



## MICRO 701 MEDICAL MICROBIOLOGY

**Course Description:** The fundamentals of microbial physiology, genetics and immunology are presented with important bacterial, viral, parasitic and mycotic infections discussed from the standpoint of etiology, epidemiology, and pathogenesis and laboratory diagnosis. Participation in laboratory exercises and small group sessions is required and extends through the first and second semesters. The entire course must be completed to receive credit.

**Credit Hours:** (12 semester hours; 6 fall - 6 spring)

**Course Dates:** See attached schedule

**Course Times:** See attached schedule

**Course Location:** See attached schedule

**Instructor:** See attached schedule

Medical Microbiology is the foundation for clinical work in infectious and immunological diseases and also provides an understanding of human immunity to infection. This course presents basic information on microorganisms and the differential diagnosis and treatment of microbial and immune diseases. The epidemiology, clinical presentation, diagnosis, pathogenesis and treatment of microbial and immune diseases will be emphasized. The course, especially the lecture series, has been designed to prepare students for the Step 1 exam. The laboratory exercises emphasize the lecture material and teach information specifically needed for clinical work. The course objectives are listed on the following page. Objectives will be provided for each lecture as the first slides in a PowerPoint slide set.

The **Texts** are Medical Microbiology - Fifth Edition (2005) by Murray, Rosenthal, Kobayashi and Pfaller, The Microbiology 611 Laboratory Manual (2008 edition will be available for sale in September), Case Studies in Immunology by Rosen and Geha, Case Studies in Infectious Disease by Lydyard et al. and First Aid for the USMLE STEP 1. All material covered in the lectures, Patient Oriented Problems, Blackboard material, small group discussions, clinical correlations and laboratory periods will be covered on the written examinations and/or quizzes.

**Communication of Course Materials:** GroupWise and Blackboard software are among the official methods of communication between students and faculty in the course. All students are required to regularly check their GroupWise email and Microbiology 611 Blackboard course website for postings. Students are responsible for obtaining their own copies of class materials provided in these ways. All class notices will be sent to each student's GroupWise email account. Class handouts and other documents will be available for download from the Microbiology 611 Blackboard site (<http://elearning.umsmmed.edu/>). Technical support for Blackboard is available from Dr. Lushbaugh, Dr. Bengtén or Dr. Lundrigan. Questions on lecture materials will be answered verbally in class or by return email and will generally involve the input of the person who taught the topic in question. All course announcements and answers to student enquiries will be posted on our course Bb site for reference. Please refer to the Micro 611 FAQ for a summary of our answers to student questions about this course.

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**Communication of Other Matters:** You are encouraged to communicate directly with your small group/lab Instructor. You can visit her/him without an appointment, phone or send an e-mail. If preferred, or if your instructor is not available, you can contact Dr. Richard O'Callaghan, Department Chairman or one of the Course Directors listed on the cover. We are all available to help with your needs. Please discuss any course issue with a faculty member related to this course before presenting it to faculty outside the Microbiology Department.

**Attendance Policy:** We recommend that students attend microbiology lectures as this is the best way we know for you to be successful in this course. Not requiring lecture attendance allows students the flexibility to respond to circumstances that interfere with attending classes.

**Mandatory Special Events:** We require students to attend mandatory special events because we believe that this will help you be successful in microbiology. **Special events** include all clinical correlations or guest lecturers, wet or lecture laboratory sessions, case discussions and Patient Oriented Problem sessions. A separate listing of Special Events is provided on a following page.

**Rules for Attendance of Mandatory Special Events:** Students are expected to arrive punctually and prepared to fully participate in all mandatory special events. Tardiness may result in being marked absent. Students with two unexcused absences from mandatory events, as defined above, will be asked to attend a conference with the course directors to discuss their absenteeism. Failure to do so or any subsequent absenteeism at mandatory events will lead to counseling by Dr. LouAnn Woodward, Associate Dean for Academic Affairs. Unexcused absences from mandatory events may result in deductions from the final grade average (see grading for details).

