



Victor Valley College
Biology 221
GENERAL
MICROBIOLOGY
Section 21767
Fall 2008, 5 units

COURSE DESCRIPTION:

This course is an introduction to bacteria, viruses, and parasitic forms of protozoa, helminths, and fungi. We will examine morphological, physiological, and epidemiological characteristics of these organisms and of the immune response produced by their hosts. The course also includes laboratory diagnostic procedures for culture and identification of pathogenic bacteria and instruction in basic serological and immunological technique. Prerequisite for VVC Nursing Program. Transferable to UC AND CSU as general laboratory science.

COURSE DAYS AND TIMES:

Tuesdays and Thursdays, 12:45-2:10 p.m. (lecture) & 2:10-5:20 p.m. (lab) in SL-3

INSTRUCTOR INFORMATION FOR PAM MACKAY:

Office hours: Mondays through Thursdays, 11:30-12:20 p.m. in office SL-20

Phone: (760) 245-4271, ext. 2467;

Email: mackayp@vvc.edu or pjmackay@verizon.net

VVC Website: <http://www.vvc.edu/academic/biology/MacKayP2/pamshome.htm>

MATERIALS NEEDED:

Textbook: *Microbiology*, 2006 edition, by Bauman

Laboratory Manual: *Microbiology Laboratory*, 2007 edition, by MacKay & Gibbs

Lecture Outlines: Microbiology lecture outlines for MacKay's sections

Other materials needed: Scientific calculator with \ln or \ln_x and e^x keys, 11 Scantron forms (full-page, 100 question forms with space for essays), and #2 pencil, sharpie marker, masking tape, close-toed shoes, and hair-tie for laboratory

Optional: Lab coat, goggles, colored pencils, flash cards

FALL SEMESTER CALENDAR INFORMATION:

August 25 – Instruction begins

September 1 – Labor Day holiday – No VVC classes

November 4 – Last day to drop this course and receive a 'W'

November 10 – Veteran's Day Holiday – No VVC classes

November 27-30 – Thanksgiving Holiday – No VVC classes

December 13 – Fall semester ends

COURSE OBJECTIVES: *The student will be able to:*

1. Classify, characterize, and identify selected members of the major groups of pathogenic viruses, bacteria, protozoa, Platyhelminthes, and Nematoda using standard methods of binomial nomenclature.
2. Describe the various methods of sterilization and disinfection, their safe use, selectivity, and tests that measure their efficacy.
3. Describe the commonly used methods of diagnosis for various protozoan, helminth, bacterial, and viral diseases, including serological tests.
4. Describe the theories of immunological response of a host to antigenic exposure by pathogens, with emphasis on cell-mediated and antibody-mediated responses.
5. Discuss the numerous non-specific methods of resistance afforded the host, including inflammation, phagocytosis, and febrile response.
6. Describe symbioses between infectious organisms and the human host, including parasitic, mutualistic, and commensal relationships.
7. Describe the common metabolic pathways exhibited and virulence factors produced by the major groups of pathogenic bacteria, tests for measuring their products, and drugs for their inhibition or destruction.
8. Apply previously learned genetic concepts of replication, transcription, translation, and recombination to parasite defense strategies and host response.
9. Describe drug resistance in bacteria, fungi, and protozoa, with emphasis on the organism's use of plasmids, episomes, and such processes as conjugation and transduction.
10. Describe the epidemiology of selected diseases including method of transmission, dosage, incubation, vectors, host selection, and stages infective to humans
11. Use aseptic techniques in the laboratory.

