



The Florida State University
College of Medicine

**General Medical
Microbiology and
Infectious Disease**

BMS 6301

Fall 2014

Table of Contents

Instructors.....	3
Course Director.....	3
Assistant Course Director	3
Faculty	3
Course Overview.....	4
Course Goals.....	4
Learning Objectives	4
Knowledge	4
Skills.....	4
Attitudes/Behaviors	5
Course Format.....	5
Competencies	5
Policies.....	7
Americans with Disabilities Act.....	7
Academic Honor Code.....	7
Attendance Policy	7
Required Materials	8
Required Text	8
Electronic Resources	8
Grading System	8
Examinations and Quizzes	8
Grading Scale	8

Instructors

Course Director

Daniel L. Kaplan, Ph.D.

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Assistant Course Director

David Meckes, Ph.D.

Office: 2300-F

Office Hours: 8am-6pm by appointment

Phone: 645-2330 (Please contact by email)

Email: david.meckes@med.fsu.edu

Faculty

Yoichi Kato, M.D., Ph.D.

Johanna Paik, Ph.D.

Yanchang Wang Ph.D.

Course Overview

Course Goals

This course provides a foundation of knowledge in the basic principles of medical microbiology and infectious disease. It covers mechanisms of infectious disease transmission, principles of aseptic practice, and the role of the human body's normal microflora. The class is divided into four thematic areas: bacteriology, virology, mycology and parasitology. Relevant clinical examples are provided. The course provides the conceptual basis for understanding pathogenic microorganisms and the mechanisms by which they cause disease in the human body, as well as host-parasite relationships and their association with human immunological phenomena. It also provides opportunities to develop informatics and diagnostic skills, including the use and interpretation of laboratory tests in the diagnosis of infectious diseases. Important aspects diagnosis that are incorporated throughout the learning activities include: bacterial culture and antimicrobial susceptibility testing; microscopy for bacterial, fungal and parasitic agents; and other forms of laboratory testing for the identification of infectious organisms and evaluation of host immune parameters.

Learning Objectives

Session-specific learning objectives are provided within the course.

Knowledge

Describe microbial taxonomy and nomenclature as well as their relationship to structure, physiology, and function of organisms.

Categorize the microbial organisms with regard to virulence factors and disease characteristics, and correlate these aspects with specific patient populations at-risk for infection.

Summarize the major pathogen types and the diseases that they produce in humans.

Diagram at least six patient specimen collection and testing methods.

Outline the general categories of anti-microbial therapeutics and the typical infections they are effective for treating.

Demonstrate knowledge of public health surveillance and measures to deal with infections in a population.

Organize knowledge of the effect of age on clinical presentations of infections across the life cycle, including those seen in perinatal, pediatric, and geriatric patients.

Skills

Interpret laboratory findings for each diagnostic method within the context of the patient's clinical presentation and history of present illness.

Produce a problem solving strategy and demonstrate diagnostic reasoning ability with respect to specific infectious diseases.

Develop an ability to use evidence-based medicine to determine methods for diagnosis and treatment of infections.

Relate specific signs and symptoms appearing as clinical manifestations in the patient history and physical examination to the presence of infection.

Relate at least three radiologic findings to specific microbial infections.

Demonstrate the ability to organize, record, research, present, critique, and manage information.

Attitudes/Behaviors

Demonstrate professional attitudes and behaviors towards others.

Articulate the unique patient populations most at-risk for infections and how this information applies to future practice settings.

Course Format

Combination of lectures, large group interactive and small group case-based sessions, and online supplemental materials. Attendance is required for the small-group sessions.

Competencies

FSUCOM – Competencies -Course Title BMS 6301		
Competency Domains	Competencies Covered in the Course	Methods of Assessment
Patient Care		
Medical Knowledge	<p>Describe microbial taxonomy and nomenclature and their relationship to structure, physiology, and function of organisms.</p> <p>Categorize the microbial organisms with regard to virulence factors and disease characteristics, and correlate these aspects with specific patient populations at-risk for infection.</p> <p>Summarize the major pathogen types and the diseases that they produce in humans.</p> <p>Diagram at least six patient specimen collection and testing methods.</p> <p>Outline the general categories of anti-microbial therapeutics and the typical infections they are effective for treating.</p> <p>Demonstrate knowledge of public health surveillance and measures to deal with infections in a population.</p> <p>Organize knowledge of the effect of age on clinical presentations of infections across the life cycle, including those seen in perinatal, pediatric, and geriatric patients.</p> <p>Interpret laboratory findings for each diagnostic method within the context of the patient’s clinical presentation and</p>	Written exams and quizzes

