

MCB 2010C MICROBIOLOGY CRNs: 21501 & 22163  
Spring 2015 Course Syllabus

INSTRUCTOR INFORMATION

NAME: Ms. Lewis, M.S. Molecular & Microbiology  
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OFFICE HOURS by appointment: Mondays & Wednesdays 1pm-2pm  
(Appointments may be made at other mutually convenient times)  
\*Occasionally there are Divisional, Departmental, & Faculty Senate Meetings that conflict with Office hours, on these rare occasions I will send out a Blackboard announcement as soon as I know about it.

COURSE INFORMATION

CONTACT HRS/WK: 6 (3 lecture and 3 laboratory)  
TERMS OFFERED: Every term (as needed)  
CREDIT HOURS: 4  
LECTURE BOOKS: **REQUIRED:** Required Text/Package: Cowan – Microbiology – 4<sup>th</sup> edition – Valencia College Custom Text + Connect/LearnSmart Access Code, Net Price: \$105, ISBN: 9781259389931  
**Alternate:** Pure Digital Option: Cowan – Microbiology – 4<sup>th</sup> edition – Connect Plus/LearnSmart Access Code (includes e-book), Net Price: \$85, ISBN: 9780077731137  
Class PowerPoint note slides on BlackBoard– students will print these out from home.  
LAB BOOK: [Microbiology Laboratory Theory and Application \(2nd edition\) Leboffe and Pierce \(ISBN 0-89582-705-0\)](#)- is **REQUIRED**

This course outline and syllabus are subject to change as needed. Changes will be announced in class when necessary.

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COURSE DESCRIPTION: A survey of microbial organisms with an emphasis on bacteria, their morphology, physiology, growth, control and genetic mechanisms. Pathogenic microbes and their metabolism are discussed as are host defense mechanisms utilized to prevent infectious diseases.  
SPECIFIC COURSE GOALS: To prepare nursing and other allied health majors to function safely and knowledgably in environments where pathogenic microbes are present causing human disease or where microbes are the subject of academic, medical or scientific inquiry.

ADDITIONAL INFORMATION:

1. Microbiology is traditionally a course at the sophomore level; regular attendance and full participation, in lecture and the laboratory, *is expected and is essential for success in the course*. Grade expectations can only be fulfilled with full participation, complete assignments and sufficient time. Attendance will be taken during each lecture and lab. *Students who are either late twice or leave early, or late once, leave early once, will be counted as ONE absence, for every TWO absences an 1 entire point will be deducted from your final grade.*
2. The **Cowan with the associated Connect access, lab manual, a permanent marking pen, a lab coat (or suitable substitute), proper closed toe footwear and latex (or similar) gloves are required for the lab.** *No Lab Coat, No gloves, No closed toe shoes means NO LAB!* A set of colored pencils and a medical dictionary have also aided students in the past, but are not required.
3. It is essential to learn correct lab techniques for the safety of all colleagues and personnel. Read about student lab safety at the beginning of your lab manual, pp. 1-6, before the first lab. **You must KNOW what to do when microbes are spilled in the lab!!**
4. Students with disabilities who qualify for academic accommodations must provide a letter from the Office of Students with Disabilities (OSD) and discuss specific needs with the professor, preferably during the first week of classes. The Office of Students with Disabilities determines

accommodations based on appropriate documentation of disabilities (West campus SSB 102, ext. 1523).