GRADING CRITERIA:

<i>Points can be earned by:</i>	<i>Point values:</i>
7 lecture exams @ 150 points each. You will need a Scantron form (any 882 green type with 100 blanks) and a #2 pencil. Covers reading & lecture material. Essays, multiple choice, matching, T/F	1,050 points
4 lab exams (the first one is a lab practical) @ 75 points each	300
Identification of unknown bacteria (2 species, each 100 points)	200
Identification of fungal unknowns (group project)	50
Group quiz questions (most @ 5 points each) and in-class activities (most @ 5-15 points each activity) for a total of 125 points. Open book, open note. No make-ups. All members of group get same score.	175
25 lab safety points are automatically awarded to each student. Deductions for lab spills, carelessness, not following lab rules, or excessive absences may be subtracted during the semester. The student will be immediately informed of point deductions.	25
TOTAL POSSIBLE	1800

SEMESTER GRADE ASSIGNMENT:

<i>Grades will be assigned by point values/percentages:</i>	<i>Grade:</i>
90 to 100% (1620-1800 points)	A
80 to 89.9% (1440-1619 points)	B
70 to 79.9% (1260-1439 points)	C
60 to 69.9% (1080-1259 points)	D
Below 60% (1079 points and below)	F

NOTE ABOUT EXTRA CREDIT

It is a general policy of the biology department NOT to give extra credit points, especially for out-of-classroom work. If any extra credit work is offered in this course, it will be offered to everyone IN THE CLASSROOM only, and it will be for low point values. Total extra credit points offered, at the maximum, will not exceed 3% of the total points available to earn during the entire semester. With 1800 points available, in-class extra credit if offered at all, will not exceed 54 points.

POLICIES:

Syllabus	You must read the entire syllabus by the next class meeting. Continued enrollment constitutes legal acceptance of policies and guidelines herein.
Prerequisites	Prerequisites will be enforced! Must have college Chemistry 100 or 201 <i>and</i> Biology 100, 107, or 201. High school courses, including AP courses, will not suffice. NO EXCEPTIONS!
Attendance	+ <i>Title 5 Section 5502 of the California Code of Regulations</i> states that attendance is not to be used as a basis for performance or proficiency. +Class participation, however, is a valid criterion for grading. It is in your best interest to attend both lab and lecture of this course, since if you are not present, you will miss lecture information that may not be in the text on which you will be tested. Points that are available from participation in in-class group questions and activities cannot be made up. +Excessive absenteeism from microbiology lab (especially the bacteriology component) constitutes a safety hazard; if you are absent you will not be aware of safety issues nor will you be adequately instructed in or skilled at using aseptic technique. Therefore, safety points will be deducted for missing more than two bacteriology lab sessions.

<p>Grading and the state education code</p>	<p>+Reference <i>Title 5 Section 5502 of the California Code of Regulations (A)</i> for Grading Policy. This course provides for measurement of student performance in terms of stated course objectives and culminates in a formal, permanently recorded grade based upon uniform standards in accordance with section 55758 of this Division. The grade is based on demonstrated proficiency in the subject matter and the ability to demonstrate that proficiency, at least in part, by means of written expression that includes essays, problem solving exercises, and skills demonstration by students.</p> <p><i>+In other words, according to the law, I will test you with essays, problems, and skill demonstrations to determine your proficiency in the subject matter.</i></p> <p>+I use the very same criteria to determine the grade for each student (see grading criteria below). See below for specific information on how grades are determined for this course.</p> <p>+The grade you receive becomes part of your permanent record.</p>
<p>Make-ups</p>	<p>+Lecture exams (except for final exam) and non-practical lab exams (Lab exams #2, 3, and 4) can be made up during the last week of classes before finals week, by appointment only.</p> <p>+A maximum of two make-ups is allowed.</p> <p>+You may not make up the in-class group quiz questions, activities, or lab practical exam #1.</p>
<p>Adding, dropping, enrollment</p>	<p>+It is up to the student to fill out and turn in signed add or withdrawal forms, and to pay fees by the deadline.</p> <p>+It is the official policy of VVC that the instructor may administratively drop students who have missed more than one hour for each unit of credit (for this class, that's two full class sessions – lecture and lab).</p> <p>+Be advised that the instructor may also drop students for cheating, for disruptive or unsafe behavior, for non-compliance with policies described in this syllabus, or for any behavior that poses a potential or actual threat to other students or the instructor.</p>
<p>Visitors</p>	<p>+You must be enrolled in this course to participate in any of the course lectures, labs, or activities, or to be in the microbiology classroom.</p> <p>+Visitors and children are not welcome in the microbiology classroom, EVER. Please tell your friends and family to wait for you in the science building foyer.</p>
<p>Conduct</p>	<p>+Show respect for your colleagues by minimizing audience noise during lectures and arriving on time.</p> <p>+If you must carry on private conversations with your neighbor, do this during the breaks—not during lecture time.</p> <p>+However, please feel free to ask questions during lecture and lab, and we may have discussions (with all included) about the lecture material.</p> <p>+I expect you to exhibit courtesy to others in the class at all times.</p> <p>+It is imperative that you follow all laboratory safety rules; these will be strictly enforced. Lab safety points will be deducted for non-compliance.</p>
<p>Cell phones, pagers</p>	<p>+These must be turned off AND stashed in closed book bag or purse during lecture and lab.</p> <p>+If you wish to use your cell phone during the break, you must leave the classroom; you may never use your cell phone in the classroom.</p> <p>+If your stashed cell phone or pager audibly rings during an exam, you will have 10 points deducted from your exam score.</p> <p>+If you have a cell phone or other electronic communication device at your desk or on your person during an exam, you will be assumed to be cheating and receive a score of '0' for that exam.</p>

