BMS 6301 – GENERAL MEDICAL MICROBIOLOGY AND INFECTIOUS DISEASE

Course Syllabus – Fall Semester, 2008

General Information

Description:	This course provides learning opportunities 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 biology of bacterial, viral, fungal, and parasitic pathogens and the diseases they cause are covered. 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. It also provides opportunities to develop informatics and diagnostic skills, including the use and interpretation of laboratory tests in the diagnosis of infectious diseases.
Format:	Combination of 1-hour lecture/case-based sessions and 2-hour case-based, small-group discussion sessions (see topical syllabus, below).
Course Director:	David L. Balkwill, Ph.D. Offices: Room 2370-E, Room 2350-E Office Hours: M, T, W, F 12:00-1:30 Other times by appointment Phone: 644-9219 Email: david.balkwill@med.fsu.edu
Other Instructors:	Small Group Facilitation: Akash Gunjan, Ph.D.; Jamila Horabin, Ph.D.; Mohamed Kabbaj, Ph.D.; Sanjay Kumar, Ph.D.; J. Michael Overton, Ph.D.; Johana Paik, Ph.D.; Branko Stefanovic, Ph.D.; Yanchang Wang, Ph.D., James Sharkey, Ph.D. Student; Xiao-Qian Fang, Ph.D. Student; Dun Liang, Ph.D. Student; Sarah Riman, Ph.D. Student; Holly Sikes, Ph.D. Student; Hyeong-Min Lee, Ph.D. Student; Brad Groveman, Ph.D. Student; Fiona Smyth, Ph.D. Student; Azariyas Challa, Ph.D. Student; Nilin Gupta, Ph.D. Student; Rohith Seth, Postdoctoral Associate.
Required Text:	*Medical Microbiology, 5th Ed.* (2005) Murray, Rosenthal, and Pfaller, Elsevier-Mosby, ISBN: 0-323-03303-2.
Optional Texts:	*Sherris Medical Microbiology, 4th Ed.* (2004) Ryan and Ray (Eds.), McGraw-Hill, ISBN: 0-8385-8529-9. *Medical Microbiology, A Guide to Microbial Infections: Pathogenesis, Immunity, Laboratory Diagnosis, and Control, 16th Ed.* (2002) Greenwood, Slack, and Peutherer (Eds.), Churchill Livingstone; ISBN: 0443-07077-6.

Medical Microbiology, 3rd Ed. (2004) Mims, DOckrell, Goering, Roitt, Wakelin, and Zuckerman, Mosby; ISBN: 0-7234-3259-7.

Medical Microbiology & Immunology: Examination & Board Review, 7th Ed. (2002) Levinson and Jawetz, Lange Medical Books/McGraw Hill; ISBN: 0-07-138217-8.

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

Access Medicine/Harrison's Online

Class schedules, weekly assignments, and information on coverage of exams are posted on the Blackboard website for this course. Copies of all handouts, lecture topic summaries, and Power Point presentations are also posted at this site.

Topical Syllabus

1-Hour Lecture/Case-Based Class Sessions

Introduction to the Course: learning objectives; course format; evaluation, testing, and grading policies; expectations; etc.

Lecture 01. Bacterial Classification, Morphology & Cell Structure: medically important groups of microorganisms, classification (taxonomy) of bacteria, morphology (cell shapes, Gram stain), ultrastructural features (cytoplasm, cell envelope, external features), bacterial spores.

Lecture 02. Bacterial Metabolism & Growth: nutrient requirements of bacteria, overview of metabolism, aerobic respiration, anaerobic respiration, fermentation, biosynthesis, bacterial growth.

Lecture 03. Bacterial Genetics – Basic Concepts & Gene Expression: the bacterial genome (chromosome, extrachromosomal elements, bacteriophages), gene organization (operons, cistrons), DNA replication (binary fission, replication rules & fidelity), polymerase chain reaction.

Lecture 04. Bacterial Genetics – Genes, Maintenance & Exchange: mutation & repair (types of mutations, mutagens, DNA repair processes), gene transfer (transposons, extrachromosomal elements, mechanisms of DNA exchange, recombination, genetic engineering, etc.).