**Professional Conduct** is expected of both students and faculty. The faculty intends to present a challenging body of material relevant to medicine and the faculty expects that the students will pursue this subject with the enthusiasm and interest that it deserves. Because labs and small groups involve considerable logistics and student interaction, participation by all students is mandatory. Clinicians and other guest lecturers are demonstrating your future role, so we believe you will want to attend these anyway. However, these events are very difficult to schedule so student participation in these activities is also mandatory. There will be no make up sessions for mandatory activities; however, if a student provides an excuse for incapacitating illness from a UMC Student Health Center physician, the faculty will assist the student in learning material from missed sessions. Unexcused absences from mandatory events may result in deductions from the final grade average (see grading for details). An excused absence based on a physician's excuse will not result in a deduction from the final grade. Other extenuating circumstances will be considered upon the recommendation of one of the Associate Deans.

**Comment on Quizzes:** Quizzes will be given on-line via Blackboard or in-class via clickers. The in-class clicker quizzes will usually be given on Fridays at the 9 am lecture unless otherwise specified. Students must bring a functional Interwrite PRS RF clicker to class to take the clicker quizzes. Some quizzes will cover material assigned specifically for the quiz or covered in the previous week. Other quizzes will cover important material missed by many students on a recent exam - this encourages new efforts to learn the material and an opportunity to gain some credit for the student's overall grade. Material to be covered in the weekly clicker quizzes or the blackboard-administered review quizzes will be posted one week in advance of the quiz date.

**Grade Calculation:** Each of the five written exams (including the adjusted board exam score) will be worth **19%** of the student's final average in the course. The grades from quizzes will be worth **5%** of the student's final average. There will be no make-ups for unexcused missed activities. Only medical excuses from the UMC Student Health Service will be acceptable for an excused absence. Unexcused absences from mandatory events may result in deductions from the final grade average. There will be

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no penalty for medically excused absences or for the first two unexcused absences from required events. After two unexcused absences from required events, each additional absence will result in the deduction of three (3) points from the final grade average. For example, five unexcused absences from mandatory events will result in the deduction of nine points from the final grade average for the course.

**Students are required to have an adjusted board examination grade equal to or greater than 70% to pass the course.** Students who have an adjusted board examination grade less than 70% may fail the course; this determination of failure will be made by the course faculty after consideration of the student's overall performance in the course. Typically, those students who fail this exam will fail the course.

In this example a student received an 83% on each of the exams, quizzes and the final board examination. This student had 5 unexcused absences from mandatory events which resulted in a 9 point reduction in final grade average. This student's weighted average was calculated as follows:

<b>Example grade calculation:</b> $((4 \times 19\%) + 19\% + 5\% = 100\%)$	
<b>4 Lecture Exams</b>	Average of 4 lecture exams $(83\% \times 0.76)$ ...63.08%
<b>1 Final Exam</b>	Adjusted grade on Board Exam $(83\% \times 0.19)$ .....15.77%
<b>Quizzes</b>	Quiz average $(83\% \times 0.05)$ .....4.15%
Final weighted average before deductions: .....83.0 %	
Deductions for 5 absences from Mandatory Events.....(-) 9.0 %	
<b>Final Course Average</b>	.....74.0 %

## Medical Microbiology 611 Objectives

Microbiology 611 is designed to provide second year medical students with a scientific basis for clinical work relative to infectious and immunological diseases. Students who successfully complete this course will be able to demonstrate:

- ability to reason deductively in solving clinical problems related to infectious and immune diseases.
- knowledge of:
  - the normal immunological functions of the human body and how the body defends itself against and responds to microbial infections.
  - the mechanisms by which bacteria, fungi, parasites and viruses attack the body to cause disease.
  - the diagnosis, prevention, treatment, and epidemiology of infectious diseases including the impact of infectious agents on the human body and the alterations of structure and function resulting from infections, particularly the most frequent manifestations and life threatening conditions resulting from common microbial infections.
- competence in performance and interpretation of certain routine clinical laboratory microbiological methods including aseptic technique, the Gram stain, isolation of pure cultures, and antibiotic sensitivity testing.

## **Medical Microbiology 611 – Frequently Asked Questions (FAQ)**

### **Who is in charge? Whom do we contact?**

Your first source of information is your faculty small group/laboratory Instructor. He or she should have invited you to communicate your concerns so that a person whom you see regularly can provide guidance when needed. If your faculty small group/laboratory instructor is not available or if you prefer to speak someone else, please contact Dr. Richard O'Callaghan, Chairman of the Department of Microbiology (room N516, 984-1700). He is more than willing to discuss your problem and help develop a solution. Problems with the Medical Microbiology course should be discussed with him before being presented to sources outside the Microbiology Department. Dr. O'Callaghan is responsible for all aspects of the course.

