Biology 41- Microbiology

Spring 2006
Instructor: Krista M. Granieri
Office Hours: TBA
Office: 5227
Email: Krista_granieri@westvalley.edu
Website: http://instruct.westvalley.edu/granieri/

Lecture: Monday and Wednesday 5:30-7:50pm  Rm: 5210
Lab: Tuesday and Thursday 5:30-7:20pm or Tuesday and Thursday 7:30-9:20pm  Rm: 5105

An introduction to microbial life in nature, the molecular and biochemical characteristics of microorganisms, and the techniques and procedures used by microbiologists. Emphasis is placed on those microbes that play an important role in human daily life, especially those that cause disease. Topics to be covered include: Morphology, physiology and epidemiology of bacteria, fungi, viruses and parasites. Mechanisms of pathogenicity, host-parasite relationships, the immune response and principles of disease transmission. Laboratory emphasizes isolation, cultivation and identification of bacteria.

Recommended preparation: ESL 25 and ESL 165. Critical reading skills and knowledge of English sentence structure, and ability to comprehend naturally spoken English in academic context.

Prerequisite(s): High school chemistry or CHEM 30A.

Text:
MICROBIOLOGY- Robert W. Bauman
Published by Pearson Education ISBN: 0-8053-7590-2 or 0-8053-7693-3

Lab Manual:
MICROBIOLOGY: Laboratory Theory & Applications- Leboffe & Pierce
Published by Morton Publishers ISBN: 0-89582-612-7

Required supplies:
4 Scantron 882-E Forms- Teal
Lab coat
Disposable lab gloves (available at drug store near the pharmacy)
A roll of ½” masking tape (the stuff used for painting)
An ultra-fine point sharpie
A calculator with log and scientific notation functions
A 3-ringed binder for lab manual

ETUDES:
In order to participate in this course you must log on to the course ETUDES website regularly. There you will find assignments, handouts, lecture pdf’s, grades, messages from your instructor and forums to communicate with other students. The url to access ETUDES is: http://fh.etudes.fhda.edu. Once you have reached this page select the correct term and you will be linked to a list of courses. Scroll down and select the link that says
“BIOL041 GRANIERI TRADITIONAL: MICROBIOLOGY”. This will take you to the login page for the course. BOOKMARK THIS PAGE. If you have been enrolled in the course for at least 24 hours, you can log in by typing your last name in all lowercase letters followed by the last four digits of your student ID (for example, mine would be granieri1234). Leave the password blank the first time and you will be prompted to create one. If you have not been enrolled in the course for at least 24 hours, you can still log and access most of the site by using the username “guest” and password “guest”.

### Grading Protocol: Your grade will be based on the following:

#### Lecture:
- Lecture Exams (3 @ 175pts) | 525
- Final Exam | 225
- Lecture Total | 750

#### Lab:
- Lab Quizzes (4 @ 25pts) | 100
- Lab Practical Exam | 50
- Lab Participation | 25
- Unknown | 50
- Gram Stain Practical | 25
- Lab Total | 250

A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%
F ≤ 60%

You must pass both the lab and the final exam to pass the course!

#### Lecture:
- **Three Lecture Exams:** (175pts each) The lecture exams may include any material covered in the lectures up to the lecture prior to the exam date. These exams may include multiple-choice, true-false, matching, fill-in and short answer questions. These will require Scantron 882-E forms (the teal-colored ones).

- **Comprehensive Final Exam:** (225 pts) It will have two sections. The first half will contain material covered since the last in-class exam and the end of the semester. The second half will contain material covered throughout the course. It will be the same general format as regular exams and will require a Scantron 882-E form.

#### Extra Credit:
- **Study Guides:** up to 5pts each (20pts) Study guides are optional but effective tools to help prepare for lecture exams. Students who follow the study guide and write down their answers tend to do better on exams than those who do not. Study guides that are written out on separate sheets are worth up to 5 points toward the exam. You may work on study guides together; however, each student must turn in their own work (no photocopies or double computer printouts). And NO, you may not turn in your flashcards as a study guide.

- **Perfect lab attendance** - (20pts) Perfect lab attendance means no missed labs for ANY reason and no tardies (5-minute grace excluded). In order to get this extra credit you must attend YOUR lab section. Make-ups will not count.

- **Jeopardy:** up to 5pts each (20pts) In the week preceding each exam we will play “Jeopardy” in class and you will have an opportunity to earn extra credit by correctly responding to the clues.

NOTE: There will be no other extra credit or “make-up” projects as a means of raising grades.
Lab:

Lab Participation: (25pts) Each student starts out with 25 points. It is not hard to get the full 25 points if you are on-time, prepared for class and paying close attention to detail. You can lose these by being late, forgetting to wear a lab coat or gloves, skipping lab, leaving oil on your microscope, not completing the lab assignments, not properly cleaning up your station, etc.

Gram Stain Practical: (25pts) Each student will be required to demonstrate a gram-stain including staining and then focusing the specimens on the microscope under oil.

Unknown: (50pts) Each student will be required to complete an identification of an unknown sample of bacteria. You can find more information this project in your lab manual. It is exercise 5.31 which starts on page 236. You should obtain the Unknown Project Checklist available on the class website (http://instruct.westvalley.edu/granieri/biology41coursepage.html) as soon as possible.

Lab Quizzes (25pts) Lab quizzes will be short answer questions requiring knowledge of vocabulary, lab procedures and topics covered during lab lectures. They may also include calculations and solving simulated laboratory problems. Be sure to bring a scientific calculator with you to these exams.

