BIOL 2201, Microbiology for Health Professionals, 
Summer II, 2015, 3 Credits

Instructor: Chris R. Reisch, Ph. D.  
Email: crreisch@mit.edu

June 22-July 9,  M T W Th,  1:00-4:00 p.m.  
Room: Higgins 225

Office Hours: By appointment

Boston College Mission Statement
Strengthened by more than a century and a half of dedication to academic excellence, Boston College commits itself to the highest standards of teaching and research in undergraduate, graduate and professional programs and to the pursuit of a just society through its own accomplishments, the work of its faculty and staff, and the achievements of its graduates. It seeks both to advance its place among the nation's finest universities and to bring to the company of its distinguished peers and to contemporary society the richness of the Catholic intellectual ideal of a mutually illuminating relationship between religious faith and free intellectual inquiry.

Boston College draws inspiration for its academic societal mission from its distinctive religious tradition. As a Catholic and Jesuit university, it is rooted in a world view that encounters God in all creation and through all human activity, especially in the search for truth in every discipline, in the desire to learn, and in the call to live justly together. In this spirit, the University regards the contribution of different religious traditions and value systems as essential to the fullness of its intellectual life and to the continuous development of its distinctive intellectual heritage.

Course Description
This course is a study of the basic physiological and biochemical activities of bacteria and viruses. Emphasis will be placed on virulence factors and the mechanism by which a variety of microorganisms and viruses establish an infection. The use of anti-viral drugs and antibiotics, the host immune response to microbial infection, and the effectiveness of various vaccination strategies will also be discussed.

Course Objectives
In this course, students will gain factual knowledge pertaining to microbiology and epidemiology and learn the fundamental principles of infectious diseases. Students will apply the course material through discussions and exam questions related to the following:
   1. Differences between prokaryotic and eukaryotic cells
   2. How the physiology and genetics of organisms determine their pathogenicity
   3. Epidemiology and diagnosis of infectious diseases
   4. Host mechanisms used to control infections
   5. Differences between bacterial, fungal, and viral infections

In addition:
   6. The student will demonstrate knowledge across cultural settings and will learn the impact of culture, gender, and age in microbiology epidemiology as demonstrated by group discussions and exam questions
   7. The student will demonstrate ethical knowledge pertaining to microbiology and epidemiology as demonstrated by group discussions and exam questions
Grading

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<tbody>
<tr>
<td>Exam I</td>
<td>100 pts</td>
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<tr>
<td>Exam II</td>
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<tr>
<td>Exam III</td>
<td>100 pts</td>
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<tr>
<td>Homework/In-class Assignments/Quizzes</td>
<td>100 pts</td>
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<td><strong>Total</strong></td>
<td><strong>400 pts</strong></td>
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Summer Grading System
The undergraduate grading system consists of twelve categories: A (4.00), A- (3.67), excellent; B+ (3.33), B (3.00), B- (2.67), good; C+ (2.33), C (2.00), C- (1.67), satisfactory; D+ (1.33), D (1.00), D- (.67), passing but unsatisfactory; F (.00), failure; I (.00), incomplete; F (.00), course dropped without notifying office; W (.00), official withdrawal from course. The graduate grading system is A (4.00), A- (3.67), Excellent; B+ (3.33), B (3.00), good; B- (2.67), C (2.00), passing but not for degree credit; F (.00), failure.

Grade Reports. All students are required to log into the web through Agora to access their summer grades. Students must utilize their BC username and password to log on. If your username or password is not known, the HELP Desk located in the Campus Technology Resource Center (CTRC) in O’Neill Library will issue a new one. The CTRC requires a valid picture ID (a BC ID, driver’s license or passport) to obtain your password.

Text(s)/Readings (Required)

Burton’s Microbiology for the Health Sciences
Authors: Paul G. Engelkirk, Janet L. Duben-Engelkirk, Gwendolyn R. Wilson
ISBN: 1605476730

Text(s)/Readings (Recommended)

Additional reading may be provided as appropriate.

Important Policies

http://www.bc.edu/content/bc/schools/advstudies/guide/academicinteg.html

Written Work
Graduate and undergraduate students are expected to prepare professional, polished written work. Written materials must be typed in the format required by your instructor. Strive for a thorough, yet concise style. Cite literature appropriately, using APA, MLA, CLA format per instructors decision. Develop your thoughts fully, clearly, logically and specifically. Proofread all materials to ensure the use of proper grammar, punctuation, and spelling. You are encouraged to make use of campus resources for refining writing skills as needed [http://www.bc.edu/libraries/help/tutoring.html].
Scholarship and Academic Integrity
It is expected that students will produce original work and cite references appropriately. Failure to reference properly is plagiarism. Scholastic dishonesty includes, but is not necessarily limited to, plagiarism, fabrication, facilitating academic dishonesty, cheating on examinations or assignments, and submitting the same paper or substantially similar papers to meet the requirements of more than one course without seeking permission of all instructors concerned. Scholastic misconduct may also involve, but is not necessarily limited to, acts that violate the rights of other students, such as depriving another student of course materials or interfering with another student’s work.

