

**BMS 6302** 

Systemic Medical Microbiology and Infectious Disease

Spring 2013

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# **Instructors**

### **Course Director**

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# **Assistant Course Director**

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# Faculty

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Jamila I Horabin Ph.D.
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Yoichi Kato, M.D., Ph.D.
Sanjay S Kumar M.S., Ph.D.

Choogon Lee Ph.D.
Steve Marks, Ph.D.
Tim Megraw, Ph.D.
Johanna Paik, Ph.D.
Branko Stefanovic Ph.D.
Yanchang Wang Ph.D.
Xian-Min Yu B.M., D.Sc.H

Yi Zhou Ph.D.

### **Course Overview**

#### Course Goals

Building upon the principles learned in General Medical Microbiology and Infectious Disease (BMS 6301), the medical student studies in detail infectious diseases in organ systems. The biological characteristics and pathologic mechanisms of infectious bacteria, viruses, fungi and parasites are covered. Functional and clinical implications are presented in the form of relevant clinical case examples that include the use of laboratory testing for diagnosis and treatment.

### Learning Objectives

NOTE: Course-specific learning objectives that are matched to the FSU COM competency domains will be provided for each lecture, small group session and online module.

### Course Objectives

Medical Knowledge Competency

- Apply concepts from the microbiology knowledge base (principles of microbial taxonomy, structure, physiological function, pathogenesis) to better understand patient cases.
- Employ the vocabulary for describing microbial taxonomy and diseases in discussions of patient information.
- Analyze the various mechanisms by which different categories of microorganisms cause dis-ease and recognize the related signs and symptoms in the human body.
- Differentiate among laboratory testing methods to diagnose infections, including appropriate specimen collection
- Interpret test results in the context of the patient's disease presentation and findings.
- Propose a differential diagnosis set for the infectious diseases common to each organ system.
- Choose among the general categories of therapeutic modalities available to treat infections
- Demonstrate problem solving ability and diagnostic reasoning with infectious diseases.
- Correlate microbial infection with radiologic imaging findings.

#### **Patient Care**

- Identify the effect of age on the types of infections seen in the life-cycle, including those seen in perinatal, pediatric, and geriatric patients.
- Analyze the clinical manifestations in the history and physical examination that point to infection.

#### Professionalism

Practice professional attitudes and behaviors in interactions with others.

#### Systems-Based Practice

Assess public health surveillance and measures to deal with infections in a population.

#### Integration with COM Goals and Objectives

#### Medical Knowledge Competency

- Demonstrate the application of the scientific bases of health, disease, and medicine to common and high impact medical conditions in contemporary society.
- Describe the development, structure and function of the healthy human body and each of its major organ systems at the macroscopic, microscopic, and molecular levels.
- Recognize and discuss the implications of altered body structure and function (pathology and pathophysiology) in the major organ systems with various infectious diseases.
- Identify changes in the structure and function of the human body associated with the aging process; distinguish normal age-associated changes with from disease.
- Describe the molecular basis of diseases and maladies and the way in which they affect the body (pathogenesis).
- Demonstrate the ability to use basic biobehavioral and clinical science principles to analyze and solve problems related to the diagnosis, treatment, and disease prevention.
- Employ strategies to support lifelong learning via both print and electronic sources to assist in making diagnostic and treatment decisions (e.g., practice guidelines) and to remain current with advances in medical knowledge and practice.

#### **Patient Care**

- Demonstrate appropriate use of laboratory and radiographic studies in making diagnostic and treatment decisions.
- Evaluate the patient's medical problems and formulate accurate hypotheses to serve as the basis for making diagnostic and treatment decisions.
- Acquire new information and collect data and critically appraise its validity and applicability to one's
  professional decisions, including the application of information systems technologies for support of
  clinical decision-making.
- Organize, research, present, and manage clinical information.
- Practice effective and compassionate communication, both verbally and in writing, with patients, their families, colleagues and others with whom physicians must exchange information in carrying out their responsibilities.
- Demonstrate the ability to work effectively as part of a health care team, with appreciation for the multiple contributions of other health care professionals and agencies to the health of the individual and the health of the community.