Lecture 05. Mechanisms of Bacterial Pathogenesis: entry into the human body; adhesion, colonization & invasion; pathogenic actions of bacteria (tissue destruction, toxins, immunopathogenesis); mechanisms for escaping host defenses.

Lecture 06. The Gram-Positive Cocci – I: *Staphylococcus aureus* (cutaneous infections, food poisoning, endocarditis, toxic shock syndrome, etc.), *Staphylococcus epidermidis* (endocarditis, catheter & shunt infections, etc.), *Enterococcus* (urinary infections, septicemia, etc.).

Lecture 07: The Gram-Positive Cocci – II: *Streptococcus pyogenes* (pharyngitis, impetigo, erysipelas, rheumatic fever, etc.), *Streptococcus pneumoniae* (pneumococcal pneumonia, otitis media, sinusitis, meningitis, etc.), *Streptococcus agalactiae* (neonatal diseases, other infections).

Lecture 08. The Gram-Positive Bacilli: *Bacillus anthracis* (anthrax), *Listeria monocytogenes* (neonatal diseases, etc.), *Corynebacterium diphtheriae* (diphtheria), *Clostridium perfringens* (gas gangrene, food poisoning, etc.), *Clostridium tetani* (tetanus), *Clostridium botulinum* (botulism), *Clostridium difficile* (gastroenteritis), *Erysipelothrix rhusiopathiae* (erysipeloid).

Lecture 09. The Gram-Negative Cocci & Anaerobic Bacilli: *Neisseria gonorrhoeae* (gonorrhea, PID, etc.), *Neisseria meningitidis* (meningitis, etc.), *Escherichia coli* (gastroenteritis), *Salmonella* (gastroenteritis, enteric fevers, etc.), *Shigella* (shigellosis), *Yersinia* (bubonic plague, enterocolitis), *Vibrio* (cholera, gastroenteritis, etc.), *Campylobacter* (gastroenteritis), *Helicobacter* (gastritis, gastric & duodenal ulcers).

Lecture 10. The Gram-Negative Aerobic Bacilli: *Pseudomonas aeruginosa* (pulmonary, skin & urinary infections, etc.), *Bordetella pertussis* (whooping cough), *Francisella tularensis* (tularemia), *Brucella* (undulant fever, etc.), *Haemophilus* (meningitis, otitis, chancroid, arthritis, etc.), *Legionella pneumophila* (Legionnaires' Disease, Pontiac fever).

Lecture 11. Anaerobes, Actinomyces, Mycobacteria & Mycoplasmas: *Actinomyces* (endogenous infections), *Propionibacterium* (acne), anaerobic Gram-negative bacilli (chronic sinusitis & otitis, brain abscesses, skin & tissue infections, etc.), *Nocardia* (pulmonary & cutaneous infections), *Mycobacterium* (tuberculosis, leprosy, etc.), *Mycoplasma* (atypical pneumonia, etc.).

Lecture 12. Spirochete, Rickettsial, & Chlamydial Pathogens: *Treponema pallidum* (syphilis, yaws, etc.), *Borrelia* (relapsing fever, Lyme disease), *Rickettsia rickettsiae* (Rocky Mountain spotted fever), *Rickettsia prowazekii* (epidemic typhus), *Rickettsia typhi* (endemic typhus), *Coxiella burnetii* (Q fever), *Chlamydia trachomatis* (trachoma, urogenital infections, etc.), *Chlamydophila pneumoniae* (pneumonia), *Chlamydophila psittaci* (ornithosis).

Lecture 13. Sterilization, Disinfection & Antisepsis: medical importance of methods, definitions and approaches (sterilization, disinfection, antisepsis), mechanisms of action (physical and chemical agents).

Lecture 14. Transmission of Infectious Microbial Diseases: spread of disease in populations, reservoirs of infection (human, animal, and non-living reservoirs), portals of entry and portals of exit, modes of transmission (contact, vehicles, vectors).

