Course Name: Basics of Oral Microbiology
Course Coordinator: Dr. Hossain Najar
Course Number: DHYG 106
Number of Credits: 3

Target Audience: This course is an introductory core course for students in the Entry-to-Practice option of the Dental Hygiene Degree Program.

Course Format: Classroom-based, First year, 1 Term (Fall)

Calendar Course Description:
Basic principles in the study of microorganisms and their relation to human health for dental hygiene students.

Program Course Description:
This course will assist learners in gaining foundation knowledge regarding the basic structure and function of microorganisms. Learners will also gain a basic understanding of the immune system in health and disease. The course will include the basic epidemiology of common oral pathogens and measures to prevent their transmission in oral health care settings.

Course Goals:
- To facilitate an understanding of how pathogens interact with the body and the immune systems response to these pathogens.
- To foster the integration of scientific knowledge into dental hygiene practice with a particular focus on infection control.

Learning Outcomes:
Upon completion of this course, the student will be able to:
- Describe the structure of bacteria, viruses, and fungi and how they function in an infectious situation.
- Integrate structure and function with the principles of chemotherapeutics.
- Distinguish between different types of viral infections.
- Explain the cells and cellular mechanisms involved in both innate and specific immunity.
- Explain how the immune system functions in bacterial and viral infections.
- Distinguish between the hypersensitivities that are involved in tissue destruction.
- Describe how the immune system is involved in a number of autoimmune conditions.
- Describe the etiology and pathogenesis of a number of infections important in dental hygiene practice.
- Describe the role of oral microflora in the etiology and pathogenesis of oral disease.
- Explain the principles of infection control and their integration into oral health practice contexts.
- Demonstrate professionalism by taking responsibility for learning, and making constructive contributions to the learning of others through course activities and projects.

**Course Content:**

Topics include but are not limited to:

- Bacterial properties, structure, metabolism and function
- Animal virology/types of infection
- Antibiotics and chemotherapy
- Innate & specific immune systems
  - Molecules which bind antigen/antibody, T cell receptor, MHC
  - Cell cooperation in the immune response
  - Complement system
  - Defense against microorganisms
  - Infection and inflammation
  - Regulation of the immune response
  - Hypersensitivity reactions
  - Autoimmunity
  - Immunodeficiency
  - Vaccines
- Microbial diagnosis
  - Infections of the skin and mucous membranes, respiratory, and digestive systems
  - Oral microflora
- Infection control in oral health care settings
Method of Student Assessment:

<table>
<thead>
<tr>
<th>UBC Dental Hygiene Competencies assessed include:</th>
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<tbody>
<tr>
<td>Professionalism</td>
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<tr>
<td>Health Promotion</td>
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<tr>
<td>Oral Health Education</td>
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<tr>
<td>Oral Disease Prevention</td>
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<td>Clinical Therapy</td>
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<tr>
<td>Critical Thinking</td>
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<tr>
<td>Research Use</td>
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<tr>
<td>Foundational knowledge related to the process of dental hygiene care</td>
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</tbody>
</table>

1. **Professionalism** (all course related environments)  
   Professionalism must be passed as outlined in all of the following documents:
   - “Professional Standards for Learners and Faculty Members in the Faculties of Medicine and Dentistry at the University of British Columbia”, the “Code of Ethics”, (2015-16 UBC Faculty of Dentistry Academic Policies and Procedures, Undergraduate Programs (DMD, IDDPC, DHDP))
   - The UBC “Student Declaration and Responsibility” statement

   1. **Mid-term: Instructor Assessment**
   2. **End of Term: Instructor Assessment**

2. **Knowledge**

   a. Quizzes (10%)
   b. Midterm Examination (30%)
   c. Final Examination (35%)

3. **Abilities**

   a. Bibliography of studies related to microbiology (10%)
   b. Analysis of Best Practice Standards in Infection Control (Teamwork) (15%)*
Total 100%

*NOTE: You will be working collaboratively in teams to complete a course assessment. If there is evidence to suggest that an individual did not contribute substantively to a team project, the grade for that person may be less than the overall team grade.

Student Assessments include the following 3 components:
Professionalism, Knowledge and Abilities.
Each component must be passed to successfully complete the course.
The passing grade in the Faculty of Dentistry is 60%.

Plagiarism

In order to support the academic integrity of the dental and dental hygiene programs by reducing opportunities for plagiarism and to ensure a level playing field for all students, faculty reserve the right to submit papers and grad theses to turnitin.com to confirm the originality of the material. Students may obtain more information on turnitin.com from the Office of the Provost and VP Academic.

Plagiarism, which is the submission of someone else's work as one's own without acknowledging the source of the material, is considered to be both academic misconduct and unprofessional, and students who plagiarize will not only receive a grade of zero on the applicable assignment, and therefore the applicable Module or Course, they may be suspended from the University or subject to other academic discipline.

When completing written assignments, students are expected to review multiple sources of information and report their findings in their own words. It is the responsibility of students to familiarize themselves with what constitutes plagiarism and how to prevent it.

Suspected incidents of plagiarism will be referred immediately to the President's Committee for Academic Misconduct. See the Policies and Regulations > Student Conduct and Discipline section of the UBC Calendar.

Resources:
http://learningcommons.ubc.ca/guide-to-academic-integrity/
http://vpacademic.ubc.ca/integrity/ubc-regulation-on-plagiarism/
http://www.lib.sfu.ca/help/tutorials/plagiarism-tutorial
http://okanagan.students.ubc.ca/calendar/index.cfm?tree=3,54,111,0.