### **What faculty-student communication events are planned?**

The administrators of the Microbiology 611 course will periodically schedule meetings with class representatives (elected class officers or Evers Society members) to discuss course design, student evaluation processes, and any other course-related issues of importance to the students. These meetings are ideal opportunities for students to offer suggestions and for faculty to better understand the student perspective.

### **Which classes are we required to attend and why?**

Students are required to attend all guest lectures and class sessions that are interactive and/or require extensive faculty-staff preparation. These include Clinical Correlations, Patient Oriented Problems, small group discussions, laboratory exercises (both lecture and wet), and exams. We encourage students to attend all of our organized class meetings including, lectures, review sessions, clinical correlations, patient oriented problems, small group discussions, laboratory exercises, quizzes, lecture exams and board exams because we believe that all of these opportunities can help you learn the course material. Unexcused absences from mandatory events may result in deductions from the final grade average (see grading for details).. If you are unable to attend a required class or examination please contact Dr. Lushbaugh, who may be able to make alternate arrangements if possible.

### **How is my grade calculated?**

Your grade in Microbiology 611 is a weighted average taking into account your performance in all course activities. An example calculation is given on page 4 of the Microbiology 611 syllabus. An adjusted board score higher than 70% is required for a passing grade in Medical Microbiology 611.

### **How will grades on examinations be communicated to the students?**

All locally written examinations are graded by Division of Institutional Research which provides a student grade report that will be returned to the student in an envelope, usually within 48 hours of exam administration. Examination grades will not be posted on Blackboard until they are finalized – that is until, the student liaison committee and

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the course faculty have concluded their discussion of grading issues concerning the exam and a newly calculated final grade on that exam has been determined by Institutional Research. The length of this process is dependent on the speed with which the students and faculty reach agreement on answers and credit on the exam. Please realize two aspects of this process:

1) the process takes time (~ 7 days), and 2) the process benefits the overall student grades.

Board examinations graded by the USMLE are often returned within one week. The raw and adjusted board scores will be posted on Bb as soon as they can be calculated.

### **How are post-examination question clarifications handled?**

After the examination has been graded and each student has received his or her exam booklet and student grade report, students should communicate their concerns about exam questions to their M2 liaison committee members. This student committee compiles a listing of questions with issues and comments and sends them to Dr. Meade via e-mail. Each of the individual faculty who wrote the questions requiring clarification will review the student comments and write a response paragraph explaining why they believe the question should be: 1) retained as is, 2) removed from the exam, 3) graded with two answers, or 4) all students be given credit for the question. These individual comments from multiple faculty members will be compiled and returned to the students for possible further discussion or a final re-grading of the examination. Dr. Meade will be willing to meet with the committee to discuss their concerns if so requested, although most exchanges can usually be handled by email. When the final grades on an examination have been determined they will be posted on the Medical Microbiology Bb site.

### **What can I do if I don't do well on a Microbiology 611 examination or in the course?**

Students who receive a grade on any examination that is less than 70% will be required to meet with a course director or lab instructor for counseling as prescribed by the School of Medicine Academic Achievement Policy.

### **What are we going to be taught?**

Students should recognize that the Step I Exam asks very challenging questions in microbiology and immunology. The test items are often embedded in a case description, but the questions are typically mechanistic and detailed. These questions are written by panels of medical researchers and clinicians and are chosen to discriminate among the thousands of students who take the exam. The microbiology faculty are aware of the depth of the material included in the questions. The course, especially the lecture series, is designed to prepare students for the Step 1 Examination. The examinations in the Microbiology Course are intended to determine if students have sufficient knowledge to handle the challenge of the Step I Examination and subsequent licensing examinations.

The Microbiology Course, in addition to preparing students for licensing examinations, is designed to prepare students for clinical work. The course contains multiple clinically related presentations including clinical lectures, small group cases, and

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patient-oriented problem solving sessions. The laboratory work is particularly designed to prepare students for clinical work. Students will be given cultures along with a case history and are asked to determine the proper antibiotic therapy for the case based on the case history and initial culture examination. The cultures will be tested and new data on the following two days will provide the student with opportunities to evaluate and, if appropriate, change the antibiotic therapy. Furthermore, the course will include the presentation of an acute immunological reaction and the therapy of this reaction, as illustrated by a computerized manikin.

