RCC Micro 1 Night Lecture Syllabus: Spring 2010

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Office Hrs: T/Th 10.30-12.30pm, Th 2-4pm. And by appointment M/W/F.

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Required Text: Foundations in Microbiology, K.P. Talaro 6th/7th Ed.

Welcome to Microbiology 1 Lecture! This course is an introduction to the major groups of microorganisms & the diseases they cause. We will study the general characteristics of microbes including their morphology, metabolism, growth, reproduction and control. We will also explore the role of microorganisms in disease and body defenses. Emphasis will be placed on microbial applications and techniques relevant to the biomedical field for students entering health related professions.

PREREQUISITES: CHE-2A & any ONE of the following: AMY 2A, 2B, 10, BIO1, 2A, 2B, 5, 8, 11, 12 or 34.

PRIOR TO ENTRY to this course, you should be able to:

- Solve basic level problems relating to the metric system, unit conversions and dilutions.
- Relate the principles of chemistry to biological molecules.
- Describe the basic chemical structure and function of biological molecules.
- Relate chemical concepts to physical phenomena in the areas of health, the environment & their everyday lives.
- Describe the nature of chemicals & their properties, chemical bonding, reactions, mixtures, atoms, molecules, acids, and bases.
- Analyze experimental results and utilize scientific method

BY THE END OF THIS COURSE, you should be able to:

- Describe the contribution of important figures in microbiology.
- Compare and contrast the major taxonomic groups of microorganisms.
- Compare and contrast the structure and physiology of prokaryotic & eukaryotic cells.
- Be able to define the major biochemical molecules and explain the important biochemical pathways.
- Apply the principles of microbial physiology and metabolism to their growth requirements and control in vivo and in vitro.
- Relate genotype to phenotype, inventory the mechanics of microbial reproduction.
- Explain the genetic mechanisms of microbial variability, including its role in the development of antibiotic resistance.
- Compare nonspecific with specific defense mechanisms.
- Evaluate immunological tests and procedures.
- Evaluate the beneficial and detrimental aspects of the immune system.
- Analyze the etiology and epidemiology of infectious disease.

Your understanding of all concepts, vocabulary, and protocols presented during lecture and by your textbook are subject to evaluation. Your success in this class depends on you! Microbiology is an exciting & dynamic field of study - I hope you enjoy this class!

Attendance & Punctuality: Attendance is mandatory and will be taken at the beginning of the class. It is your responsibility to check in on the attendance sheet - this is a legal document and may not be changed after the class ends. Late students are not permitted to take the weekly quiz so do your best to arrive on time or you are likely to lose points. I reserve the right to drop you from the course or issue a failing grade if you miss more than 5 hours of lecture. It is your responsibility to drop yourself if you decide to stop attending the class, don’t assume that I will.

Missing a Midterm or the Final: will result in an "F" for the class and cannot be made up except under exceptional circumstances with full documentation. (FYI: vacations, birthdays, weddings, and sporting events do NOT count as exceptional circumstances!). You must make every effort to contact me if you have a problem - I expect to be contacted within 24 hours of the exam with full validation of your exceptional circumstances to follow. Problems and Good Communication: If you talk to me of a problem
ahead of time, then given sufficient time, it may be possible for you to take an exam early. Please do not
take it for granted that I will be able to accommodate you given the number of students in the class and your
professor’s busy schedule! There are no make-up quizzes - but one will be dropped.

Lecture Grade: The lecture portion of the class is worth 75% of your class grade while the lab is worth
25%. In lecture there will be 3 Midterms (100 points each), the Final Exam (200 points) as well as weekly
quizzes based on homework and lectures (10 points each) and other assignments (Variable points).
Additionally you may be awarded supplemental points for participation, effort and professionalism. Your
lab grade (%) will be combined with your lecture grade (%) to produce your FINAL MICROBIOLOGY
GRADE. Grading Scale: The approximate grading scale for the course is as follows:
A = 90 - 100%  B = 80 - 89%  C = 65 - 79%  D = 55 - 65%  (Below 55% = F)

Homework & Disease Cards: At the beginning of the course you will receive the entire list of 75-80
diseases that are to be completed by the end of the Microbiology semester. Each week you will be
assigned a textbook chapter/s to read based on class lecture (see syllabus) and 8 to 10 specific diseases
from the disease list to research. Guidelines will be given during the first week of the semester on how
best to research & make your own disease cards using your own words (see my website). Commercial
disease cards may not be purchased. Do not lend your cards to other students. Bring your cards into class
every lecture, as I reserve the right to collect them in at any time during the semester.
Weekly Quizzes: Quizzes worth 10 points will be given at the beginning of the lecture period and will be
based partly on lecture material and partly on the 8-10 assigned diseases of the week. Missed quizzes
cannot be made up. Please arrive promptly to class, as quizzes may not be taken late. In order to be
eligible to have your quiz graded, you must be present for the entire lecture for that day. One quiz will be
dropped.