5. Students are expected to comply with all VALENCIA COLLEGE policies regarding **academic honesty** and other requirements presented in the college catalogue. No VALENCIA COLLEGE property may be removed from the lab. All graded course work is expected to be completed independently unless otherwise expressly state e.g., in certain lab exercises where group work is required.
6. College policy prohibits children from attending lectures or labs; do NOT violate this policy.
7. **Proper classroom and laboratory etiquette** is required for you to attend this class; please do not talk while the professor is lecturing. Repeated warnings for improper classroom behavior will result in the student be asked to leave, followed by the calling of security, will be grounds to be withdrawn from the course without a refund per Policy 6Hx28:8-03: Examples of such disruptive or distracting activities include, but are not limited to, the following: Activities that are inconsistent with commonly acceptable behavior and which are not conducive to the learning experience, such as: excessive tardiness, leaving and returning during class, and early departure when not previously authorized; Activities which violate previously prescribed classroom guidelines or constitute unreasonable interruption of the learning process; Side discussions which are irrelevant to the subject matter of the class, that distract from the learning process, or impede, hinder or inhibit the ability of students to obtain the full benefit of the educational process
8. **Beepers, cell phones, and other electronic devices**, which emit audible tones should be **turned off or to vibrate** during periods when lectures are given in the lecture or the lab. Please, do not use your phone for text messaging during lectures, you will be asked to put it away or leave; text messaging and phone calls can be done outside the lecture room. **Laptops, tablets, and recording devices are also prohibited** unless documentation from the Office of Students with Disabilities is provided the first two weeks of the semester. **CELL PHONES continued:** Out of consideration for others turn off or silence your cell phone during class & lab. Cell phones *should not be handled at all during lab* due to safety concerns & violation will result in points lost. Text messaging, using laptops or tablets during class is distracting to others & does not allow the student to be mentally attentive. Therefore, a student using electronic devices during class may be marked as absent. If a cell phone rings or vibrates during an exam the student(s) exam will be collected and the student will be dismissed from the remainder of the exam, the student(s) will lose 10 points off the exam, in addition to not being permitted to finish the exam. Phones should be OFF during exams.
9. The **grading scale** for the course is:  
90.0-100% = A; 80-89.9% = B; 70-79.9% = C; 60-69.9% = D; less than 60% = F

5 Lecture Exams- one <u>may</u> be dropped* (100 points each).....	400* points
*one of the 5 lecture tests MAY be dropped ONLY if ALL 5 lecture tests are taken!!	
Printed Syllabus & Microscope care packet .....	10 points
Chemistry HW & Barsch LSI Assignment.....	50 points
Connect Microbiology Homework Assignments .....	250 points
10 Lab Quizzes (~20 points each, quiz 10 can be used for bonus**)......	~180** points
2 Lab Practical Exams (150 points each).....	300 points
Lab Technique, etiquette, unknown (see #15 below) .....	100 points
Mandatory Final Lecture Exam (cumulative).....	200 points
*If all five Lecture Exams are taken the lowest will be dropped- there are NO make up exams	
**If all 10 lab quizzes are taken lab 10 quiz counts as a bonus	

10. **The grading system has a total of ~1,490\* points** . A grade summary sheet is provided for STUDENTS to keep track of your grades. You are responsible for knowing your grades and your standing in the class. If you are in doubt about a grade you should contact the professor. Midterm (pre-withdrawal deadline) averages will be computed by the professor for each student to assess the student's progress in the class. ONLY emails sent from Valencia Student Atlas accounts will be responded to due to FERPA.
11. **\*Lecture tests 1-5 CANNOT be made up.** The lowest lecture test grade, from lecture tests 1-5, may\* be dropped ONLY if ALL four lecture tests are taken. **Students arriving more than 30 minutes late for an exam will NOT be given an exam if ANY student has already left the**

**classroom, they will therefore take a grade of 0 for the exam & not be able to drop the grade i.e., the total will be out of 1,490 points instead of 1,590 points.**

12. There will be 1 Chemistry homework, and multiple Connect Microbiology homework/quiz assignments along with 10 laboratory quizzes. The chemistry homework assignment WILL be handed in. Connect Microbiology Homework & quiz grades will be collected online & integrated into Blackboard grade center. One lab quiz grade can be dropped without harming your grade; that is for those students taking all of the quizzes, the tenth quiz will serve as a bonus. One of the lab quizzes can be replaced with 20 points if you submit proof that you donated blood to an approved blood collection center by the time you take the final lab practical exam. There is no other “extra-credit.” Quizzes will occur during the beginning of the period and take a maximum of 20 minutes. **There are no quiz or homework make-up assignments**; if you are late for a quiz, you miss it.
  13. The 1 Chemistry homework is due at the beginning of the first class meeting the SECOND WEEK OF CLASSES. The Connect Biology homework assignments & quizzes are due on the specific date listed in this syllabus & online in Blackboard via Connect. Once a class has met, a five point deduction/day, including the due date, is made for all late assignments ONLY IF appropriate documentation is provided with the late work.
  14. Your attention to detail in the microbiology laboratory is required. **There are no lab make-ups.** Lab practical exams can only be made up in the case of an emergency at the discretion of Ms. Lewis.
  15. Some activities involve dangerous microbes and/or expensive equipment. Proper care and cleaning of the microscope is critical & required of each student. Errors in lab disinfection, proper attire or microscope care will result in the deduction of points from your lab technique & etiquette grade.  
**You will lose lab technique points for each of the following infractions listed below:**

