Biology 139: General Microbiology
Spring 2006
Group C section 8
Monday/Wednesday 12:00 noon-1:15 PM
Eureka Hall 107

Instructor: Amy Rogers, M.D., Ph.D.

Office Hours: Sequoia Hall #530
Wednesdays 9:00-10:00 AM, most Mondays, and by request

Contact info: rogersa@csus.edu
278-7152 (office; phone messages are checked infrequently)

Website: www.csus.edu/indiv/r/rogersa/

Required materials:   
  ◆ Microbiology: Principles & Explorations 6th ed. 
  5th edition is also acceptable. 
  ◆ Four Scantron 882 forms (bring one to each exam) 
  See lab syllabus for additional materials.

Labs: Section 9 MW 1:30-2:45 PM Humboldt 216
      Section 10 MW 3:00-4:15 PM Humboldt 216
      {Each student must attend one of these labs.}

Catalog Description BIO 139: General Microbiology. Introduction to microorganisms, particularly bacteria and viruses, their physiology and metabolism. Laboratory work includes aseptic techniques, methods of cultivating and identifying bacteria, and demonstration of microbial properties. Lecture three hours; laboratory three hours. Fee course. 4 units.

Prerequisites: Biology AND organic chemistry; specifically, Bio 10 or 20; plus one of Chem 6B, Chem 20, or Chem 24. Strictly enforced; I will check student records and administratively drop any enrolled students who lack the necessary course prerequisites. (Exception: BioSci majors may concurrently enroll in my class and Chem20/24.) On their own, students are expected to review textbook chapter 2 (basic biologically relevant chemistry) and will be quizzed on it in the second week of class.

Welcome!
For millennia, humans lived their lives oblivious to everything you are about to discover. Their ignorance cost them dearly in many ways. As you make your journey through this course, learn to recognize the profound importance of microbes in the kitchen; in the hospital; in the soil, water and air; in your life! Without microbes, all life on Earth would soon cease to exist: so tiny, yet so important. Be amazed that with microscopes, human vision extends to the atomic level. Consider that the very notion of “germs” is a modern scientific concept, and that most antibiotics did not exist when your grandparents were born. The knowledge contained in your textbook is precious beyond measure; I hope you will be excited to learn it!

Bio 139 course content will vary somewhat between instructors. My experience and interests in microbiology emphasize medical, molecular, and immunologic aspects of the field; my lectures will reflect this.
Course Policies

You are expected to:

- attend all lectures and labs
- use my website
- turn off cell phone ring tones during class
- be respectfully attentive during lecture, and ask questions!
- prepare adequately in advance of each class meeting
- seek help when needed, the earlier the better

I am available to talk to you beyond my scheduled office hour. Just ask! Feel particularly free to email me questions anytime.

This is a challenging course. My goal is to present complex material with clarity. Your job is to put in the effort required to excel. Remember that for every 1 hour of class, you will need to spend many hours reading and studying on your own. **Do not attempt to “cram” for Bio 139.** It is imperative that you keep up, week by week. Do not allow yourself to fall behind. Study groups may be extremely useful for some of you. **Talk to me** about your problems or concerns.

**Drop Policy:**

*This is a popular course with a wait list. As a courtesy to your fellow students, if you plan to drop, PLEASE do it before the start of the second week, and CONTACT ME by email immediately so I can give your spot to someone else.*

Standard CSUS policy applies to dropping Bio 139. **Weeks 1 & 2** (by Sept. 15th): Drop on CASPER. **Weeks 3 & 4** (by Oct. 2nd): Drop only with signed permission of instructor and department chair. **Weeks 5 & 6** (by Oct. 13th): Drop only for documented “serious and compelling reason” with signed approval of dept. chair and dean.

All **ADDS** to the course will be handled by the instructor within the first 3 course meetings.

**Assignments:**

1. Visit my website frequently [http://www.csus.edu/indiv/r/rogersa/](http://www.csus.edu/indiv/r/rogersa/) You will find:
   - my lecture PowerPoint presentations in a printable form;
   - lab “lecture” notes;
   - exam review sheets, and answer keys for exams;
   - required news articles (see #3 below)
   - most handouts

2. **Before coming to class,** preview the chapter(s) which will be covered in lecture. You may want to print out my PowerPoint lectures and bring them to class with you.

