

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Spring 2011
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M M &amp; I 460</td>
<td>TECHNIQUES IN DNA SCIENCE FOR MICROBIOLOGISTS</td>
<td>3 credits.</td>
<td>Introduction to recombinant DNA techniques commonly used in prokaryotic research and clinical Microbiology laboratories. Topics include DNA isolation, agarose gel electrophoresis, restriction enzyme digestion of DNA, ligation, transformation, Southern blotting and PCR. Students are required to work independently.</td>
</tr>
<tr>
<td>M M &amp; I 555</td>
<td>IMMUNOLOGY</td>
<td>3 credits.</td>
<td>Development and functions of immune response in animals; a comprehensive study of experimental humoral and cellular immunity.</td>
</tr>
<tr>
<td>M M &amp; I 554</td>
<td>EMERGING INFECTIOUS DISEASES AND BIOTERRORISM</td>
<td>2 credits.</td>
<td>Identification of analysis and solution of emerging infectious disease problems and the problems of bioterrorism.</td>
</tr>
<tr>
<td>M M &amp; I 677</td>
<td>ADVANCED TOPICS IN MEDICAL MICROBIOLOGY</td>
<td>1-3 credits.</td>
<td>Lectures on a specialized topic of current interest in medical microbiology. Course content will vary with instructor.</td>
</tr>
<tr>
<td>M M &amp; I 575</td>
<td>BIOLOGY OF VIRUSES</td>
<td>2 credits.</td>
<td>Lecture-discussion. Broad coverage of animal virology taught at molecular level. Topics include virus structure, viral replication/lifecycle, aspects of pathogenesis and prevention.</td>
</tr>
<tr>
<td>M M &amp; I 565</td>
<td>BIOLOGY AND GENETICS OF FILAMENTOUS FUNGI</td>
<td>3 credits.</td>
<td>Fungal genetics, genomics, and physiology using plant pathogenic fungi and the genetic models Aspergillus nidulans and Neurospora crassa as model systems to explore the current knowledge of fungal genetics and plant/fungal interactions.</td>
</tr>
<tr>
<td>M M &amp; I 603</td>
<td>CLINICAL AND PUBLIC HEALTH MICROBIOLOGY</td>
<td>5 credits.</td>
<td>Lecture-seminar sessions. Lectures (44) describe microorganisms of clinical and public health significance. Seminar sessions (14) discuss issues and controversies of specimen receiving and processing, bacteremia, serodiagnosis of infectious agents, antimicrobial susceptibility testing, laboratory management, and novel approaches to detect infectious agents.</td>
</tr>
<tr>
<td>M M &amp; I 575</td>
<td>IMMUNOLOGY LABORATORY</td>
<td>2 credits.</td>
<td>Selected techniques illustrating concepts of cellular and humoral immunity as a supplement to Immunology 528. Jr or Sr st; cons inst.</td>
</tr>
<tr>
<td>M M &amp; I 677</td>
<td>ADVANCED TOPICS IN MEDICAL MICROBIOLOGY</td>
<td>1-3 credits.</td>
<td>Lectures on a specialized topic of current interest in medical microbiology. Course content will vary with instructor.</td>
</tr>
<tr>
<td>M M &amp; I 555</td>
<td>VACCINES: PRACTICAL ISSUES FOR A GLOBAL SOCIETY</td>
<td>3 credits.</td>
<td>Considers innovative approaches to the development and use of vaccines in the past, today and in the future, including the public health impact and the economic, ethical and safety issues associated with vaccine development, licensing and use.</td>
</tr>
</tbody>
</table>
M M & I 691 — FIRST SEMESTER SENIOR THESIS
3 credits.
First semester independent study with the goal to do the preliminary research to write a senior thesis in Medical Microbiology Immunology.
Requisites: Senior Standing; Consent of Instructor
Course Designation: Level - Advanced
L&S Credit: Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017

M M & I 692 — SECOND SEMESTER SENIOR THESIS
3 credits.
Second semester independent study with the goal to complete a senior thesis in Medical Microbiology Immunology.
Requisites: Senior Standing; Consent of Instructor, MMI 691
Course Designation: Level - Advanced
L&S Credit: Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No

