

UNIVERSITY OF DETROIT MERCY SCHOOL OF DENTISTRY
Department of Biomedical Sciences

CLINICAL IMMUNOLOGY AND MICROBIOLOGY
DBS 825

Course Information

Web Address: <http://knowledge.udmercy.edu>

Course Director:

John A. Molinari , Ph.D. Office: 242 Manning Hall Office Hours by appointment or contact Carol Grennan, Administrative Assistant Phone: 313-494-6630 Email: molinaja@udmercy.edu

Fall Term, 2007

DS2 Students (Class of 2010)

Mondays: Ward Conference Center Superior / HS 106 & 107

Thursdays: Ward Conference Center St. Clair

Credit Hours: 4.0

Prerequisites: Successful completion of Microbiology DBS 830

Lecturers/Support Faculty

Dr. Gail E. Molinari, D.D.S., M.S., M.S.

Dr. Linda Dobis, D.D.S., M.S.

Academic Policies:

All policies in the School of Dentistry Academic Policies Handbook including but not limited to academic integrity, mandatory attendance, professional decorum & dress code, identification (ID) badges, preclinical and classroom decorum, use of cell phone and electronic devices, examination policies and exam/quiz absences apply.

Accommodations:

If you would like to request a classroom, testing, preclinical, clinical, or other accommodation because of a legally protected disability, or if you might require any special assistance in the event of an emergency or evacuation, please contact the University of Detroit Mercy's Office of University Academic Services (UAC) at 313-578-0310 or email your request for information to gallegem@udmercy.edu

Student Evaluation of Instruction

Student feedback is valued by the faculty and the administration. All students are required to complete the School of Dentistry's on-line course evaluation by a specified date. Failure to comply by posted deadline dates will result in the receipt of an F (Failing) grade of record for the Evaluation Responsibility Course. Only constructive, professional recommendations will be reported and considered.

Course Description

Purpose of the Course:

This course addresses specific clinical immunology topics by applying basic immunological concepts previously presented in DBS 830. Host normal microbial flora is described in light of its composition and interactions among its members and with host defenses. A section on the microbiology and clinical manifestations of dental caries and periodontal diseases is included. The latter portion of the course begins discussion of the characteristics of the various infectious agents and their clinical manifestations emphasizing the oral signs and symptoms of infection and the transmission of disease.

Course Goals:

1. Build upon microbiological and immunological concepts presented in DBS 830.
2. Study microbial interactions and etiologies of caries and periodontal disease.
3. Provide students with current knowledge of bacterial infectious diseases, regarding etiology, clinical manifestations, diagnosis, and treatment.

Course Objectives:

At the conclusion of this course, the student will be able to:

1. Describe the protective functions and mechanisms of the body's innate and specific defense systems.
2. Understand the principles of immunization and transplantation.
3. Describe abnormalities of the body's immune responses, as they affect host resistance to infectious agents.
4. Describe the major components of the microbial flora of the oral cavity, oropharynx, nasopharynx, and skin.
5. Comprehend microbial interactions among components of the resident flora and between endogenous and exogenous microorganisms.
6. Describe host-microbial interactions.
7. Describe the role of microorganisms in the pathogenesis of disease in humans.
8. State the co-concentric interrelationship between host, diet, microorganisms, and time in the causation of dental caries.
9. Describe the evidence for the bacterial etiology of dental caries.
10. Describe the clinical manifestations of diseases caused by microorganisms with specific emphasis given to oral manifestations and to infectious agents which can be transmitted in the dental environment.

Instructional Methods:

Instructional methods utilized in the course include lecture, question and answer, discussion and content exams. Students will also be required to complete projects evaluating assigned articles and observed clinical infection control practices.

School of Dentistry Competencies Evaluated

	Competencies of the graduating dental student	Addressed	Evaluated
1.	The graduating student obtains, records, updates and organizes accurate and completed medical/dental histories including pertinent psychological and socioeconomic information.	YES	F
2.	The graduating student performs, records and organizes a physical assessment appropriate for dental care.	YES	F
3.	The graduating student determines differential, provisional or definitive diagnoses by correlating and interpreting examination and assessment findings.	YES	N
4.	The graduating student develops alternative treatment plans which are sequenced to address the chief complaint, eliminate oral disease, restore function, and maintain health, and prevent oral disease consistent with assessment and diagnoses.	YES	F
5.	The graduating student establishes with the patient a mutually acceptable treatment plan.	NO	
6.	The graduating student monitors and provides for patient comfort associated with dental care.	YES	F
7.	The graduating student delivers and/or manages the planned treatment in sequence and in accordance with accepted standards of care.	YES	F
8.	The graduating student promotes health maintenance and disease prevention.	YES	N
9.	The graduating student applies the principles of infection control and environmental safety.	YES	N
10.	The graduating student makes professional decisions affecting the practice of dentistry based on values that satisfy legal and ethical principles and service to society.	NO	
11.	The graduating student performs routine self evaluation.	NO	
12.	The graduating student applies business and practice management skills.	NO	
13.	The graduating student demonstrates interpersonal skills to function successfully in a multicultural work environment.	NO	
14.	The graduate critically evaluates the validity of new information, new products, and/or techniques and their relevance to the practice of dentistry.	YES	N