   At the end of EVERY chapter, you should answer the Critical Thinking and Self Quiz questions (answers are found at the back of the book). This is an excellent way
to assess your understanding of the chapter, and some of these questions are likely to appear on your exams.

Textbook also has a website with helpful animations, sample quizzes, more: 
www.wiley.com/college/black

3. Every Thursday I will post a news article related to microbiology on my website. Some short questions will be given just to prove that you read it. Please write your answer(s) and turn them in at lecture within 2 weeks. Please, don’t cheat! This will be easy and interesting.

4. During the semester, read ONE of the books from the attached reading list. Write a brief “book report”, and on the final exam, answer a few questions just to prove you read it. If you read the book, you should expect to get full credit.

**Grading:**

Note that your lab grade will not appear separately on your transcript but will make up ¼ of your grade for the entire course.

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<thead>
<tr>
<th>Activity</th>
<th>Points</th>
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<tbody>
<tr>
<td>Chemistry quiz</td>
<td>20</td>
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<tr>
<td>Exam #1</td>
<td>100</td>
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<tr>
<td>Exam #2</td>
<td>100</td>
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<tr>
<td>Exam #3</td>
<td>100</td>
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<tr>
<td>Exam #4 (final)</td>
<td>100</td>
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<tr>
<td>Book</td>
<td>20</td>
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<td>Weekly news articles</td>
<td>10+</td>
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<td>Laboratory</td>
<td>150</td>
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<td><strong>Total</strong></td>
<td><strong>600</strong></td>
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**Letter grades:**

A   >92%      A-  90-92%
B+  88-90%    B  82-88%    B-  80-82%
C+  78-80%    C  72-78%    C-  70-72%
D+  68-70%    D  62-68%    D-  60-62%
F   <60%

**Make up exams:**

For compelling reasons only. Instructor reserves the right to request documentation.

You must contact me on the day of the exam.

Maximum of one makeup exam per semester.

Most make-up exams will be performed through the Testing Center. M-R evenings, fee is $6. You must make an appointment directly with the Testing Center within five days of the missed exam at http://www.csus.edu/testing/. Bring your form back to me and I will arrange to have the test there for you on your scheduled date.

Note that Lab Practical Exams cannot be made up.
Honesty
Academic dishonesty of any kind is utterly unacceptable. This includes cheating on exams as well as plagiarism (submitting someone else’s copied work as your own). The consequences of such behavior will be severe, typically with a “0” score assigned for the work in question, and filing of an incident report to the chair and Dean of Students. Common sense rules: Do you own work on the weekly news articles and the book assignment. No talking or any other communication between students during exams. No notes or materials other than the testing materials will be allowed during exams.

THERE WILL BE NO RESTROOM BREAKS DURING EXAMS.
NO PAGERS OR CELL PHONES ALLOWED DURING EXAMS.

Exam schedule
Chemistry quiz (chapter 2): Wednesday, September 13th
Lecture exam #1 Monday, October 2nd
Lecture exam #2 Monday, October 30th
Lecture exam #3 Wednesday, November 22nd
Lecture exam #4 Friday, December 22nd 10:15 AM-12:15 PM

Remember weekly news articles, and to read one of the books.

Sequence of Lecture topics and text chapters

Biological Chemistry (review on your own!!!) Chapter 2
History of Microbiology Chapter 1
Microscopy Chapter 3
Cell Biology of prokaryotes & eukaryotes Chapter 4
Growth & culturing of bacteria Chapter 6
Microbial taxonomy Chapter 9
Sterilization Chapter 12
Metabolism introduction Chapter 5 (start)
Metabolism Chapter 5 (finish)
Microbial Genetics: DNA, RNA, lac operon Chapter 7
Bacterial gene transfers & Genetic Engineering Chapter 8
Antibacterial therapy Chapter 13
Bacterial pathogenesis Chapters 14/15+
Viruses Chapter 10 (start)
Prions Chapter 10 (finish)
Protozoa Chapter 11
Antiviral therapy Chapter 13
Immunology, vaccines Chapters 16/17+
Industrial microbiology Chapter 26