Lack of lab attendance. Leaving early, no lab jacket, or close toed shoes, lack of gloves= NO LAB or quiz	15 point/each infraction
Improper microscope care and cleaning	5 point/ infraction
Improper incubation, disinfection, aseptic technique, incubation or inoculation	10 point/ infraction
Eating or drinking in the lab	5 points/ infraction
Not informing professor of a microbial spill	10 points/ infraction
Improper or incomplete report of unknown	25 points
Improper storage or cleaning of lab	10 points/infraction for entire class
Use of or viewing of cell phone in lab	10 points/infraction
- In science and in medicine, accuracy is mandatory. There are often no extra materials in the lab, so you MUST ask before taking extra materials, to see if there are enough.*
16. **During each laboratory period, a roster will be provided for you to sign**; if you are late to lab, it is your responsibility to add your signature to the roster; If you are late to lecture it is your responsibility to have Ms. Lewis add your name to the roster. Missing signatures are viewed as absences; leaving early from a lab will be counted as a lab absence. More than one absence has proven, in the past, to be a sign that your grade will be substantially less than you may have hoped for and will result in the loss of lab technique points. Signing in for another student will result in the student who forges the sign-in being referred to the Academic Dean of Students on charges of dishonesty and 25 lab technique points will be deducted from the forger’s name.
  17. **The final lecture exam is cumulative and mandatory.** The college sets the final lecture exam date. The final lecture exam cannot be dropped or used as a substitute for any other test. Missing the final exam will result in a mandatory grade of ‘F’ in this course. Under extenuating circumstances the Dean of Sciences may permit a make up Final Exam, after taking the make-up final exam, a change of letter grade (A, B, C, D, or F) will be then re-assigned and submitted to the Registrar’s office.
  18. Under no circumstances will your individual test scores, total points or final grades be discussed over e-mail, during class time, or on the telephone. FERPA rights to privacy prevent the divulging of scores or related materials by these means. Scores will only be given face-to-face with each student or by accessing your Atlas or Black Board account.
  19. All tests are the material of Professor Lewis. Any test that is copied or that leaves the room with a student will be entered in the grade book as a zero. Hats, caps, cell phones and any other electronic device, food and beverages are NOT allowed when taking a test or a quiz.

20. One goal of the course is to integrate the four Valencia Student Core Competencies (Think, Value, Communicate, and Act) into the microbiology curriculum.

THINK = Think clearly, critically, creatively; analyze, synthesize, integrate and evaluate in many domains of human inquiry.

- a) you will analyze data and scientific principles as they pertain to microbiology
- b) you will employ facts, formulas and procedures in lecture and in lab groups
- c) you will discover and understand how microbiology is important in various fields and in disciplines other than in medicine
- d) you will be able to draw well supported conclusions about the importance of microbiology in your daily life and in your career
- e) you will be able to revise conclusions in light of new observations and interpretations

VALUE = Make reasoned judgments and responsible commitments.

- a) you will be able to compare personal, ethical, and scientific values in the fields of genetics, chemotherapy, environmental science and patient care
- b) you will value the time commitment needed to succeed in the allied health programs

COMMUNICATE = Communicate with different audiences using varied means.

- a) you will be able to practice written communication skills
- b) you will be able to verbally communicate to fellow students and teachers using professional, scientific language during lectures and especially during labs

ACT = Act purposefully, effectively and responsibly.

- a) you will be able to manage your time and activities to achieve your academic goals
- b) you will meet deadlines
- c) you will apply the knowledge you learn to your career goals

21. **Some study and classroom management tips** that have assisted former students, in this course (students are expected to use the "How to make a College Level Science Study Guide"):

- **Be on time to class and do attend class daily**; students who follow this, won't miss important information and the introduction to each lecture which is important to understand the entire lecture's purpose
- **Prepare for class by reading AHEAD of time and allow plenty of time to study every day**
- **RECOPY YOUR NOTES** soon after the lecture; when you rewrite your notes you refresh your memory & strengthen your comprehension of the materials
- **make a lab journal** when you get home to review everything you did, used, & saw: explain what you saw in the lab to refresh your memory when studying for the lab practical exams; make charts and tables to organize your thoughts about the different media
- use **flash cards** with questions you make up from the lecture and lab with answers on the back- there are now resources e.g., cellsalive.com that allow you to make digital flash cards & use on your phones!
- use **mnemonic devices and other games** to remember concepts; go to Google images and YouTube for additional pictures and videos to clarify concepts
- **make lists of confusing topics** from your studying and **ask questions**, take advantage of the **professor's office hours**
- when you have studied sufficiently, **JOIN A STUDY GROUP** and predict what questions the professor could ask on the test, ask yourself "how would I phrase this question on the test?"
- **get the telephone number of one or more buddies** in case you are absent from a class, contact them first since so you are certain to get all announcements & notes from that lecture.