### **How do we know what to study? What will be on the test?**

The Micro 611 course objectives are listed in the Syllabus. The course objectives present the major goals of the Medical Microbiology Course as they relate to the objectives of the UMC School of Medicine.

The objectives for each lecture are given on the first slides of each PowerPoint slide set for your reference. These lecture objectives give the major areas that the presenter believes to be the most important aspects of the presentation that will be represented in their examination questions. Laboratory and small group objectives are included in the materials provided for each of these sessions. All material provided in the course including lectures, review sessions, clinical correlations, patient oriented problems, small group discussions, laboratory exercises, and quizzes COULD be included on lecture examinations. Each examination is constructed from a combination of new and revised old questions each year.

Old tests are a good source of what has been tested in past years. However, new materials are added each year as new developments occur, so old tests should serve only as a review to assess your preparation for an exam.

*First Aid for the USMLE* is recommended. Other review books, such as “*Microbiology Made Ridiculously Simple*” provide lists of productive facts and study questions that should form the minimum body of knowledge you should have before assessing what further details are required by your review of lecture and small group objectives. We want you to be aware that books of this type omit some important materials that will be included in lecture or other sessions and may be included on exams. Be aware that these books may contain errors so pay attention to the course content. Any aspect of the microbiology class could be included on lecture exams.

**University Policies:** Students with disabilities (ADA) statement: See UMC policy  
Academic honesty statement: See UMC policy