Lab Practical Exam (50pts) The lab practical exam will be multiple choice questions relating to lab exercises, supplies, specimens and equipment. As with the lab quizzes, they may include calculations and solving simulated laboratory problems. Be sure to bring a scientific calculator with you to this exam.

Important Notes:

Class Attendance Policy: Students are expected to attend lecture and laboratory periods regularly. If you must miss a lecture, be sure to get the notes from a classmate. If you miss a lab, let me know ASAP and you may be able to attend another lab section. If you miss more than two labs, you will be dropped from the course.

MISSED EXAMS: If you miss an exam (for a valid & documented medical/emergency reason) AND contact me within 24 hours, I will try to arrange an alternate time (no guarantees). If you miss more than one exam or if you miss the final you will not pass the course.

Special Needs: If you need special accommodations (for learning or physical disabilities), please see me after the first class so that I can make appropriate adjustments in the class to meet your needs. You may visit the Learning Disability Center if you have any questions.

Cheating Policy: Foothill College (and this instructor) has a strict no cheating policy. Students found cheating on class examinations, quizzes or homework will fail the assignment and may be expelled from this class and/or the college.

Class Schedule: The schedule on the next page is tentative. We will cover as much material as we can during the term. Exams will be given on the Monday of the week indicated.
### Biology 41 - Tentative Lecture Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Reading</th>
<th>Lecture Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4-10</td>
<td>Ch. 1</td>
<td>Introduction to Microbiology</td>
</tr>
<tr>
<td></td>
<td>4-12</td>
<td>Ch. 2</td>
<td>Biochemistry: Biological Molecules</td>
</tr>
<tr>
<td>2</td>
<td>4-17</td>
<td>Ch. 3</td>
<td>Eukaryotic Cell Structures and Functions</td>
</tr>
<tr>
<td></td>
<td>4-19</td>
<td></td>
<td>Eukaryotic Cell Structures and Functions</td>
</tr>
<tr>
<td>3</td>
<td>4-24</td>
<td>Ch. 3</td>
<td>Prokaryotic Cell Structures and Functions</td>
</tr>
<tr>
<td></td>
<td>4-26</td>
<td>Ch. 3</td>
<td>Prokaryotic Cell Structures and Functions</td>
</tr>
<tr>
<td>4</td>
<td>5-1</td>
<td></td>
<td>EXAM I</td>
</tr>
<tr>
<td></td>
<td>5-3</td>
<td>Ch. 5</td>
<td>Microbial Metabolism</td>
</tr>
<tr>
<td>5</td>
<td>5-8</td>
<td>Ch. 5</td>
<td>Microbial Metabolism</td>
</tr>
<tr>
<td></td>
<td>5-10</td>
<td>Ch. 7</td>
<td>Microbial Genetics</td>
</tr>
<tr>
<td>6</td>
<td>5-15</td>
<td>Ch. 7</td>
<td>Microbial Genetics</td>
</tr>
<tr>
<td></td>
<td>5-17</td>
<td>Ch. 8</td>
<td>DNA Technologies</td>
</tr>
<tr>
<td>7</td>
<td>5-22</td>
<td></td>
<td>EXAM II</td>
</tr>
<tr>
<td></td>
<td>5-24</td>
<td>Ch. 9</td>
<td>Microbial Control I</td>
</tr>
<tr>
<td>8</td>
<td>5-29</td>
<td></td>
<td>Memorial Day holiday observance. College closed</td>
</tr>
<tr>
<td></td>
<td>5-31</td>
<td>Ch. 10</td>
<td>Microbial Control II</td>
</tr>
<tr>
<td>9</td>
<td>6-5</td>
<td>Ch. 14</td>
<td>Epidemiology</td>
</tr>
<tr>
<td></td>
<td>6-7</td>
<td>Ch. 14</td>
<td>Pathogenicity</td>
</tr>
<tr>
<td>10</td>
<td>6-12</td>
<td></td>
<td>EXAM III</td>
</tr>
<tr>
<td></td>
<td>6-14</td>
<td>Ch. 13</td>
<td>Viruses</td>
</tr>
<tr>
<td>11</td>
<td>6-19</td>
<td>Ch. 12 &amp; 23</td>
<td>Protozoan Parasites</td>
</tr>
<tr>
<td></td>
<td>6-21</td>
<td>Ch. 23</td>
<td>Helminths &amp; Ectoparasites</td>
</tr>
<tr>
<td>12</td>
<td>6-26</td>
<td>Ch. 15 &amp; 16</td>
<td>Immunity</td>
</tr>
<tr>
<td></td>
<td>6-28</td>
<td></td>
<td>FINAL EXAM</td>
</tr>
</tbody>
</table>

### Important Dates:
- **April 10** Spring classes begin.
- **April 10-21** Late registration accepted with instructor’s signature.
- **April 21** Deadline to drop a class and still qualify for a refund.
- **May 5** Deadline to drop a class without a grade.
- **May 5** Deadline to file pass/no pass card.
- **May 29** Memorial Day holiday observance. College closed; classes do not meet.
- **June 2** Deadline to withdraw from a 12-week class with a "W".
- **June 27-30** Final exams.

### Evening classes (after 5 p.m.) and all off-campus classes:
Your final exam will be given at the regular class hours on the first regular class meeting during finals week or as announced by the instructor.

- Spring Quarter 2006 - Finals Week is June 27-30.