REMEMBER LEARNING IS AN ACTION VERB!! 95% of students need to do more than just sit through lectures and reread their notes. **Spend 1-2 hour blocks of time EVERY DAY** actively writing or discussing concepts to make them a part of your memory. Use the words you learn often, they will sink in better☺.

22. **Class materials can be downloaded from Blackboard**, which can be found by following these steps:
- enter Valencia's homepage at [www.valenciacollege.edu](http://www.valenciacollege.edu)
  - under the "Quick Links" button scroll & select "Online Courses"
  - on the Blackboard Home page enter your Atlas Username & password
  - once logged in, select the MCB (Microbiology) section you are enrolled in
  - on the left tool bar you will see "Start Here" & under "Content", these are where you will find Class & laboratory materials in Blackboard under "content" button, located by folders labeled as "Test #", "Lab Materials", or "Lab Powerpoints" etc.
- **Connect for online homework & quizzes, see powerpoint from first day**  
[www.Connect.mheducation.com](http://www.Connect.mheducation.com)
- See PowerPoint instructions posted on Blackboard for registering your account. It is highly recommended you use your Valencia ID & Atlas email when registering to easily communicate between their technology support & myself due to FERPA laws.
23. Valencia is interested in making certain all our students have a rewarding and successful college experience. To that purpose, Valencia students can get immediate help that may assist them with psychological issues dealing with stress, anxiety, depression, adjustment difficulties, substance abuse, time management as well as relationship problems dealing with school, home or work. Students have 24 hour unlimited access to the **Baycare Behavioral Health's confidential student assistance program** phone counseling services by calling **(800) 878-5470**. Three free confidential face-to-face counseling sessions with licensed professionals are also available to students.
24. Per Valencia Policy 4-07 (Academic Progress, Course Attendance and Grades, and Withdrawals) a student who withdraws from class before the **deadline for withdrawing from this class with a grade of "W" is Friday, March 27<sup>th</sup> 2015 at 11:59 p.m.** will receive a grade of "W." A student is not permitted to withdraw from this class after the withdrawal deadline; if you remain in the class after the withdrawal deadline, you can only receive a grade of A, B, C, D, F or I. An "I" grade will only be assigned under extraordinary circumstances that occur near the end of the semester- if the student currently has a passing grade. If you receive an I, the work missed must be made up during the following semester, at which time you will get an A, B,C,D or F. Failure to make up the work during the following semester will result in you getting a grade of F in the course. The professor will not withdraw any student for any reason other than Attendance, Disruptive or Disturbed behavior; it is the responsibility of the student to withdraw themselves before the withdrawal deadline and to be aware of the date of the withdrawal deadline. Any student who withdraws from this class during a third or subsequent attempt in this course will be assigned a grade of "F." For a complete policy and procedure overview on Valencia Policy 4-07 please go to:  
[http://valenciacollege.edu/generalcounsel/policy/default.cfm?policyID=75&volumeID\\_1=4&navst=0](http://valenciacollege.edu/generalcounsel/policy/default.cfm?policyID=75&volumeID_1=4&navst=0)
- Conditions That Apply to a First or Second Attempt in a Course On or Before the Withdrawal Deadline:** During a first or second attempt in the same course at Valencia, if you withdraw, or are withdrawn by the professor, you will receive a W (Withdrawn). You will not receive credit for the course, and the W will not be calculated in your grade point average; however, the enrollment will count in your total attempts in the specific course. Following withdrawal, you may, with the professor's approval, continue to attend the course for the remainder of the term.
- After the Withdrawal Deadline:** A student is not permitted to withdraw after the withdrawal deadline. A professor may withdraw you up to the beginning of the final exam period for violation of the class attendance policy, as published in the faculty member's syllabus, in which case you will receive a grade of "W". If the professor does not withdraw you, your grade will be what you had earned
25. Your continued participation in this course after the drop-add deadline period constitutes an agreement with and an acceptance of the conditions presented in this syllabus.
26. **Expected Student Conduct:** Valencia College is dedicated not only to the advancement of knowledge & learning but is concerned with the development of responsible personal and social conduct. By enrolling at Valencia College, a student assumes the responsibility for becoming familiar with the abiding by the general rules of conduct. The primary responsibility for managing the classroom environment rests with the faculty. Students who engage in any prohibited or unlawful acts that result in disruption of a class may be directed by faculty to leave the class. Violation of any classroom or Valencia's rules may lead to disciplinary action up to and including expulsion from