Request for Accommodations
If you have a disability and will be requesting accommodations for this course, please register with either Dr. Kathy Duggan (dugganka@bc.edu), Associate Director, Connors Family Learning Center (learning disabilities or AHD) or Dean Paulette Durrett, (paulette.durrett@bc.edu), Assistant Dean for students with disabilities, (all other disabilities). Advance notice and appropriate documentation are required for accommodations. http://www.bc.edu/content/bc/libraries/help/tutoring/specialservices.html.

Attendance
Class attendance is an important component of learning. Students are expected to attend all classes and to arrive by the beginning of and remain for the entire class period. When an occasion occurs that prevents a student from attending class, it is the student’s obligation to inform the instructor of the conflict before the class meets. The student is still expected to meet all assignment deadlines. If a student knows that he or she will be absent on a particular day, the student is responsible for seeing the instructor beforehand to obtain the assignments for that day. If a student misses a class, he or she is responsible for making up the work by obtaining a classmate’s notes and handouts and turning in any assignments due. Furthermore, many instructors give points for participation in class. If you miss class, you cannot make up participation points associated with that class. Types of absences that are not typically excused include weddings, showers, vacations, birthday parties, graduations, etc. Additional assignments, penalties and correctives are at the discretion of the instructor. If circumstances necessitate excessive absence from class, the student should consider withdrawing from the class. In all cases, students are expected to accept the decision of the instructor regarding attendance policies specific to the class.

Consistent with our commitment of creating an academic community that is respectful of and welcoming to persons of differing backgrounds, we believe that every reasonable effort should be made to allow members of the university community to observe their religious holidays without jeopardizing the fulfillment of their academic obligations. It is the responsibility of students to review course syllabi as soon as they are distributed and to consult the faculty member promptly regarding any possible conflicts with observed religious holidays. If asked, the student should provide accurate information about the obligations entailed in the observance of that particular holiday. However, it is the responsibility of the student to complete any and all class requirements for days that are missed due to conflicts due to religious holidays.

There may be circumstances that necessitate a departure from this policy. Feel free to contact the Summer Session Office at 617-552-3800 for consultation.

Deadlines
Assignments are due at the beginning of the class period on the specified dates. Late assignments will result in point deductions equaling 10% of the total possible points for each day late. If it is necessary to turn in a late assignment contact the instructor immediately.
There is NO curve for this class and extra credit will be provided at the instructor’s discretion and ONLY in cases where it is given to the entire class. If any assignment is graded incorrectly, you have **one week** from the time the assignment is returned to contest the grading. Re-grade requests must be made in writing and directly to the instructor. The request must clearly state why the assignment or particular question should be re-graded. After the one week period, assignments can be discussed for clarification, but no grade changes will be granted.

**Course Assignments**

It is expected that 24 hours (2 hours per 1 hour of in class time) per week of your study will be spent on out of class assignments and reading. Please note that some weeks may require more time and some weeks less time but the average is approximately 24 hours per week over the semester.

Students are expected to read any assigned readings **prior** to attending lecture. Over the course of the semester, 100 points can be earned through the completion of homework, in-class assignments, or quizzes. Quizzes may not be announced prior to the time given and may include questions that pertain to information from either the lectures or reading assignments.

Students are expected to complete the following out of class course assignments:

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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading/Exercises</th>
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<tbody>
<tr>
<td>June 22</td>
<td>Introduction to Microbiology</td>
<td>Chapters 1, 2</td>
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<td>June 23</td>
<td>Cell Structure, Microbial Diversity I</td>
<td>Chapters 3, 4</td>
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<td>June 24</td>
<td>Microbial Diversity II, Biochemistry</td>
<td>Chapters 5, 6</td>
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<td>June 25</td>
<td><strong>Exam I</strong>, Physiology</td>
<td>Chapter 7</td>
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<td>June 29</td>
<td>Controlling Microbial Growth</td>
<td>Chapters 8, 9</td>
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<td>June 30</td>
<td>Microbial Ecology, Epidemiology</td>
<td>Chapters 10, 11</td>
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<td>July 1</td>
<td>Microbiology within Healthcare</td>
<td>Chapters 12, 13</td>
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<td>July 2</td>
<td><strong>Exam II</strong>, Pathogenesis of Disease</td>
<td>Chapter 14</td>
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<td>July 6</td>
<td>Host Defense Mechanisms</td>
<td>Chapters 15, 16</td>
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<td>July 7</td>
<td>Viral and Bacterial Infections</td>
<td>Chapters 17, 18, 19</td>
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<td>July 8</td>
<td>Fungal and Parasitic Infections</td>
<td>Chapters 20, 21</td>
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<td>July 9</td>
<td><strong>Exam III</strong></td>
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