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### CLASS SCHEDULE

<i>Medical Microbiology 611 Class Schedule for 2009-10 Academic Year (modified 5/12/09)</i>				
Day, Date, Year	Time	TITLE	Faculty	Rm.
Tuesday, August 04, 2009	1:00	Introduction to Microbiology 611	O'Callaghan	R354
Tuesday, August 04, 2009	1:10	Innate Immunity – Barriers (11-15)	Miller	R354
Tuesday, August 04, 2009	2:00	Innate Immunity – Inflammation – 1/2	Miller	R354
Wednesday, August 05, 2009	9:00	Innate Immunity – Inflammation – 2/2	Miller	R354
Wednesday, August 05, 2009	1:00	Lymphoid Cells and Tissues	Miller	R354
Wednesday, August 05, 2009	2:00	Acquired Immunity - Antigens and Immunogenicity	Bengtén	R354
Thursday, August 06, 2009	1:00	B Lymphocytes and Genetic Basis for Ab Diversity	Bengtén	R354
Thursday, August 06, 2009	2:00	Immunoglobulins: Structure and Function - The Five Isotypes	Wilson	R354
Friday, August 07, 2009	9:00	Immunoglobulin: Class Switching	Wilson	R354
Tuesday, August 11, 2009	1:00	Antigen-Antibody Reactions	Bengtén	R354
Wednesday, August 12, 2009	9:00	Review	Faculty	R354
Wednesday, August 12, 2009	1:00	Complement 1/2	Lobb	R354
Wednesday, August 12, 2009	2:00	Complement 2/2	Lobb	R354
Thursday, August 13, 2009	1:00	The T Cell Receptor & MHC molecules	Wilson	R354
Thursday, August 13, 2009	2:00	The Role of MHC in Immunity, T cell activation 1	Miller	R354
Friday, August 14, 2009	9:00	The Role of MHC in Immunity, T cell activation 2	Miller	R354
Tuesday, August 18, 2009	1:00	T cell Effector Functions and Immune Regulation - Cytokines	Bengtén	R354
Tuesday, August 18, 2009	2:00	Neuroimmunology & TH1 TH2 imbalance	Marshall	R354
Wednesday, August 19, 2009	9:00	Undesirable Consequences in Immunity/Hypersensitivities	Lobb	R354
Wednesday, August 19, 2009	1:00	Aspects of Mucosal Immunity	Wilson	R354
Thursday, August 20, 2009	1:00	<b>Anaphylaxis POP Small Groups (Bee Careful) Required</b>	Faculty	Group
Thursday, August 20, 2009	to	<b>Small Group meetings will begin in small group rooms. AND</b>		
Thursday, August 20, 2009	5:00	<b>Anaphylaxis Manikin Small Groups (see attached schedule)</b>	Faculty	TBA
Friday, August 21, 2009	9:00	Review	Faculty	
Tuesday, August 25, 2009	9:00	<b>CC - Immunology Case Presentations Required</b>	DeShazo	R354
Tuesday, August 25, 2009	1:00	<b>Patient Oriented Problem (POP): Tetanus Immunity Required</b>	Faculty	Group
Tuesday, August 25, 2009	to	<b>AND</b>		
Tuesday, August 25, 2009	5:00	<b>Anaphylaxis Manikin Small Groups (see attached schedule)</b>	Faculty	TBA
Wednesday, August 26, 2009	1:00	<b>POP: "A Jaundiced Baby" Small Groups Required</b>	Faculty	Group
Wednesday, August 26, 2009	2:00	<b>AND Anaphylaxis Manikin Small Groups (see attached</b>		
Thursday, August 27, 2009	1:00	<b>POP: An Immunoassay Teaching Package Small Groups</b>	Faculty	Group
Thursday, August 27, 2009	2:00	<b>Small Group meetings will begin in small group rooms.</b>		
Friday, August 28, 2009	9:00	Immunodeficiencies	Wilson	R354
Tuesday, September 01, 2009	1:00	Tolerance, Transplantation, Immune Surveillance	Bengtén	R354
Tuesday, September 01, 2009	2:00	Immune surveillance (cont.)	Bengtén	R354
Wednesday, September 02, 2009	9:00			
Wednesday, September 02, 2009	1:00	<b>POP: Transplantation Immunology Small Groups - Required</b>	Faculty	Group
Wednesday, September 02, 2009	2:00	<b>Small Group meetings will begin in small group rooms.</b>		
Thursday, September 03, 2009	1:00	<b>POP: Immunodeficiency Disease Small Groups Required</b>	Faculty	Group
Thursday, September 03, 2009	2:00	<b>Small Group meetings will begin in small group rooms.</b>		
Friday, September 04, 2009	9:00	Review "Q and A"	Faculty	R354
Monday, September 07, 2009		Labor Day and Pearl Harbor Day		
Tuesday, September 08, 2009		<b>Exam Block I begins</b>		
Wednesday, September 09, 2009	9:00	<b>Microbiology Lecture exam 1 - 2 hr</b>	Faculty	R354
Tuesday, September 15, 2009	9:00	Bacterial Anatomy (3)	Lundrigan	R354
Tuesday, September 15, 2009	1:00	Bacterial Growth (4)	Lundrigan	R354
Tuesday, September 15, 2009	2:00	Bacterial Genetics I – Bacterial Chromosomes, Mutation (5)	Lundrigan	R354
Wednesday, September 16, 2009	9:00	Bacterial Genetics II – Mobile genetic elements - plasmids (5)	Lundrigan	R354
Wednesday, September 16, 2009	1:00	Bacterial Genetics III – Transfer of Drug Resistance (5)	Lundrigan	R354
Wednesday, September 16, 2009	2:00	Production of Disease by Bacteria (19)	O'Callaghan	R354
Thursday, September 17, 2009	9:00	Applied Bacterial Genetics	O'Callaghan	R354
Thursday, September 17, 2009	1:00	Antibiotics I – Bacteria and Antibiotics (20)	O'Callaghan	R354
Friday, September 18, 2009	9:00	Sterilization, Disinfection	Lundrigan	R354
Tuesday, September 22, 2009	9:00	<b>Lab Lecture Required, Sterile Technique, Biohazards</b>	Faculty	R354
Tuesday, September 22, 2009	1:00	<b>Lab Lecture Required, What we are doing in lab this week</b>	Faculty	R354