Valencia. Disciplinary action could include being withdrawn from class, disciplinary warning, probation, suspension, expulsion, or other appropriate and authorized actions. You will find the Student Code of Conduct in the current Valencia Student Handbook. By registering at Valencia Community College, a student assumes the responsibility for becoming familiar with & abiding by the general rules of conduct, Valencia's **Student Code of Conduct**, found online in the **Student Handbook** at: <http://valenciacollege.edu/pdf/studenthandbook.pdf>

**27. ACADEMIC HONESTY:** Each student is expected to be in complete compliance with the college policy on academic honesty as set forth in the college catalog & the student handbook. Any student found cheating in any form risks receiving an "F" & expulsion from the college.

**28. CLASS ATTENDANCE AND MAKE-UP WORK:** If you have more than two absences, you may be withdrawn. If you are late or not mentally attentive, you may be marked as absent. Make-up work is rarely offered & only at the discretion of the instructor. Students that have a 2 hour and 45 minute lecture are expected to return after the test. students NOT returning to continue with lecture will be dropped 10 points i.e., an entire letter grade for leaving after the exam.

#### MAJOR LEARNING OUTCOMES EXPECTED FROM STUDENTS WHO TAKE THIS COURSE

1. Students will be able to identify the major milestones in the history of microbiology.
2. Students will be able to describe how macromolecules contribute to the functions necessary for life.
3. Students will be able to assign microorganisms to the appropriate domain and kingdom.
4. Students will be able to differentiate between prokaryotic and eukaryotic organisms and explain the function of structures found in either cell type.
5. Students will gain an understanding of viruses by explaining viral structure, multiplication and control.
6. Students will be able to explain basic microbial metabolism and summarize what is needed for the growth of microorganisms.
7. Students will be able to describe all the chemical and physical means available to control microbes and to identify those that provide sterility.
8. Students will be able to identify the mechanism of action of commonly used antibiotics and the concerns associated with antibiotic misuse.
9. Students will model their knowledge of molecular genetics and recognize the importance of basic genetic engineering.
10. Students will be able to demonstrate the appropriate use of epidemiological terminology in the context of public health.
11. Students will be able to identify the mechanisms of pathogenicity and distinguish different levels of immunity operating in the body.
12. Students will be able to identify the causes of major human infectious disease and relate that information to the appropriate organ system.
13. Students will be able to demonstrate a working knowledge of aseptic technique.
14. Students will demonstrate an understanding of microscopy.
15. Students will be able to integrate their lab knowledge to identify unknown microbes and determine how appropriate antibiotics are chosen for given bacterial infections.

#### **MICROBIOLOGY MCB 2010C** 2015 Spring Term

An introduction to microbes and infections, a course structured to assist those trying to enter the health-related professions.

# MICROBIOLOGY (MCB 2010C) LABORATORY EXERCISES

## Valencia College – Spring 2015

### Week 1. **Lab Introduction** (Jan 12<sup>th</sup> – 17<sup>th</sup>)

- Safety and laboratory Guidelines: students read pp. 1-6
- “Scavenger hunt” (introduce students to location of lab’s safety equipment)
- Exercise 1-1 Glo-Germ™ Hand Wash Education System (optional)
- Exercise 2-1 Ubiquity of Microbes
- Exercise 3-1 Introduction to the Light Microscope
  - learn parts, use, care and storage of the microscope; crossed thread and letter “e” prepared slides,
- Exercise 3-3 Examination of Eukaryotic Microbes (begin observing prepared slides)

*There are no VC classes on Monday, Jan 19th due to MLK holiday!*

### Week 2. **Culturing Bacteria and Using the Microscope** (Jan 20<sup>th</sup> – 26<sup>th</sup>)

- Analysis of last week’s experiment
- Students read Exercise 1-2 about Nutrient Agar and Nutrient Broth Preparation, page 19, and pp. 59-66 about Colony Morphology
- Exercise 1-4 Common Aseptic Transfers and Inoculation Methods
- Exercise 1-5 Streak Plate Methods of Isolation
- Exercise 2-11 Steam Sterilization (“field trip demo” to see and explain the principles of an autoclave) (optional)
- Exercise 3-1 Introduction to the Light Microscope (cont.)
- Exercise 3-3 Examination of Eukaryotic Microbes (finish observing prepared slides)