M M & I 696 — CRITICAL THINKING IN MEDICAL MICROBIOLOGY AND IMMUNOLOGY
3 credits.
Students will present assigned research papers from journals for critical evaluation by the class. In addition, students will write critiques of each paper evaluating the paper’s introduction, methods, results, and discussion sections.
Requisites: MMI 301 341, or cons inst
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Advanced
L&S Credit: Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

M M & I 699 — DIRECTED STUDY
1-3 credits.
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit: Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2017

M M & I 701 — INFECTION AND IMMUNITY I
4 credits.
Part I of an integrated course of basic microbiology, immunology, and infectious diseases; includes bacteriology, virology, mycology, parasitology, basic and clinical immunology.
Requisites: 2nd yr Med st only
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2008

M M & I 704 — INFECTIOUS DISEASES OF HUMAN BEINGS
3 credits.
Pathogenesis, clinical descriptions, and prevention. Primarily for Physician Assistant, Pharmacy, and Nursing students.
Requisites: A course in microbiology
Course Designation: Level - Advanced
L&S Credit: Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

M M & I/ANATOMY 710 — CELL STRUCTURE AND FUNCTION
3 credits.
An interdisciplinary course that highlights structure and function at the cellular level as related to health and disease states.
Requisites: Declared in Medical program
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2015

M M & I/PATH-BIO 720 — ADVANCED IMMUNOLOGY: CRITICAL THINKING
3 credits.
Advanced course focusing on current questions in immunological research. Course explores immunology topics including genetic, cellular, and molecular features of immune system fundamental to regulation of immune responses. Course format: discussion of research articles and exposure to research seminars.
Requisites: MMI/AHABS/Bact 528 or equiv
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2016

M M & I/MICROBIO 740 — MECHANISMS OF MICROBIAL PATHOGENESIS
3 credits.
Lecture-discussion. Host-pathogen relationships in microbial diseases. Entry level course for infectious diseases sequence (see Med Micro 760, 790).
Requisites: Cons inst, MMI 301 or equiv a course in immunology
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017
M M & I/PATH-BIO 750 — HOST-PARASITE RELATIONSHIPS IN VERTEBRATE VIRAL DISEASE
3 credits.
Lecture. Detailed study of the pathogenesis of vertebrate viral disease, stressing viral invasion, dissemination, mechanisms of disease production and resistance, and transmission.
Requisites: Oncol/MICROBIO/ONCOLOGY/PL PATH 640 or Path-Bio 513; and Microbio/MMI/Path-Bio 528; or consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2016

M M & I/MED SC-M 755 — FOUNDATIONS OF MEDICINE 2
3 credits.
Addresses the basic principles of medical microbiology and the infectious diseases involving the cardiovascular, respiratory, renal and dermatologic systems and related any-microbial therapies.
Requisites: Standing as med 2 student (completion of year 1 Medical School curriculum)
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

M M & I/PATH-BIO 773 — EUKARYOTIC MICROBIAL PATHOGENESIS
3 credits.
An advanced course focusing on the molecular, cellular and biochemical mechanisms found in fungal and protozoan pathogens of humans. A combination of lectures and student presentations will be employed. MMI 740 PATH 750 recommended
Requisites: Cons inst.
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2012

M M & I/MICROBIO/PATH-BIO 790 — IMMUNOLOGY OF INFECTIOUS DISEASE
3 credits.
Immunobiology and immunogenetics of resistance to infectious disease agents of man and animals; immunoregulatory mechanisms associated with evasion of host immunity.
Requisites: MMI 720 or equiv, MMI 740 or equiv, cons inst
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2015

M M & I 901 — SEMINAR
1 credit.
Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2017

M M & I/BIOCHEM/BMOLCHEM/MICROBIO 914 — SEMINAR-MOLECULAR BIOSCIENCES (ADVANCED)
1 credit.
During the fall semester, molecular biosciences trainees who have not achieved dissertator status will present seminars based primarily on literature related to their projects. During the spring semester, molecular biosciences trainees with dissertator status will present seminars based upon their own research.
Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2017

M M & I 990 — RESEARCH AND THESIS
1-12 credits.
Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2017

M M & I 900 — JOURNAL CLUB
1 credit.
Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2012