Course Policies

Attendance:

Attendance is expected at each session.

- Protocol for missed quizzes and exams: It is expected that each student will come prepared for each lecture session. All notifications of absences or illnesses **MUST** be made to the Course Director in addition to the Registrar's Office.

Exams: Make-up examinations in the event of an excused absence will be given within one week of the scheduled exam. Failure to take an exam will result in a zero (0) grade for that exam. Make-up examinations will be essay and will be recorded as 90% of the score attained, i.e. if the actual score on the make-up examination is 80%, the grade recorded will be 72%.

Quizzes: NO EXCUSES will be given for missed quizzes, and these may not be made up.

- Tardiness and/or behaviors during class: Students that are late for class will NOT enter the classroom after the lecture has started. If there is a pause in the lecture, entrance may be made with a minimum of disturbance. If a student's behavior is such that it is disturbing other students in the class, that student may be asked to leave the class. There will be NO active cell phones, audible beepers, food, or restroom breaks allowed during class.
- Examination policies: Students who arrive late to a scheduled exam will be permitted to take the examination **UNLESS** other students have completed the exam and have already left the examination room. The student will not be given extra time to complete the exam and must complete the exam within the designated time. During the exam, the student will place bookbags, backpacks, notes, coats, and hats in a designated area of the examination room. All cell phones and beepers will be off during the examination. PDA's and tablets are not permitted during the exam.

Academic Integrity

Academic honesty on the part of students is assumed as a given by the Department of Biomedical Sciences. Dishonest behavior will not be tolerated. The Academic Policies Handbook for the School of Dentistry outlines student obligations and violations regarding integrity. We consider infractions to include, among others, the following:

1. Cheating from another student's examination or quiz,
2. Talking with another student during administration of an examination or quiz,
3. Using unauthorized notes or sheets during examinations or quizzes, and
4. Submitting multiple answers for specific questions.

Serious consequences for a cheating offense will be enforced. These include:

1. A grade of zero given for the examination or quiz,
2. Submission of an "F" grade for the course,
3. Decrease in the grade for the examination or quiz, and/or
4. Report of infraction and initiation of school disciplinary proceedings.

Required Text:

Medical Microbiology. P.R. Murray, et al. 5th edition. Mosby (2005).

Evaluation and Grading

The numerical grading scale for the Microbiology DBS 825 course is as follows:

94 - 100 = A	77 - 79 = C+
90 - 93 = A-	73 - 76 = C
87 - 89 = B+	70 - 72 = C-
83 - 86 = B	60 - 69 = D
80 - 82 = B-	Below 60 = F

Criteria for evaluation of students are the following:

1. Periodic short quizzes and assignments.
2. Scheduled major examinations.

The value for each of the evaluation criteria is:

Unscheduled short quizzes and assignments minus lowest quiz	15%
Examination #1	25%
Examination #2	25%
Examination #3	<u>35%</u>
	100%

Course Evaluation Methods

Quizzes

Quizzes will be given throughout the course in class and will cover information from the lectures and reading assignments. The lowest quiz score will be dropped and missed quizzes cannot be made up. Additional out-of class projects will be assigned requiring students to: 1) critique scientific-evidence based articles, and 2) conduct clinic infection control evaluations. The average of the quizzes and assigned projects will constitute 15% of the final course grade.

Unit Exams

Unit exams will consist of questions in a multiple choice and other short answer format. The midterm exam constitutes 25% of the course grade.

Final Exam

A comprehensive final exam covering material presented in DBS 825 will be administered at the end of the fall term. Multiple choice and other short answer questions will comprise the examination.