### Week 3. **Staining I** (Jan 27<sup>th</sup> – 2<sup>nd</sup>)

- Analysis of last week’s experiments
  - Students read pp. 69 and 73 about Growth Patterns on Slants and Broth
  - Students read pp. 153-158
- Exercise 3-4 Simple Stains
- Exercise 3-5 Negative stains
  - (Optional- assess each student’s ability to properly clean the microscope)
- Exercise 3-10 Wet Mount Preparations – Live protist samples (Students read page 143)

### Week 4. **Staining II** (Feb 3<sup>rd</sup> – 9<sup>th</sup>)

- Exercise 3-6 Gram Stain
- Exercise 3-7 Acid-Fast Stain (prepared slides for observation)
- Exercise 3-9 Endospore Stain (prepared slides for observation)
- Selective and Differential Media** - Students read pp. 77, 207 and 237
- Exercise 4-3 Mannitol Salt Agar
- Exercise 4-1 Phenylethyl Alcohol Agar
- Exercise 4-2 Columbia CNA with 5% Sheep Blood Agar
- Exercise 4-5 Eosin Methylene Blue Agar
- Exercise 4-6 Hektoen Enteric Agar
- Exercise 4-4 MacConkey Agar

### Week 5. **Physical Growth Factors for Bacterial Growth** (Feb 10<sup>th</sup> – 16<sup>th</sup>)

- Analysis of last week’s experiments
  - Students read pp. 77, 207 and 237
- Exercise 2-6 Fluid Thioglycollate Medium
- Exercise 2-8 The Effect of Temperature on Microbial Growth
- Bacterial Nutrition**
- Exercises 5-11; 5-13; 5- 16

Week 6. **Introduction to Biochemical Test Media** (Feb 17<sup>th</sup> – 23<sup>rd</sup>)

- Analysis of week 5 experiments
- Exercises 5-4; 5-5; 5-6; 5-9; 5-10; 5-19; 5-20; 5-21; 5-23

Week 7. **MIDTERM LAB PRACTICAL EXAM WEEK** (Feb 24<sup>th</sup> – March 2<sup>nd</sup>)

- Materials come from laboratory experiments performed during weeks 1-5
- Analysis of week 6 experiments (You also have the option of doing this during week 8, before the C&S inoculation labs)

**March 4<sup>th</sup> ATTENDANCE IS MANDATORY (no lab exercise) FOR LECTURE or students will lose 20 points off the Midterm Lab Practical!**

Week 8. **Culture and Sensitivity (C&S)** (March 16<sup>th</sup> – 21<sup>st</sup>)

Students read page 455

- Exercises 5-2; 5-3; 5-7; 5-8; 5-12; 5-14; 5-15; 5-18
- Exercise 9-1 Identification of Enterobacteriaceae
- Exercise 7-2 Antibiotic Susceptibility Test (Kirby-Bauer Method)

Week 9. **C&S: Unknown Identification Lab and Antibiotic Selection** (March 23<sup>rd</sup> – 28<sup>th</sup>)

Students read pp. 501-508 (API 20 E) and pp. 509-516(Enterotube II)

- Exercise 9-1 Identification of Enterobacteriaceae (analysis)
- Exercise 7-2 Antibiotic Susceptibility Test (Kirby-Bauer Method) (analysis)

Week 10. **DNA Lab** (March 30<sup>th</sup> – April 4<sup>th</sup>)

- Exercises 2-12 and 8-2 The Lethal Effect of Ultraviolet Light on Microbial Growth
  - instructors read handout to see how this lab will be performed differently from the book
- Exercise 8-3 Bacterial Transformation: the pGLO System

Week 11. **Immunology lab** (April 6<sup>th</sup> – 11<sup>th</sup>)

- Analysis of last week's experiments
- Students read page 391
- Exercise 8-6 ELISA Test (HIV simulation test)
- Exercise 8-4 **Latex Agglutination Assay**
- Exercise 7-1 Snyder Test
- Exercise 7-4 Epidemic Simulation (Influenza party☺)

Week 12. **Human Microbiology/Epidemiology Simulation Lab Analysis** (April 13<sup>th</sup> – 18<sup>th</sup>)

- Analysis of previous lab's experiment
  - Exercise 6-4 Differential Blood Cell Count
- Review**