Lecture 15. Viral Classification, Structure, & Replication – I: basic characteristics and classification of viruses, virion structure (non-enveloped viruses, enveloped viruses), viral replication: overview, recognition & attachment to host cell, penetration.

Lecture 16. Viral Classification, Structure, & Replication – II: viral replication: uncoating, macromolecular synthesis (general information, transcription and replication of DNA and RNA viral genomes, production of viral proteins), assembly, release from host cell.

Lecture 17. Mechanisms of Viral Pathogenesis: acquisition & infection of target tissue, cytopathogenesis (lytic & nonlytic infections, oncogenic viruses), human host defenses against viral infection, immunopathology, epidemiology of viral diseases, (age, immune status & other host factors), control of viral spread.

Lecture 18. Papillomaviruses, Polyomaviruses, Adenoviruses & Poxviruses: Papillomaviridae—human papilloma viruses (warts, benign tumors, cervical cancer, etc.); Polyomaviridae—BK virus (cystitis), JC virus (PML); Adenoviridae—adenoviruses (pharyngitis, conjunctivitis, cold-like infections, gastroenteritis, pneumonia, acute respiratory tract disease, etc.); Poxviridae—variola virus (smallpox), molluscipoxvirus (molluscum contagiosum), etc.

Lecture 19. Herpesviruses & Picornaviruses: Herpesviridae—herpes simplex viruses (cold sores, genital herpes, encephalitis, etc.), varicella-zoster virus (chicken pox, shingles, etc.), cytomegaloviruses (congenital disorders), Epstein-Barr virus (mononucleosis, Burkitt's lymphoma); Picornaviridae—rhinoviruses (common colds), polioviruses (polio), Coxsackie viruses (meningitis, encephalitis, myocarditis, pericarditis, cold-like diseases, conjunctivitis, etc.), echoviruses (meningitis, encephalitis, exanthems, myocarditis, pericarditis, etc.).

Lecture 20. Parvoviruses, Paramyxoviruses, Orthomyxoviruses & Reoviruses: Parvoviridae—B19 (fifth disease, aplastic crisis); Paramyxoviridae—parainfluenzaviruses (cold-like diseases, croup, etc.), mumps virus (mumps), measles virus (measles), respiratory syncytial virus (colds, bronchitis, etc.); Orthomyxoviridae—influenzaviruses (influenza, other respiratory infections, etc.); Reoviridae—rotaviruses (gastroenteritis), coltiviruses (Colorado tick fever).

Lecture 21. Rhabdoviruses, Togaviruses & Bunyaviruses: Rhabdoviridae—rabies virus (rabies), vesicular stomatitis virus (flu-like disease); Togaviridae—various encephalitis viruses (flu-like disease, encephalitis, etc.), rubella virus (German measles); Bunyaviridae—various encephalitis viruses (flu-like disease, encephalitis), phleboviruses & nairoviruses (hemorrhagic fevers, encephalitis, etc.), hantaviruses (hantavirus pulmonary syndrome, ARDS, etc.).

Lecture 22. Hepatitis Viruses, Retroviruses, Miscellaneous Viruses & Prions: summary of hepatitis viruses; Retroviridae—HIV (AIDS), HTLV (adult acute T-cell lymphocytic leukemia); Caliciviruses—Norwalk virus (gastroenteritis); Coronaviridae—coronoaviruses (common colds, SARS); Flaviviridae—flaviviruses (encephalitis, dengue hemorrhagic fever, yellow fever, etc.); Filoviridae—Ebola & Marburg viruses (hemorrhagic fevers); prions.

Lecture 23. Basic Biology of Fungi: general characteristics, classification, medical importance of major fungal groups, fungal cell structure, fungal morphology, fungal replication, general information on fungal pathogenesis.

Lecture 24. Superficial, Cutaneous & Subcutaneous Mycoses: mechanisms of fungal pathogenesis, superficial mycoses (pityriasis versicolor, tinea nigra, black piedra, etc.), cutaneous mycoses (etiology, ecology & epidemiology, clinical manifestations), subcutaneous mycoses (lymphocutaneous sporotrichosis, chromoblastomycosis, phaeohyphomycosis, etc.).

