

# University of Detroit Mercy School of Dentistry

Department of Biomedical Sciences

Course Syllabus

## Oral Microbiology and Immunology I BS 8\_\_

### Course Information

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

### **Course Director:**

**Virginia A. Merchant, MS, DMD**

Office: DC 429

Office Hours by appointment

Phone: 313-494-6639

Email: [merchava@udmercy.edu](mailto:merchava@udmercy.edu)

### **Summer Term, 2008**

DH1 Students (Class of 2010)

**Tuesdays 1:00-1:50; Thursdays 1:00-2:50**

**Credit Hours:** 1.5

**Prerequisites:** College Biology and Chemistry, Microbiology with lab

### 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.

If you have to miss class because of illness or emergency, please notify Dr. Merchant.

### 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](mailto: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 provides the dental hygiene student with a basic understanding of the role of microorganisms in health and disease and introduces the basic concepts of immunology.

**Course Goals:** This course will discuss the role of bacteria, viruses, and fungi in health and disease and provide a basic background in immunology and immune dysfunction.

The course will introduce basic concepts of:

- microorganisms in health and disease.
- the immune system and immunodeficiency diseases including HIV infection and AIDS.

### **Specific Instructional Objectives:**

At the conclusion of learning unit one, the dental hygiene student will be able to:

- Describe host-parasite relationships.
- Describe how microorganisms cause disease.
- Understand the diversity of microbes constituting the normal flora of man.
- Describe the role of normal flora in health and disease.

At the conclusion of learning unit two, the dental hygiene student will be able to:

- Discuss the innate immune response.
- Describe the specific immune response.
- Describe the different classes of antibodies and their roles in the immune response.
- Describe the various aspects of the cell-mediated immune response and the roles of cytokines in health and disease.
- Describe the host's response to microbial infection.
- Describe the different types of immunity.

At the conclusion of learning unit three, the dental hygiene student will be able to:

- Understand immune dysfunction.
- Appreciate the effects of primary immunodeficiency diseases.
- Describe the major characteristics of HIV infection and AIDS.

### **Instructional Methods:**

Lectures will be presented with PowerPoint slides (copies distributed on handouts) and discussion.

### **Course Policies:**

- Students are expected to behave professionally at all times. This includes being in the classroom prior to the scheduled class time and remaining in class for the full time unless dismissed by the faculty.
- Students will be given a break in the middle of a 2 hour lecture unless the class agrees to forego a break upon recommendation by the faculty member.
- Students who arrive late will not be permitted to take quizzes.
- Students may not leave the room for any reason during an examination.
- All electronic devices, including tablets and cell phones, must be turned off during class.

- Reading of non-course material is not permitted during class.
- Students may consume beverages in class as per the School policy. Eating is not permitted.

## School of Dentistry Competencies

**Competency-based Education:** Assumes that learning to become an entry-level professional is a progression through stages from novice to competent.

### Stages of Progression to Competence:

**F or Foundation Knowledge:** Basic knowledge, skills, and attitudes needed to begin the journey to competence.

**N or Novice Level:** Ability to articulate or describe the appropriate skills, knowledge, and professional attitudes. Novices need structure, clarity of goals, single and clearly explained approaches.

**B or Beginner Level:** Combines the appropriate skills, knowledge, and professional attitudes, all of which are performed with guidance and correction.

**C or Competent Level:** Combines the appropriate supporting skills, knowledge, and professional attitudes, all of which are performed reliably without assistance.

|    | Competencies of the Graduating Dental Hygiene Student   | Addressed | Evaluated | Method                         |
|----|---|-----------|-----------|--------------------------------|
| 1. | The graduate demonstrates interpersonal communication skills to function successfully in a multicultural work environment with diverse populations.       | NO        | NO        | NA<br>NA<br>NA                 |
| 2. | The graduate makes professional decisions affecting the practice of dental hygiene that satisfy legal, societal and ethical principles.                   | NO        | NO        | NA<br>NA<br>NA                 |
| 3. | The graduate performs routine evaluation of self and staff members and takes corrective action to address perceived deficiencies.                         | NO        | NO        | NA<br>NA<br>NA                 |
| 4. | The graduate critically evaluates the validity of new information, new products, and/or techniques and their relevance to the practice of dental hygiene. | YES       | F         | Written Evaluation<br>NA<br>NA |
| 5. | The graduate applies business and practice management skills.   | NO        | NO        | NA<br>NA                       |