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Wednesday, September 23, 2009	9:00	Antibiotics II – Treatment of Bacterial Infections (20)	O'Callaghan	R354
Wednesday, September 23, 2009	1:00	<b>SECTION A Laboratory: Gram Staining and Throat Cultures</b>	Faculty	N215
Wednesday, September 23, 2009	2:00	<b>SECTION B Laboratory: Gram Staining and Throat Cultures</b>	Faculty	N215
Thursday, September 24, 2009	9:00	Antibiotics III – Treatment of Bacterial Infections (20)	O'Callaghan	R354
Thursday, September 24, 2009	1:00	<b>SECTION A Laboratory: Gram Staining and Throat Cultures</b>	Faculty	N215
Thursday, September 24, 2009	2:00	<b>SECTION B Laboratory: Gram Staining and Throat Cultures</b>	Faculty	N215
	Bb	<b>Lab 1 - Bb Module - Required Quiz Grade ≥ 80* due 9/30</b>	Faculty	(virtual)
Monday, September 28, 2009	1:00	Antibiotics IV – Treatment of Bacterial Infections (20)	O'Callaghan	R354
Tuesday, September 29, 2009	1:00	Gram Positive Pyogenic Cocci – <i>Staphylococcus</i> I (22)	O'Callaghan	R354
Tuesday, September 29, 2009	2:00	Gram Positive Pyogenic Cocci – <i>Staphylococcus</i> II (22)	O'Callaghan	R354
Wednesday, September 30, 2009	9:00	Gram Positive Pyogenic Cocci – <i>Streptococcus</i> (23)	McDaniel	R354
Wednesday, September 30, 2009	1:00	Gram Positive Pyogenic Cocci – <i>Streptococcus/Enterococcus</i> (24)	McDaniel	R354
Wednesday, September 30, 2009	2:00			
Thursday, October 01, 2009	1:00	Corynebacterium (includes <i>Diphtheria</i> ), <i>Nocardia</i> (27, 28)	McDaniel	R354
Thursday, October 01, 2009	2:00	<i>Bacillus</i> (includes <i>Anthrax</i> ), <i>Listeria</i> (25, 26)	Marquart	R354
Friday, October 02, 2009	9:00	<i>Neisseria</i> , <i>Branhamella</i> , <i>Moraxella</i> (30)	McDaniel	R354
Tuesday, October 06, 2009	1:00	<i>Mycobacterium</i> (29)	Lundrigan	R354
Tuesday, October 06, 2009	2:00	<b>CC (Tuberculosis) Required</b>	Mathew	R354
Wednesday, October 07, 2009	9:00	<b>CC (Hospital Acquired Infections) Required</b>	Turner	R354
Wednesday, October 07, 2009	1:00	<b>Gram + Pyogenic Cocci Case Small Group Discussion Required</b>	Faculty	Group
Thursday, October 08, 2009	1:00	Antibiotics for Pyogenic Bacterial Infections	O'Callaghan	R354
Friday, October 09, 2009	9:00	<b>CC (Soft Tissue Infections) Required</b>	Burton	R354
Tuesday, October 13, 2009	9:00	<b>Lab Lecture Required - what we are doing in lab this week!</b>	O'Callaghan	R354
Tuesday, October 13, 2009	1:00	<b>SECTION B Laboratory: Demo of Pyogenic Cocci 1/3</b>	Faculty	N215
Tuesday, October 13, 2009	2:00	<b>SECTION A Laboratory: Demo of Pyogenic Cocci 1/3</b>	Faculty	N215
Wednesday, October 14, 2009	9:00			
Wednesday, October 14, 2009	1:00	<b>SECTION B Laboratory: Demo of Pyogenic Cocci 2/3</b>	Faculty	N215
Wednesday, October 14, 2009	2:00	<b>SECTION A Laboratory: Demo of Pyogenic Cocci 2/3</b>	Faculty	N215