Lecture 25. Systemic and Opportunistic Mycoses: histoplasmosis (reticuloendothelial cytomycosis), blastomycosis (Gilchrist's disease, North American blastomycosis), paracoccidioidomycosis (South American blastomycosis), coccidioidomycosis, cryptococcosis, candidiasis (skin and nail diseases, disseminated infections, etc.), aspergillosis, zygomycosis, *Pneumocystis carinii* pneumonia.

Lecture 26. Commensal & Pathogenic Human Microflora: normal microflora of the human body, dual nature of normal flora with respect to disease, normal flora of major human body systems (respiratory tract & head, gastrointestinal tract, genitourinary system, skin).

Lecture 27. Basic Biology of Parasites: medical importance of parasites & parasitic diseases, classification & structure of protozoa (Sarcomastigophora, Ciliophora, Apicomplexa, Microspora), classification & structure of metazoa (helminths, arthropods), physiology & replication.

Student Presentation with Informatics Skills

During the section of the course that deals with parasitic pathogens, students will be divided into groups and each group will prepare a presentation on one parasitic organism to give to the whole class. Students will use informatics skills to obtain, organize, and present the information.

2-Hour Case-Based Discussion/Demo-Laboratory (Small Group) Sessions

Small Group/Lab 01. Diagnosis of Infectious Disease – General Principles: collection of specimens, microscopic methods (simple stains, Gram stain & other differential stains, fluorescent stains), biochemical methods, etc..

Small/Group/Lab 02. Molecular & Serologic Diagnostic Methods: cases illustrating the technology of DNA probes, DNA fingerprinting methods, PCR-based methods, precipitation & immunodiffusion, enzyme-linked immunofluorescence assays (ELISA), radioimmunoassay (RIA), etc.

Small Group/Lab 03. Laboratory Diagnosis of Bacterial Diseases I – Culture & Handling: cases illustrating collection & handling of specimens, types of pathogens to be expected for various body fluids & tissues, etc.

Small Group/Lab 04. Laboratory Diagnosis of Bacterial Diseases II – Epidemiology: cases illustrating infections related to epidemiologic surveillance.

Small Group/Lab 05. Bacterial Genetics & Antibiotic Resistance: cases illustrating the role of gene transfer in rapid spread of antibiotic resistance & development of multiple resistance, causes of antibiotic resistance, implications for future practice of medicine.

Small Group/Lab 06. Aseptic Practice & Nosocomial Infections: cases illustrating the etiology & epidemiology of nosocomial infections, medical & economic significance, techniques for prevention of nosocomial infections.

Small Group/Lab 07. Laboratory Diagnosis of Viral Disease: cases illustrating use of cytology, electron microscopy, viral isolation & growth (cell culture, etc.), detection of viral proteins & genetic material, viral serology.

Small Group/Lab 08. Laboratory Diagnosis of Protozoan & Other Parasitic Diseases: cases illustrating the general considerations of life cycle and pathogenesis of infection for intestinal, urogenital & blood infections (collection of specimens, techniques for specimen examination), alternatives to microscopic methods.

Evaluation of Student Performance and Grading

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

There will be three integrated block examinations in the Fall semester. These examinations will cover material in all the courses for the four weeks prior to each examination. The microbiology component of each examination will consist of 36 multiple choice questions. There will also be eight laboratory (small group session) quizzes and one parasitology presentation (using informatics skills) in this course. The final grade will be based upon the total score calculated from the total number of points as follows:

118 questions on the integrated block examinations = 118 points
5 questions on each of 8 laboratory (small group session) quizzes = 40 points
Parasitology presentation = 10 points

Total = 168 points

Grading for the course is based on a numeric score calculated as a percentage achieved from all possible points, as follows:

A = > 90% correct
B+ = 87-89.9% correct
B = 80-86.9% correct
C+ = 77-79.9% correct
C = 70-76.9% correct
D = 65-69.9% correct
F = < 65.9% correct