#### Professionalism

- Apply the principles of professionalism and high ethical standards in all aspects of medical practice, specifically competence, honesty, integrity, compassion, respect for others, professional responsibility and social responsibility.
- Demonstrate awareness of the health care needs of aging patients and a willingness to care for the elderly.

#### Course Format

The course uses a combination of lectures, large group interactive and small group case-based sessions, and online supplemental materials. Small group sessions may be combined with those of the Pathology course. Attendance is required for the TBLs and Small Group case-based sessions. Attendance is strongly encouraged for lecture and Large Group case-based interactive sessions.

# Competencies

FSUCOM – Competencies –Microbiology 202BMS 6302		
Competency Domains	Competencies Covered in the Course	Methods of Assessment
Patient Care	X	Multiple Choice Examination
Medical Knowledge	Х	Multiple Choice Examination
Practice-based Learning	Х	Multiple Choice Examination
Communication Skills	X	Peer, Self & Facilitator Evaluation of Small Group Exercises
Professionalism	Х	Peer, Self & Facilitator Evaluation of Small Group Exercises
System-based Practice	Х	Multiple Choice Examination

### **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 <u>Director of Student Counseling Services</u> 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) 645-8256Fax: (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)

# **Attendance Policy**

The College of Medicine has detailed attendance policies as they relate to each cohort and events that conflict with course schedules. See pages 28-29 of <u>FSUCOM Student Handbook</u> 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, 5<sup>th</sup> Ed. (2010) Ryan, Ray; McGraw-Hill Companies (available online on AccessMedicine through the College of Medicine Library <a href="http://med.fsu.edu/index.cfm?fuseaction=library.home">http://med.fsu.edu/index.cfm?fuseaction=library.home</a>)

#### Recommended Resources

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

Access Medicine/Harrison's Online

Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases, 7<sup>th</sup> Ed., Churchill Livingstone an imprint of Elsevier.

http://www.mdconsult.com.ezproxy.med.fsu.edu/books/about\_do?about=true&eid=4-u1.0-B978-0-443-06839-3..X0001-X--TOP&isbn=978-0-443-06839-3&uniqld=267548881-2

Available online through the Charlotte Edwards Maguire Medical Library, MD Consult E-Book Collection.

Class schedules, weekly assignments, and information on coverage of exams are posted on the Blackboard site for this course. Copies of lecture topic summaries, and PowerPoint presentations are also posted on Blackboard.

# **Grading**

#### **Examinations and Quizzes**

The material for examinations and quizzes will come from lectures, large and small group case-based sessions, TBLs, 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 Spring 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 ~20 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 <u>page 31</u> of Student Handbook). To achieve a grade of Pass in BMS 6301 (Microbiology) a student must meet <u>all</u> of the following requirements:

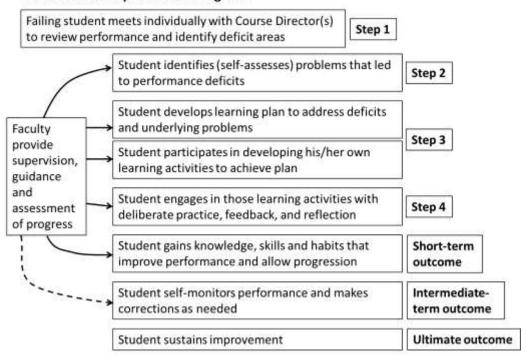
- A final average ≥ 70% on all examinations. (Formative quizzes do not contribute to the final average.) An average below 70% will receive a grade of Fail which will require remediation or repetition of the course, as determined by decision of the Student Evaluation and Promotion Committee. A student whose performance is below passing during the semester
  - <65% on any one exam</li>

OR

<70% on any two exams in the semester</li>

is required to engage in and complete the Performance Improvement Program in consultation with the Course Director. The purpose of this program 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.

#### Performance Improvement Program



- 2) 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 require completion of the Performance Improvement Program.
- 3) Satisfactory completion of all assignments, as determined by the Course Director.
- 4) Demonstration of the attitudes and behaviors of Medical Professionalism in all aspects of the course. Issues of Professionalism may require completion of the Performance Improvement Program.