|     |   |     |    |                                |
|-----|---|-----|----|--------------------------------|
|     |   |     |    | NA                             |
| 6.  | The graduate promotes health maintenance and disease prevention.  | YES | F  | Written Evaluation<br>NA<br>NA |
| 7.  | The graduate applies the principles of infection control and environmental safety.  | NO  | NO | NA<br>NA<br>NA                 |
| 8.  | The graduate obtains, records, updates and organizes accurate and complete medical/dental histories including pertinent psychological and socioeconomic information.                | YES | F  | Written Evaluation<br>NA<br>NA |
| 9.  | The graduate performs, records and organizes a physical assessment appropriate for dental care.   | YES | F  | Written Evaluation<br>NA<br>NA |
| 10. | The graduate determines differential, provisional or definitive dental hygiene diagnoses related to and congruent with the diagnosis of the dentist and other health professionals. | YES | F  | Written Evaluation<br>NA<br>NA |
| 11. | The graduate develops alternative dental hygiene care plans which are sequenced to address patients' needs, consistent with assessment and diagnoses.                               | NO  | NO | NA<br>NA<br>NA                 |
| 12. | The graduate establishes with the patient a mutually acceptable dental hygiene care plan.   | NO  | NO | NA<br>NA<br>NA                 |
| 13. | The graduate monitors and provides for patient comfort associated with dental hygiene care.   | NO  | NO | NA<br>NA<br>NA                 |
| 14. | The graduate delivers and/or manages planned dental hygiene treatment and education in sequence and in accordance with accepted standards of care.                                  | NO  | NO | NA<br>NA<br>NA                 |

## Evaluation and Grading

The standard university grading scale will be used. Grades will not be curved.

|                       |          |    |         |    |
|-----------------------|----------|----|---------|----|
| <b>Grading Scale:</b> | 94 - 100 | A  | 77 - 79 | C+ |
|                       | 90 - 93  | A- | 73 - 76 | C  |
|                       | 87 - 89  | B+ | 70 - 72 | C- |
|                       | 83 - 86  | B  | 67 - 69 | D+ |
|                       | 80 - 82  | B- | 60 - 66 | D  |
|                       |          |    | < 60    | F  |

## **Course Grade Components**

First Exam = 25%

Second Exam = 25%

Final Exam (comprehensive) = 30%

Quizzes and Assignments minus the lowest grade = 20%

## Course Evaluation Methods

1. Quizzes will be given at the beginning of the class (asterisks in the course outline indicate when quizzes will be given). Quizzes are given at the beginning of the hour. Students who arrive late may not take the quiz. Quizzes will cover material presented since the last quiz unless announced otherwise. Quizzes may not be made up. The lowest quiz grade will be dropped.
2. Additional assignments will be given periodically during the course. These assignments will count as one or more quiz grades as determined and announced by Dr. Merchant.
3. Major exams (3) will be given as scheduled. It is required that all students take the examination as scheduled. **If illness or other extenuating circumstances precludes taking an examination with the class, an alternative examination will be scheduled; however, the grade recorded will be 90% of the earned grade.**

## **Textbooks and Resource Materials:**

Talaro KP. *Foundations in Microbiology*, 6th edition. McGraw-Hill, St. Louis, 2008. To be used both for this course and courses in fall and winter. Copies on reserve in Dental Library.

Handouts

| <b>Date</b>                            | <b>Time</b>  | <b>Lecture Topic</b>  |
|--|--------------|---|
| Tuesday, June 3                        | 1:00-1:50 pm | Introduction to Course and Microbiology                             |
| Thursday, June 5                       | 1:00-2:50 pm | Microorganisms in health and disease I                              |
| Tuesday, June 10                       | 1:00-1:50 pm | Microorganisms in health and disease II                             |
| *Thursday, June 12                     | 1:00-2:50 pm | Normal flora  |
| Tuesday, June 17                       | 1:00-1:50 pm | <b>Exam 1</b>   |
| Thursday, June 19                      | 1:00-2:50 pm | Innate immunity   |
| Tuesday, June 24                       | 1:00-1:50 pm | Development of specific immunity                                    |
| *Wednesday, June 25                    | 1:00-2:50 pm | Specific immunity: antibodies and the cell-mediated immune response |
| <b>June 30 – July 4 – Summer Break</b> |              |   |
| Tuesday, July 8                        | 1:00-1:50 pm | Specific immunity: the cell-mediated immune response II             |
| *Thursday, July 10                     | 1:00-2:50 pm | Immunization and immune responses to infection                      |
| Tuesday, July 15                       | 1:00-1:50 pm | <b>Exam 2</b>   |
| Thursday, July 17                      | 1:00-2:50 pm | Disorders in immunity   |
| Tuesday, July 22                       | 1:00-1:50 pm | Immunodeficiency diseases   |
| *Thursday, July 24                     | 1:00-2:50 pm | HIV and AIDS  |
| As scheduled                           |              | <b>Final Exam</b>   |