Attendance, Remediation, and Other College of Medicine Policies

COM Attendance Policy – Philosophy:

We believe that:

Professionalism is a major component of our medical curriculum. We believe students should conduct themselves appropriately in the various educational activities of the curriculum. This conduct includes coming to educational activities on-time, using the laptop computers only for course work during the educational activity, and not disrupting the class if late. The faculty should also demonstrate professionalism, by starting and ending all scheduled educational activities on time and providing a course schedule with clearly explained course policies in the course syllabus. Any changes in the schedule should be given to the students in a timely manner.

Students will be accountable and personally responsible for attending all educational activities (small groups, labs, clinical experiences, examinations, lectures, computer sessions, etc.).

Unexcused absences reflect negatively on the goals and objectives of the medical curriculum and demonstrate unprofessional behavior by the respective student.

We owe it to our state legislature and the citizens of the State of Florida to provide a quality educational program that meets the needs of our students in preparing them for the M.D. degree.

Attendance Policy

Students are expected to attend all scheduled activities. Students are expected to be on time. Being on time is defined as being ready to start at the assigned time. If a student has an emergency that prevents her/him from attending a scheduled activity, s/he is to call and notify the Office of Student Affairs (Year 1/2) or the Regional Campus Dean / Student Support Coordinator (Year 3/4) and request that they inform the supervisors/professors/clerkship faculty/education director for that activity. If at all possible, the student should also call and at a minimum, leave a message with one of the course/clerkship directors. It is important that students realize that their absence or tardiness negatively impacts a number of other people. Attendance, including tardiness, is part of the student's evaluation for professionalism. Negative evaluations may result in decreased grades and in severe cases, referral to the Student Evaluation and Promotion Committee.

Procedure for Notification of Absence

Year 1/2

If the student knows in advance of an upcoming legitimate absence, the online "Advance Request for Absence from Educational Activity(ies)" process should be followed as outlined below.

If the absence occurs due to an unforeseen emergency, the student should contact the course director and the Associate Dean for Student Affairs immediately to report the absence including the reason for the absence.

The implications for the absence (e.g., remediation, course grade adjustment, make-up exam, etc.) will be given to the student by the course director and final decisions regarding these actions shall rest with the course director.

The online "Request for Absence" process should be used for all absences, including post-illness absences, regardless of whether the student is requesting an absence from one or more classes or the entire day. Here is how it works.

1) Student completes online form: https://apps.med.fsu.edu/absence (Form will only work in Internet Explorer)
2) The form is routed to student affairs for approval then to appropriate Course Directors/Instructors
3) Course Directors will approve/deny request
4) Students can check on the status of the progress of the request by clicking on the "Pending requests" link, where they will be able to see if the instructor(s) has taken action on the form. (If the instructor has not taken action within 24 hours, students can contact him/her directly to let him/her know that the request is pending.)
5) The student will receive an email indicating whether the request has been approved/denied.

Students must include all the courses/activities they plan to miss on the requested day of absence (lecture, small groups, quiz, exam, OSCE, etc.) If students plan to be gone the entire day and fail to include an activity/class on the form, they will NOT be excused from that particular activity/class. It will be considered unexcused. It is the students' responsibility to ensure the form is filled out completely with all the courses/activities they will miss for that particular day.

If a student's request has been denied, the email will not indicate the reason nor indicate which instructor denied the request.

Some reasons that are likely to automatically disqualify an advance request are: exams, CLC sessions and OSCEs -- unless it is for extreme circumstances (illness, family emergencies, etc).