Thursday, October 15, 2009	9:00			
Thursday, October 15, 2009	1:00	<b>SECTION B Laboratory: Demo of Pyogenic Cocci 3/3</b>	Faculty	N215
Thursday, October 15, 2009	2:00	<b>SECTION A Laboratory: Demo of Pyogenic Cocci 3/3</b>	Faculty	N215
	Bb	<b>Lab 2 - Bb Module - Required Quiz Grade ≥ 80* due 10/31</b>	Faculty	(virtual)
Friday, October 16, 2009	9:00	Overview of Gram Positive Infections & Treatment	Faculty	R354
Monday, October 19, 2009		<b>Exam Block 2 Begins</b>		
Wednesday, October 21, 2009	9:00	<b>Microbiology Lecture exam 2 - 2 hr</b>	Faculty	R354
		<b>*Lab 1 or 2 quiz may be completed within 6 days of last lab</b>		
Tuesday, October 27, 2009	1:00	Antibiotics IV – Treatment of Gram Negative Bacterial Infections	O'Callaghan	R354
Tuesday, October 27, 2009	2:00	Antibiotics V – Treatment of Gram Negative Bacterial Infections	O'Callaghan	R354
Wednesday, October 28, 2009	9:00	Gram Negative Bacilli ( <i>E coli</i> , <i>Shigella</i> , <i>Salmonella</i> ) (31)	Lundrigan	R354
Wednesday, October 28, 2009	1:00	Gram Negative Bacilli ( <i>Klebsiella</i> , <i>Proteus</i> ) (31)	Lundrigan	R354
Thursday, October 29, 2009	1:00	<i>Pseudomonas</i> and related bacteria (34-35)	O'Callaghan	R354
Thursday, October 29, 2009	2:00	<b>Middle Ear Infection Cases – Small Group Discussion</b>	Faculty	Group
Friday, October 30, 2009	9:00	<i>Haemophilus</i> , <i>Bordetella</i> , (35, 36)	McDaniel	R354
Tuesday, November 03, 2009	9:00	<b>Lab Lecture Required - What we are doing in lab this week!</b>	O'Callaghan	R354
Tuesday, November 03, 2009	1:00	<b>SECTION A Laboratory: Gram Negatives 1/3</b>	Faculty	N215
Tuesday, November 03, 2009	2:00	<b>SECTION B Laboratory: Gram Negatives 1/3</b>	Faculty	N215
Wednesday, November 04, 2009	9:00	Gram Negative Bacilli ( <i>Vibrio</i> , <i>Campylobacter</i> ) (32, 33)	Lundrigan	R354
Wednesday, November 04, 2009	1:00	<b>SECTION A Laboratory: Gram Negatives (2/3)</b>	Faculty	N215
Wednesday, November 04, 2009	2:00	<b>SECTION B Laboratory: Gram Negatives (2/3)</b>	Faculty	N215
Thursday, November 05, 2009	10:00	Anaerobes I ( <i>Clostridium</i> ) (40)	Meade	R354
Thursday, November 05, 2009	1:00	<b>SECTION A Laboratory: Gram Negatives (3/3)</b>	Faculty	N215
Thursday, November 05, 2009	2:00	<b>SECTION B Laboratory: Gram Negatives (3/3)</b>	Faculty	N215
	Bb	<b>Lab 3 - Bb Module - Required Quiz Grade ≥ 80*</b>	Faculty	(Virtual)
Monday, November 09, 2009	9:00	Anaerobes II ( <i>Actinomyces</i> , <i>Mobiluncus</i> , <i>Bacteroides</i> ) (41-42)	Lundrigan	R354
Tuesday, November 10, 2009	9:00	Actinobacter et al --- New Lecture	McDaniel	R354
Wednesday, November 11, 2009		<b>Veterans Day</b>		
Thursday, November 12, 2009	9:00	<b>CC – Opportunistic Gram Negatives - Required</b>	Swaitlo	R354
Thursday, November 12, 2009	1:00			