	<p>history of present illness.</p> <p>Produce a problem solving strategy and demonstrate diagnostic reasoning ability with respect to specific infectious diseases.</p> <p>Develop an ability to use evidence-based medicine to determine methods for diagnosis and treatment of infections.</p> <p>Relate specific signs and symptoms appearing as clinical manifestations in the patient history and physical examination to the presence of infection.</p> <p>Relate at least three radiologic findings to specific microbial infections.</p>	
Practice-based Learning		
Communication Skills	Demonstrate the ability to organize, record, research, present, critique, and manage information.	Faculty observation in small group sessions
Professionalism	<p>Demonstrate professional attitudes and behaviors towards others.</p> <p>Articulate the unique patient populations most at-risk for infections and how this information applies to future practice settings.</p>	Faculty observation
System-based Practice		

Policies

Americans with Disabilities Act

Candidates for the M.D. degree must be able to fully and promptly perform the essential functions in each of the following categories: Observation, Communication, Motor, Intellectual, and Behavioral/Social. However, it is recognized that degrees of ability vary widely between individuals. Individuals are encouraged to discuss their disabilities with the College of Medicine's [Director of Student Counseling Services](#) and the FSU Student Disability Resource Center to determine whether they might be eligible to receive accommodations needed in order to train and function effectively as a physician. The Florida State University College of Medicine is committed to enabling its students by any reasonable means or accommodations to complete the course of study leading to the medical degree.

[The Office of Student Counseling Services](#)

Medical Science Research Building G146

Phone: (850) 645-8256

Fax: (850) 645-9452

This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center

97 Woodward Avenue, South

Florida State University

Tallahassee, FL 32306-4167

Voice: (850) 644-9566

TDD: (850) 644-8504

sdrc@admin.fsu.edu

<http://www.fsu.edu/~staffair/dean/StudentDisability>

Academic Honor Code

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy/>)

Attendance Policy

The College of Medicine has detailed attendance policies as they relate to each cohort and events that conflict with course schedules. See [FSUCOM Student Handbook](#) for details of attendance policy, notice of absences and remediation.

Unexcused absence from a scheduled examination or quiz may result in a score of zero (0 %) being assigned for that assessment. Unexcused absence from any activity for which attendance is required may be considered as an issue of Professionalism. Any unexcused absence may require completion of the Performance Improvement Program (see Grading System, below).

Required Materials

Required Text

Sherris Medical Microbiology, 5th Ed. (2010) Ryan, Ray; McGraw-Hill Companies (ebook available through the COM Library Microbiology course page
<http://med.fsu.edu/index.cfm?fuseaction=library.courseViewer&courseID=13>)

Electronic Resources

<http://www.cdc.gov/mmwr/>

Access Medicine/Harrison's Online (available through the COM Microbiology course page)

Class schedules, weekly assignments, lecture topic summaries and Power Point presentations, and information on coverage of exams are posted on the course Blackboard site.

Grading System

Examinations and Quizzes

The material for examinations and quizzes will come from lectures, small group sessions, material on the course Blackboard site, **and the textbook**. The format for written examinations will be multiple choice questions (single best answer).

There will be four integrated block examinations in the Fall semester. These examinations will cover material in all the Year 2 courses for the four weeks prior to each examination. The microbiology component of each examination will consist of ~34 items. There will also be four integrated quizzes, one per block. Attendance at quizzes is required. These quizzes are formative and will not contribute to the final exam average.

Grading Scale

FSU COM has adopted a pass/fail grading system which is used in the curriculum for the first and second years (See [Student Handbook](#)). To achieve a grade of Pass in BMS 6301 a student must meet all of the following requirements:

- 1) A final average $\geq 70\%$ on all examination questions. An average below 70% will receive a grade of fail which will require remediation or repetition of the course, as determined by decision of the Student Evaluation and Promotion Committee.
- 2) A student whose performance is $<70\%$ (below passing) on any individual exam during the semester is required to
 - a. Attend the exam review
 - b. Contact the course director within 24 hours of that exam review, and
 - c. Meet with the course director. Students may be asked to complete a Performance Improvement Program, the purpose of which is to assist the student in developing the

skills and habits necessary to succeed in the curriculum as well as to address specific performance deficits.

- 3) Attendance and satisfactory participation in all required sessions, as determined by the Course Director. Unexcused absence from an activity for which attendance is required (for example, Small Group session) may be considered as an issue of Professionalism and may result in completion of a [Report of Concern for Unprofessional Behavior](#), a failing grade for the course, and/or referral of the student to the Student Evaluation and Promotions Committee.
- 4) Satisfactory completion of all assignments, as determined by the Course Director.
- 5) Demonstration of the attitudes and behaviors of Medical Professionalism in all aspects of the course.