<p>Personal laptops and school computers</p>	<p>+You may NOT have your laptop out on the desk or on your lap during lecture, lab, or during breaks in this classroom, not even for taking notes. +You are not permitted to use your laptop or other electronic device to play games, send email, or for any other purpose in the microbiology classroom during any microbiology class hours or breaks. +We have classroom PCs available when you need to look up information pertinent to the course. These computers are never to be used for games, email, or purposes other than needed for the microbiology course.</p>
<p>Tape recorders</p>	<p>+Tape recorders are permitted during lectures only. +For hygienic reasons, they are not to be used in the microbiology laboratory. +Keep track of your own recorder! The instructor or the college is not responsible for lost, stolen, or damaged recorders.</p>
<p>Other electronic devices</p>	<p>+Use of hand-held electronic video games, IPODs, or other electronic devices is not permitted in the microbiology classroom at any time. +Keep them off and stashed in your bookbag; better yet, leave them at home.</p>
<p>Cheating policy</p>	<p><i>Cheating in this course will not be tolerated.</i> +If you are caught cheating, you will be dropped from the course. +If, due to your behavior during a quiz or exam, you are suspected of cheating, you will be asked to retake the same or a similar quiz or exam; if you choose not to retake the exam, you will receive a score of '0' for that exam. +If you are suspected a second time, you will get a score of '0' for that quiz or exam with no re-take allowed. +The third time you are suspected of cheating, you will be dropped from this course.</p>
<p>Special rules apply for exams</p>	<p>+Instructor will assign seating for each exam and may change your seat assignment during an exam +You may not leave the classroom during an exam; you must turn in your exam before leaving (this means you are finished with your exam). If you have a medical condition in which you cannot stay in class for the length of an exam (two hours maximum), you must bring a note from your doctor that indicates this. If you are too sick to sit through the exam, it is better to stay home—don't spread your germs! You can take the exam during makeup week. +All bookbags, books, notes, and other items (except pencils) must be left on the side counters during exams. You may not access your personal belongings during an exam. +Hats with brims are to removed or worn backwards. Instructor may check baggy sleeves. +You are to keep your hands above desktop level during all exams. +You may not talk audibly (whether to yourself or to others) during any exam. +All electronic devices must be left on the side counters during exams. You may not have any type of electronic device in your possession, including blue tooth, earphone, cell phone, IPOD, laptop, or any other electronic device. If you are carrying any of these items, you will be assumed to be cheating, and the cheating rules above will apply. +If your stashed cell phone or pager audibly rings during an exam, you will have 10 points deducted from your exam score.</p>