Remediation Policy for Absences from Examinations, Quizzes, Small Group Sessions, Preceptor visits, and Clerkship Call:

The remediation policies for absences from examinations, quizzes, small group sessions, and clerkship call are:

1. POLICY ON MISSED EXAMINATIONS: Students are required to take major in-term and final examinations. Based on Curriculum Committee policy, a student can only be excused from an examination by a course/education director decision based on the personal situation of the student. The Course/Education Director will determine the time of the exam make-up session. Also, according to the Curriculum Committee decision and the existence of the FSU COM honor code, the student will be given the same examination given to the other students. *In this course (BMS 6301), all examinations must be made up within one week of returning to class.*
2. POLICY ON MISSED QUIZZES: Students are required to take scheduled and unscheduled quizzes in the courses/clerkships. A student can only be excused from a quiz by a Course/Education Director decision based on the personal situation of the student. The student must make arrangements with the Course/Education Director to make up a missed quiz. Also, according to the curriculum committee decision and the existence of the FSU COM honor code, the student will be given the same quiz given to the other students. *In this course (BMS 6301), all quizzes must be made up within one week of returning to class.*
3. POLICY ON MISSED SMALL GROUP SESSIONS, PRECEPTOR VISITS, AND CLERKSHIP CALL: The student should contact the Course Director, small group leader, Clerkship Director or Education director for instructions on remediation of the missed session and material covered. *In this course (BMS 6301), missed small group sessions must be made up within one week of returning to class. They will be made up by handing in written answers to the questions in the small group cases and a written, one-page discussion of the material covered in the missed session.*

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. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to ". . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at http://www.fsu.edu/~dof/honorpolicy.htm.

Students With Disabilities:

The Florida State University adheres to Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA) in prohibiting discrimination against any qualified person with a disability. Students with specific questions regarding the FSU policies governing students with disabilities may contact the Student Disability Resource Center.

Students with disabilities who wish accommodations based on a disability must notify the College of Medicine Office of Student Affairs and register with the FSU Student Disability Resource Center (SDRC). In order to register with the SDRC the student must provide the Center with the required documentation. A definitive diagnosis of disability must be stated in the documentation. Details regarding the required documentation for each disability can be found at the SDRC website **www.fsu.edu/~staffair/dean/StudentDisability.**

Exam Protocol for Students with Disabilities at FSU College of Medicine

The Florida State University adheres to Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA) in prohibiting discrimination against any qualified person with a disability. Students with specified questions regarding the FSU policies governing students with disabilities may contact the Student Disability Resource Center (SDRC).

Students who warrant accommodations based upon the functional effects of a physical or learning disability should adhere to the following procedure:

1. Student meets with a representative of the Student Disability Resource Center (SDRC), provides documentation of a disability and requests accommodations. (A definitive diagnosis of a disability must be identified in the documentation. Details regarding the required documentation for each disability can be found at the SDRC website: www.fsu.edu/~staffair/dean/StudentDisability.)

2. For entering students, this is best accomplished prior to the beginning of classes (e.g., Orientation Week). For all other students, it must be completed at least one month prior to the examination date when accommodations would be instituted.

3. SDRC staff will review the documentation to determine sufficiency and eligibility for accommodations. If additional documentation is needed, this may be obtained through the Office of Student Counseling Services (OSCS) at the COM or elsewhere in the community. If

additional testing is required, temporary accommodations may be granted while documentation is completed.

4. Student and SDRC staff identifies the type of accommodations that are appropriate based upon the student's disability.

5. SDRC staff completes and signs a Faculty Letter addressed to the COM's Associate Dean for Student Affairs indicating that documentation supports specific accommodations.

6. Student signs Faculty Letter indicating agreement with suggested accommodations and understanding of his or her responsibility to present the letter to the Associate Dean for Student Affairs at the College of Medicine.

7. SDRC prints two copies of the Faculty Letter and retains a copy as a record of the initial meeting, eligibility and accommodation request.

8. Student will schedule an appointment to meet with the Associate Dean for Student Affairs within one week's time to present the second original Faculty Letter. The student is also encouraged to keep a copy of this document.

9. The Associate Dean for Student Affairs will review the letter, determine appropriateness of all requests based on the requirements for the college, and discuss concerns with student and/or call SDRC when appropriate.

10. The letter will be kept in a confidential place in the Office of Student Affairs and not made part of the academic record of the student.