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Friday, November 13, 2009	9:00	<i>Brucella, Francisella, Legionella, Bartonella</i> (36-39)	McDaniel	R354
Tuesday, November 17, 2009	9:00	Spirochetes ( <i>Treponema, Borrelia, Leptospira</i> ) (43)	Lushbaugh	R354
Tuesday, November 17, 2009	1:00	<i>Mycoplasma</i> and <i>Rickettsia</i> (44-45)	Lushbaugh	R354
Wednesday, November 18, 2009	9:00	<i>Ehrlichia, Coxiella, Chlamydia</i> (46-47)	Lushbaugh	R354
Wednesday, November 18, 2009	1:00	Superficial and Dermatophytoses Mycoses (71-73)	Sullivan	R354
Thursday, November 19, 2009	9:00	Systemic Mycoses (74)	McDaniel	R354
Friday, November 20, 2009	9:00	Mycoses Opportunistic (75)	McDaniel	R354
	Bb	<b>Lab 4 Mycology Laboratory (Bb) Required Quiz Grade <math>\geq</math> 80<math>\phi</math></b>	Faculty	(virtual)
Tuesday, November 24, 2009	9:00	GI and GU Protozoa (82)	Lushbaugh	R354
Tuesday, November 24, 2009	1:00	Parasites of the Immunosuppressed (83)	Lushbaugh	R354
Wednesday, November 25, 2009	9:00	Blood and Tissue Protozoa (83)	Meade	R354
Wednesday, November 25, 2009	5:00	Thanksgiving Holiday		
Monday, November 30, 2009	9:00	Roundworms (Nematodes) (84)	Meade	R354
Tuesday, December 01, 2009	9:00	Tapeworms (Cestodes) (86)	Meade	R354
Wednesday, December 02, 2009	1:00	Flukes (Trematodes) (85)	Lushbaugh	R354
Thursday, December 03, 2009	9:00	<b>Arthropods as direct causes of disease (87) Required</b>	Goddard	R354
Friday, December 04, 2009	9:00	<b>Arthropods as vectors of disease (87) Required</b>	Goddard	R354
	Bb	<b>Lab 5 Parasitology Laboratory (Bb) Required Quiz grade <math>\geq</math> 80<math>\phi</math></b>	Faculty	(virtual)
Tuesday, December 08, 2009	9:00			
Wednesday, December 09, 2009	9:00			
Thursday, December 10, 2009	9:00	<b>CC (Sexually Transmitted Diseases) Required</b>	Burton	R354
Friday, December 11, 2009	9:00	Overview of Gram Negatives, Mycology, Parasitology	Faculty	R354
Monday, December 14, 2009		Exam Block 3 begins		
Friday, December 18, 2009	9:00	<b>Exam Block 3 - Microbiology Lecture exam 3 - 2 hr</b>	Faculty	R354
Friday, December 18, 2009	5:00	Winter Holiday		
*Lab 3 quiz may be completed within 6 days of last lab				
$\phi$ Labs 4 and 5 begin anytime/must be completed before December 11 (Required)				
Tuesday, January 05, 2010	9:00	Virology I – Structure – Replication (6)	Chinchar	R354
Tuesday, January 05, 2010	1:00	Virology II - Pathogenesis (49)	Chinchar	R354
Wednesday, January 06, 2010	9:00	Virology III – Diagnosis	Chinchar	R354
Wednesday, January 06, 2010	1:00	Immunity to Viral Infection (11-14)	Chinchar	R354
Thursday, January 07, 2010	9:00	Herpesvirus I (54)	Marquart	R354
Thursday, January 07, 2010	1:00	Herpesvirus II (54)	Marquart	R354
Friday, January 08, 2010	9:00	Poxviruses, Adenovirus, Parvoviruses (55, 56)	Chinchar	R354
Tuesday, January 12, 2010	9:00	Retroviruses I (65)	Chinchar	R354
Tuesday, January 12, 2010	1:00	Retroviruses II (65)	Chinchar	R354
Wednesday, January 13, 2010	9:00	Hepatitis Viruses I (66)	Stray	R354
Wednesday, January 13, 2010	1:00	Hepatitis Viruses II (66)	Stray	R354
Wednesday, January 13, 2010	2:00	Papovaviruses (52)	Stray	R354
Thursday, January 14, 2010	9:00	Viruses and Cancer (49, 52)	Stray	R354
Thursday, January 14, 2010	1:00	Picorna- (57), Rhino-, Noro- (37, 58) Coronaviruses	Chinchar	R354
Friday, January 15, 2010	9:00	GI viruses (62, 58)	Chinchar	R354
Tuesday, January 19, 2010	9:00	Orthomyxoviruses (60)	Stray	R354
Tuesday, January 19, 2010	1:00	Orthomyxoviruses (60) & Paramyxoviruses (59)	Chinchar	R354
Tuesday, January 19, 2010	2:00	Paramyxoviruses, Rubella (59)	Chinchar	R354
Wednesday, January 20, 2010	9:00	Arboviruses	Sullivan	R354
Wednesday, January 20, 2010	1:00	Viral Zoonoses (Arenaviruses, Rhabdoviruses) I	Sullivan	R354
Wednesday, January 20, 2010	2:00	<b>Influenza Small Group Required</b>	Faculty	Group
Thursday, January 21, 2010	9:00	Viral Zoonoses (Arenaviruses, Rhabdoviruses) II	Sullivan	R354
Thursday, January 21, 2010	1:00	Slow Viruses (67)	Sullivan	R354
Friday, January 22, 2010	9:00	<b>CC - HIV Required</b>	Swaitlo	R354
Tuesday, January 26, 2010	9:00	<b>CC - Dif. Dx of Respiratory Tract Pathogens Required</b>	TBA	R354
Wednesday, January 27, 2010	1:00	<b>CC- Rx of Antibiotic Resistant Pathogens Required</b>	Nolan	R354
Thursday, January 28, 2010	9:00	Overview of Virology	Faculty	R354
Friday, January 29, 2010	8:00	<b>Exam Block 4 - Begins</b>		
Friday, January 29, 2010	1:30	<b>Microbiology (Virology) Exam 4, 2 hr</b>	Faculty	R354
Tuesday, February 02, 2010	8:00	<b>Microbiology Board Exam, 3 hr, comprehensive</b>	Faculty	R354