Week 13. **FINAL LAB EXAM** (April 20<sup>th</sup> – 25<sup>th</sup>)

- Exam on lab experiments performed during weeks 6-12



**Use the schedule below to read materials BEFORE class & lab meetings AND to submit assignments on time!**

Week & Dates	LECTURE TOPICS (Chapters)	Homework & Due Dates
1 1/12	Introduction, Student Success Ch 1 Main themes of microbiology Ch 2 Chemistry of Biology. Chemistry Homework Packet Ch 2 due next week!	Have both Syllabus & Microscope Care packet printed & checked! Start Chemistry HW packet! Connect Introduction due
2 1/19 *College closed on MONDAY ONLY!	Ch 3 Microbes & Microscopes Ch 4 Prokaryotes: Archaea & Bacteria Ch 5 Eukaryotic cells comparisons	Chemistry HW packet due at beginning of 1st meeting of the week Connect Ch 1-3 HW due
3 1/26	Ch 5 Eukaryotic cells comparisons Ch 6 Intro to Viruses	Connect Ch 4-5 HW due
4 2/2	TEST 1 & Ch 7 Microbial Nutrition & Growth AFTERWARD or LOSE 10 POINTS OFF TEST! Ch 11 & 12 Physical/Chemical Control of Microbes	LECTURE TEST #1 Ch 1-5 in class Connect Ch 6 & 7 HW due
5 2/9	Ch 11 & 12 Physical/Chemical Control of Microbes	Connect Ch 11 & 12 HW due
6 2/16	Ch 8 Microbial Metabolism Ch 9 Microbial Genetics- DNA	Connect Ch 8 HW Due
7 2/23	TEST 2 & Ch 9 Microbial Genetics- DNA AFTERWARD or LOSE 10 POINTS OFF TEST! Attendance AFTER midterm lab practical is Mandatory or lose 20 points from LPI! Lab notebook due at start!	LECTURE TEST #2 Ch 6,7,11 & 12 in class MIDTERM LAB PRACTICAL on labs 1-6 in lab
8 3/2	Ch 14 Nonspecific Host Defenses Ch 15 Specific Immune Defenses	Connect HW Ch 9, 14 & 15 Due
Spring Break		Connect HW 14 & 15 Due
9 3/16	Ch 15 Specific Immune Defenses Ch 16 Disorders of Immunity	Connect HW Ch 16 & 17 Due
10 3/23	Test 3 & Ch 17 Diagnosing Infections AFTERWARD or LOSE 10 POINTS OFF TEST!	LECTURE TEST #3 Ch 8,9,14 & 15 in class Withdrawal deadline Fri Mar 27 <sup>th</sup> 11:59 pm Connect HW Ch 18 & 19 Due
11 3/30	Ch 18 Diseases affecting the skin & eyes Ch 19 Diseases affecting the nervous system	
12 4/6	Test 4 & Ch 20 Diseases of Cardiovascular & lymphatic systems AFTERWARD or LOSE 10 POINTS OFF TEST!	LECTURE TEST #4 Ch 16-19 Connect HW Ch 20 & 21 Due
13 4/13	Ch 21 Respiratory Diseases & Ch 22 Gastrointestinal Diseases	Blood Donation Bonus Proof Due Connect HW Ch 22 & 23 Due
14 4/20	<b>LAB Practical III! Attendance afterward is mandatory or lose 20 points from LPI!</b> Lab notebook due at start! Ch 23 Genitourinary Diseases	LECTURE TEST #5 Ch 20-22 FINAL LAB EXAM on labs 6-12 in lab AFTERWARD CH 23 IN LAB
15 4/27 Finals Week	Test 5 & Ch 23 Genitourinary Diseases AFTERWARD or LOSE 10 POINTS OFF TEST! NO Lab	Cumulative Final Lecture Exam Final covers Ch 1-9 & 11-23

***This schedule is tentative, any changes in the lecture or lab schedule will be announced in class or via Blackboard Announcements when necessary***

Use this sheet to track and calculate your grades using the “grading scale” on page 2