11. Once accommodation shave been confirmed, the student is to schedule an appointment with the OSCS.

12. The OSCE's at the COM will be the representative responsible for facilitating accommodations for medical school students who have been determined eligible for services. The OSCS will explain to the student how the accommodations will be facilitated.

13. The student will then be responsible for completing the SDRC Exam Sign-Up Sheet and ensuring that his/her Year 1/Year 2 Year and Course Directors overseeing the examination have signed it. Exam Sign-Up Sheets may be obtained from year 1/Year 2 Coordinators or the OSCS.

14. The student will return the <u>completed</u> SDRC Exam Sign-up Sheet to the SDRC at least **5 WORKING DAYS** prior to the scheduled date/time of the exam in order to facilitate testing/exam accommodations. Failure to meet this requirement will release the COM and SDRC from the responsibility of providing accommodations for that particular examination.

15. A special situation arises with the NBME examinations. Since these examinations need to be ordered well in advance of the test date, students who are requesting to take an NBME under special accommodations should complete the Exam Sign-Up sheet at **least 4 weeks** prior to the date the exam is to be administered.

16. Students who qualify for exam accommodations will follow SDRC's Testing Center policies. If the examination is not taken at the SDRC, the COM (in collaboration with SDRC) will coordinate the provision of other accommodations. This might occur for quizzes or shorter, in-class exams. The student is responsible for notifying the instructor at least five working days prior to the quiz/exam if on-site accommodations are desired. Except for extenuating circumstances, all Year1/Year2 integrated and Year1/Year2 NBME exams requiring accommodation will be administered at the SDRC.

17. For those students attending the regional campuses, Steps 1- 11 should be followed in order to be approved for accommodations. However, the Regional Campus Dean will be responsible for overseeing the implementation of the accommodations in collaboration with the Associate Dean for Student Affairs.

18. Provision of exam proctors and appropriate distribution of exams for students receiving accommodation will be administered by the Office of Medical Education (for Year 1/2 and the Regional Campus Deans (Year 3/4).

Evaluations

Student evaluations throughout the course are an important way of improving medical education, particularly during the founding years of the College of Medicine. Not only are your comments and suggestions valued, but the evaluation process represents one way for you to become familiar with the peer review process. Peer review is an important quality management function in all branches of medicine. In order for peer review to work properly, it must be taken seriously by both the evaluators as well as those being evaluated. Therefore, we ask that you give careful consideration to evaluations. When making comments, consider what you would say if you were face to face with the person to whom the comments are directed. How would you react if the comments were directed at you? Give thought to how learning resources were used in regard to the way to learn best. What worked for you and what did not? How is your time used optimally? Are you making adequate progress? Are you being challenged to improve? Be specific. Ultimately, your use of the evaluation process can help you learn how to improve your own medical practice.

Course Objectives

Knowledge

K1. Develop a knowledge base of principles of microbial taxonomy, structure, physiology, and function.

K2. Develop a vocabulary for describing the taxonomy of microbial organisms and the diseases they produce.

K3. Develop familiarity with the major types of pathogenic microorganisms and the diseases that they produce in humans.

Skills

S1. Demonstrate the ability to use the laboratory to diagnose infections, including appropriate specimen collection and test ordering.

S2. Demonstrate the ability to interpret laboratory findings in the context of the patient’s presentation and findings.

S3. Demonstrate knowledge of general categories of therapeutic modalities available to treat infections.

S4. Demonstrate knowledge of public health surveillance and measures to deal with infections in a population.

S5. Demonstrate problem solving ability and diagnostic reasoning with infectious diseases.

S6. Develop an ability to use evidence-based medicine to determine methods for diagnosis and treatment of infections.

S7. Demonstrate knowledge of clinical manifestations in the history and physical examination that point to infection.

S8. Demonstrate knowledge of the effect of age on the types of infections seen in the life cycle, including those seen in perinatal, pediatric, and geriatric patients.

S9. Demonstrate the ability to correlate microbial infection with radiologic findings.

Attitudes/Behaviors

A1. Demonstrate professional attitudes and behaviors towards others.