COURSE CALENDAR / TENTATIVE SCHEDULE

<u>DATE</u>	<u>TIME</u>	<u>TOPIC</u>	<u>INSTRUCTOR</u>
8/16/07	9:40-10:30 10:40-11:30	1. Course introduction 2. Immunology overview Vaccination	Dr. Molinari Dr. Molinari
8/20	1:00-1:50 2:00-2:50	Vaccination Hypersensitivity	Dr. Molinari Dr. Molinari
8/23	9:40-10:30 10:40-11:30	Hypersensitivity 1. Type II Hypersensitivity reactions 2. Blood Typing	Dr. Molinari Dr. Molinari
8/27	1:00-1:50 2:00-2:50	Immune deficiency and diseases Immune deficiency and diseases	Dr. Molinari Dr. Molinari
8/30	9:40-10:30 10:40-11:30	LABORATORY #1 - Group A (Blood typing) LABORATORY #1 - Group B (Blood typing)	
9/3		LABOR DAY - NO CLASSES	
9/6	9:40-10:30 10:40-11:30	HIV / AIDS HIV / AIDS	Dr. Molinari Dr. Molinari
9/10	1:00-1:50 2:00-2:50	Transplantation Transplantation	Dr. Molinari Dr. Molinari
9/13	9:40-10:30 10:40-11:30	Autoimmunity Autoimmunity and autoimmune diseases	Dr. Molinari Dr. Molinari
9/17	1:00-1:50 2:00-2:50	Introduction to Cariology 1. Epidemiology 2. Scientific method 3. Koch's postulates for infectious disease Clinical caries overview	Dr. Molinari Dr. Gail Molinari
9/20	9:40-10:30 10:40-11:30	factors associated with caries onset and progression Microbiology of caries	Dr. Molinari Dr. Molinari
9/24	1:00-2:50	EXAM #1	
9/27	9:40-10:30 10:40-11:30	Microbiology of caries Microbiology of caries	Dr. Molinari Dr. Molinari

10/1	1:00-1:50 2:00-2:50	Microbiology of caries 1. Microbiology of caries 2. Antimicrobial strategies for caries control	Dr. Molinari Dr. Molinari
------	------------------------	-------------------------------------------------------------------------------------------------------	------------------------------

10/4	9:40-10:30 10:40-11:30	LABORATORY #2 - Group A (Cariology) LABORATORY #2 - Group B (Cariology)	
10/8	1:00-1:50 2:00-2:50	Staphylococci Staphylococci	Dr. Molinari Dr. Molinari
10/11	9:40-10:30 10:40-11:30	Streptococci 1. Streptococci 2. Pneumococci	Dr. Molinari Dr. Molinari
10/15	1:00-1:50 2:00-2:50	Enterobacteriaceae 1. Enterobacteriaceae 2. Pseudomonas	Dr. Molinari Dr. Molinari
10/18	9:40-10:30 10:40-11:30	<i>Bordetella, Haemophilus</i> <i>Klebsiella, Helicobacter</i>	Dr. Molinari Dr. Molinari
10/22	1:00-2:50	Exam # 2	
10/25	9:40-10:30 10:40-11:30	Principles of anaerobic infections Principles of anaerobic infections	Dr. Molinari Dr. Molinari
10/29	1:00-1:50 2:00-2:50	Clostridia Clostridia	Dr. Molinari Dr. Molinari
11/1	9:40-10:30 10:40-11:30	Microorganisms and Food Poisoning <i>Actinomyces</i> and Actinomycosis	Dr. Molinari Dr. Molinari
11/5	1:00-1:50 2:00-2:50	Gram-negative anaerobic bacilli Acute and chronic maxillofacial infections	Dr. Molinari Dr. Molinari
11/8	9:40-10:30 10:40-11:30	Microbiology and Immunopathology of periodontal diseases Microbiology and Immunopathology of periodontal diseases	Dr. Dobis Dr. Molinari
11/12	1:00-1:50 2:00-2:50	<i>Legionella</i> and Legionellosis 1. Dental unit water microbiology and infection control 2. Infection control project DUE	Dr. Molinari Dr. Molinari
11/15	9:40-10:30 10:40-11:30	Mycobacteria and Tuberculosis Tuberculosis	Dr. Molinari Dr. Molinari
11/19	1:00-1:50 2:00-2:50	TB health-care worker risks and precautions Gram-positive bacilli	Dr. Molinari Dr. Molinari

11/22		THANKSGIVING HOLIDAY - No Classes	
11/26	1:00-1:50 2:00-2:50	<i>Mycoplasma</i> and Chlamydia <i>Rickettsiae</i>	Dr. Molinari Dr. Molinari
FINAL EXAM TO BE SCHEDULED			