Additional Assignments: Any additional assignments will be discussed in class and must be handed in on
the correct due date at the beginning of class. No late assignments will be accepted - however you may
turn them in early. Assignments are not limited to, but may include any one or more of the following:
homework exercises, work sheets, graphs, data analysis, tables & charts, drawings, study cards, oral/ppt
presentations, group talks, a written scientific paper, persuasive reports and critiques of published
scientific papers.

Cell phone/Blackberry use/Beepers & Texting during class: is NOT acceptable; please turn them off or
set them to "silent mode" during class or you will be asked to leave the classroom. Deductions for use of
electronic devices and other specified infractions will be at the discretion of the professor. You may not
use any dictionary, translation devices, or calculators during exams or quizzes.

Policies and Academic Honesty: All exams and assignments must be your own work, original and written in
your own words in order to receive credit for the activity. You will be expected to adhere to the College’s
policies on academic honesty at all times. Anyone caught cheating, copying or plagiarizing on exams,
quizzes, assignments or any other work for this course will be issued a failing grade for the assignment,
removed from the classroom and subject to severe institutional disciplinary action according to RCC policy.
A failing grade in the course will be issued for a second offense of cheating. A student who has been
cought cheating or plagiarizing (or any other instance of academic dishonesty) will become ineligible for
any discretionary points retroactive to the beginning of the semester.

Accommodations: Please keep me informed. If you have a documented physical, psychiatric/emotional,
medical, or learning disability that may impact your ability to carry out assigned course work, I urge you to
contact the staff in Disabled Students Programs and Services at 222-8060. DSP&S will review your concerns and determine, with you what accommodations are necessary and appropriate. All information and documentation is confidential.

<table>
<thead>
<tr>
<th>Wk</th>
<th>Date</th>
<th>UNIT 1 Introduction to Microbiology</th>
<th>Chapter</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Feb 17, 18.</td>
<td>Introduction. Survey of Microbes &amp; Diseases, Epidemiology</td>
<td>1, 13</td>
</tr>
<tr>
<td>3</td>
<td>Mar 3, 4.</td>
<td>Prokaryotic Cells, (Tools - Microscopy)</td>
<td>4, (3)</td>
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<td>4</td>
<td>Mar 10.</td>
<td>Exam #1 Red ParScore Half sheet Form Selected Diseases &amp; Ch. 1-4, 13</td>
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<thead>
<tr>
<th>Wk</th>
<th>Date</th>
<th>UNIT 2 Bacterial Growth and Cell Division</th>
<th>Chapter</th>
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<tbody>
<tr>
<td>5</td>
<td>Mar 17, 18.</td>
<td>Eukaryotic Cells. Microbial Metabolism</td>
<td>5, 8</td>
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<tr>
<td>6</td>
<td>Mar 24, 25.</td>
<td>Microbial Metabolism. Microbial Growth</td>
<td>8, 7</td>
</tr>
<tr>
<td>7</td>
<td>Mar 31, A 1.</td>
<td>Microbial Growth. Microbial Genetics</td>
<td>7, 9</td>
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<td>8</td>
<td>Apr 7.</td>
<td>Microbial Genetics</td>
<td>9</td>
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<tr>
<td>8</td>
<td>Apr 8.</td>
<td>Exam #2 Red ParScore Half sheet Form Selected Diseases</td>
<td>3,5,7,8,9</td>
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<td>Apr</td>
<td>12 - 16.</td>
<td>- - - SPRING BREAK - - -</td>
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<th>Wk</th>
<th>Date</th>
<th>UNIT 3 Control of Microbes</th>
<th>Chapter</th>
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<tr>
<td>9</td>
<td>Apr 21, 22.</td>
<td>Physical &amp; Chemical Control of Microbial Growth.</td>
<td>11</td>
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<td>10</td>
<td>Apr 28, 29.</td>
<td>Chemotherapy</td>
<td>12</td>
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<td>12</td>
<td>May 12, 13.</td>
<td>Specific Immunity</td>
<td>15</td>
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<td>13</td>
<td>May 19.</td>
<td>Exam #3 Red ParScore Half sheet Form Selected Diseases</td>
<td>11,12,14,15</td>
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<thead>
<tr>
<th>Wk</th>
<th>Date</th>
<th>UNIT 4 The Disease Process and Diseases</th>
<th>Chapter</th>
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<tbody>
<tr>
<td>13</td>
<td>May 20.</td>
<td>Disorders of Immunity. Diagnosing Infections</td>
<td>16, 17</td>
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<td>14</td>
<td>May 26, 27.</td>
<td>Viruses. Selected Diseases</td>
<td>18-25</td>
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<td>15</td>
<td>June 2.</td>
<td>Selected Diseases - Viral, Bacterial, Fungal, Parasitic, Prions</td>
<td>18-25</td>
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<td>16</td>
<td>June 9.</td>
<td>FINAL EXAM: 8 am - 10.30 am (Note Early Time!!)</td>
<td>Comp</td>
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*This is a tentative schedule. Students are responsible for changes in the syllabus. All assignments must be satisfactorily completed to pass.

Last Day to Add: Mar 5, Last Day To Drop Without a "W": March 15, Last Day To Drop With a "W": May 19.