**GRADE SUMMARY SHEET (Total points = 1,590 or 1,490\*\*)**

Chemistry HW (40 points) & Barsch LSI (10 points)	
Printed Syllabus & Microscope care sheet (10 points)	
Connect HW Test 1 (~50 points for all chapters combined)	
Connect HW Test 2 (~50 points for all chapters combined)	
Connect HW Test 3 (~50 points for all chapters combined)	
Connect HW Test 4 (~50 points for all chapters combined)	
Connect HW Test 5 (~50 points for all chapters combined)	
Lecture Test #1 ** (100 points)	
Lecture Test #2 ** (100 points)	
Lecture Test #3 ** (100 points)	
Lecture Test #4 ** (100 points)	
Lecture Test #5 ** (100 points)	
Mandatory cumulative FINAL Lecture Exam (200 points)	
Lab Quiz #1 (20 points)	
Lab Quiz #2 (20 points)	
Lab Quiz #3 (20 points)	
Lab Quiz #4 (20 points)	
Lab Quiz #5 (20 points)	
Lab Quiz #6 (20 points)	
Lab Quiz #7 (20 points)	
Lab Quiz #8 (20 points)	
Lab Quiz #9 (20 points)	
Lab Quiz #10 (20 points)	
Lab Practical Midterm Exam (150 points)	
Lab Practical Final Exam (150 points)	
Lab Technique, etiquette, Unknown (100 points)	

\* = if you do all 10 lab quizzes, the final quiz points are a bonus.

\*\* = The lowest grade of lecture tests 1-5 MAY be dropped at the end of the course ONLY if ALL 5 lecture exams are taken to calculate your grade, the dropped test cannot be used as a bonus; **there are NO make-up quizzes, lab practicals or lecture exams**. ALL DEADLINES ARE FINAL; EARLY WORK IS ENCOURAGED ☺

## Microbiology (MCB 2010C) Syllabus Contract & Student Agreement:

I, \_\_\_\_\_ (print your name), understand and agree to the expectations provide below.

1. **Put a minimum of Fifteen hours OUTSIDE of CLASS preparing for lecture & lab.**
2. **Attend class on time & prepared for participation.**
3. Read the chapters **ahead** of time & complete the homework.
4. **ASK questions** IN CLASS if I cannot complete the homework.
5. **Participate** by being be prepared to answer questions when called on.
6. Complete ALL HW questions in the text & on Mastering Micro for chapters covered.
7. **Form study group(s) AND study in 7-240 with the FREE tutors.**
8. Check your Valencia Atlas email regularly, **every other day at least!**
9. **Find & use** provided resources that help you with your specific learning style.
10. Withdraw yourself if you stop attending.
11. **Come to ALL LABS with the Lab reading completed & be prepared to take the quiz.**
12. Silence AND put away all electronic devices during class & lab.
13. **RESPECT** your classmates, lab partners, and instructor by remaining quiet when class or lab are in session and materials are being discussed, questions are being asked, AND while others are talking.
14. **RESPECT** my classmates, lab partners and instructor by speaking, and communicating to all other people with neither non-threatening, nor non-offensive language, volume or tone.

I, \_\_\_\_\_ (print your name) have carefully read and understood the contents & policies of these course syllabus and student agreement documents. I recognize that it is my responsibility to follow this throughout this microbiology science course. I agree with every stipulation given and I will achieve every single one. I understand that changes to this syllabus, as the professor sees fit, can occur during the semester. The professor only in class, through Atlas or Blackboard will announce these changes and it is my responsibility to stay informed. I understand that a violation of policies may result in personal failure and may result in the immediate removal from the lecture or laboratory component and or withdrawal from the course.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### Tell me about yourself:

1. Use Barsch LSI to find out how you learn best? (circle one): audio/ visual/ tactile/ kinesthetic
2. What is your major? (if undeclared state "undeclared") \_\_\_\_\_
3. Where do you work? \_\_\_\_\_ How many hours a week do you work? \_\_\_\_\_
5. Where do you WANT see yourself in 5 years? \_\_\_\_\_
6. Where are you from? \_\_\_\_\_
7. Do you have family in central Florida? (circle one): yes no
8. What do you do for fun? \_\_\_\_\_
9. Have you taken this class before? (circle one): yes no
10. If #9 was yes, when & where did you take the class last?: \_\_\_\_\_
11. When did you last take a math class? \_\_\_\_\_ what grade did you earn? \_\_\_\_\_
12. When did you last take a chemistry class? \_\_\_\_\_ what grade did you earn? \_\_\_\_\_
13. When did you take Bio I or A&P I? \_\_\_\_\_ what grade did you earn? Bio \_\_\_ A&P \_\_\_
14. What do you want to do when you graduate? \_\_\_\_\_
15. What is your biggest worry so far about this class (be honest)? \_\_\_\_\_
16. Do you have any special circumstances or needs that you would like to make known to me? \_\_\_\_\_

Note: All information is confidential.