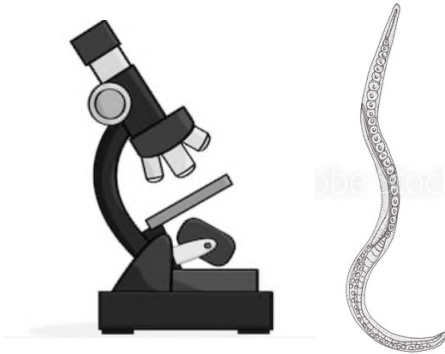


**Tim Revell, Ph.D.**  
**MICRO 22 – Winter 2020**  
**CRN# 30284 & 30285**  
**Lab 60-2506**  
**Lecture 7-1104**  
**Mt. San Antonio College**



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 \*Tortora et. Al. Microbiology: An Introduction. 13<sup>th</sup>  
 \*Heymen – Control of communicable diseases.  
 \*A good medical dictionary such as Tabers.

Course Description: Fundamental concepts of microbiology including viruses, bacteria, fungi, protozoa and parasitic worms.

<b>Points Possible</b>	
Lab Quizzes (13@20)	260
Lab Unknown	20
Lab Challenge	20
The Pathogen Test	100
Lec Quizzes (2@20)	40
Lec Exams (3@100)	300
Lec Final	<u>200</u>
<b>TOTAL</b>	<b>940</b>

<b>Grading Scale</b>	
≥90%	A
80-89%	B
70-79%	C
60-69%	D
<60%	F

<u>Important Dates:</u>
<b>Jan 20- Holiday – No Class</b>
Feb 12 – THE PATHOGEN TEST
Feb 13 – LECTURE FINAL

<b>Micro 22 - Winter 2020</b>			
Week	Date	Lab	Lecture
1	6-Jan	Intro, Safety	Intro, Types of Microbes
1	7-Jan	EX #1 Micro/Bacteria	Diseases/Epidemiology
1	8-Jan	Finish Ex#1	<b>Lec Quiz #1;</b> Prokaryotic cells/Struc/Observ
1	9-Jan	Ex #2 - Cult. Env <b>LQ#1</b>	Eukaryotic cells/Struc/Classification; Atypical
2	13-Jan	Fin#2, Ex #3	<b>Lec Exam #1;</b> start Fungi
2	14-Jan	Fin #3, Ex #4 Simple Stain; <b>LQ#2 w/ (Path #1)</b>	Fungi & Protozoa
2	15-Jan	Ex #5 Gram Stain ( <b>LQ #3 w/ Path #2</b> )	Protozoa (Including "Algae")
2	16-Jan	Ex #5 Spore Stain/Acid Fast Stain ( <b>LQ #4 w/Path #3</b> )	Protozoa, Worms
3	20-Jan	Holiday! - No Class!	Holiday NO CLASS!
3	21-Jan	Unknown Staining;	<b>Lecture Quiz #2,</b> Worms, Viruses, Viroids
3	22-Jan	Ex #6 - Fungi ( <b>LQ# 5 w/Path #4</b> )	Worms, Viruses, Viroids; start Unit 3
3	23-Jan	Ex #7 - Protist; Ex #8 (Worms/Arthropods)	Unit 3 (Control Methods)
4	27-Jan	Ex #9 (Pue Cultures); Ex #10 (Isolation); ( <b>LQ #6 w/PG #5</b> )	Control (Heat and Radiation)
4	28-Jan	finish 9&10; Pure Cult. Ex 11 & 12	<b>Lecture Exam #2;</b> Antibiotics and Susp. Testing
4	29-Jan	Results 11&12; Exer #13 ( <b>LQ #7 w/PG # 6</b> )	Drug Resistance
4	30-Jan	Ex #14 Anti, Dyes, Metals ( <b>LQ #8 w/PG #7</b> )	Intro to Microbial Genetics
5	3-Feb	Results #14; Ex #15 (Heat/Cold/Drying)	Genetics: Gene to Protein
5	4-Feb	Results #15; Ex 16 (Product Test); ( <b>LQ #9 w/PG #8</b> )	Conjugation & Transformation
5	5-Feb	Results #16; <b>LQ #10 w/PG #9</b>	<b>LQ #11 (Pathogen Group);</b> Con. & Trans.
5	6-Feb	Ex #17	Biotechnology
6	10-Feb	Ex #18 <b>LQ #12 w/PG #10 (On Lab #11 &amp; PG 10)</b>	<b>Lecture Exam #3;</b> intro to immunology
6	11-Feb	Results #18; Ex #19 (Milk & Water)( <b>LQ #13 (Covers Ex 12-16)</b> )	Immunology I
6	12-Feb	THE PATHOGEN TEST; Results From Lab #19	Immunology II
6	13-Feb	<b>Clean-up Day In Micro Lab.</b>	<b>LECTURE FINAL</b>

The fine print...

**Exams**-There will be three lecture exams. Each will be worth 100 points and will consist of Multiple choice, True/False, fill in-the-blank, essays, matching, and whatever else I can come up with. Information covered on these exams will come from my lectures, reading assignments, and homework assignments. It is to your advantage to take every exam and do as well as possible on each! **There are no make-up exams under any circumstances.** Exams will take place during the first hour, 15 minutes of class only. If you are late to class, you will only be given the remaining time to finish the exam.

**Final Exam**-The Final exam will be in the same format as the regular class exams (although there will be no essay questions on the final). It will be cumulative and will therefore cover information from the entire semester. The final exam will be worth 200 points and there will be no make-up exams for the final! Do not miss the final exam!

**Quizzes** – There are both lecture and lab quizzes given in this course. The lecture quizzes are designed to prepare you for the lecture exams. The laboratory quizzes are designed to test your knowledge of the labs we have completed as well as the pathogen groups you are to research on your own.

**The Pathogen Test** – At the end of the semester, a pathogen test will be given to test your cumulative knowledge of the pathogens we have learned throughout the semester.

*Other information you need to know:*

1. The attached lecture schedule is intended to assist you in planning your readings for this course. I will expect you to have read the appropriate text sections prior to class. I will make every effort to maintain this schedule. Modifications, however, may be necessary. It is your responsibility to attend all classes and be aware of any changes that I may announce.

2. Check your Mt. SAC email OFTEN!!!! I will not send email to any other account!

3. All assignments are due at the beginning of class. You have three days to complete late assignments for ½ credit maximum. After that, no credit will be given.

**Note:** It is the student's responsibility to drop a course officially if the student wishes to avoid an "F". The instructor MAY drop students for non-attendance, but this is discretionary. Students who do not drop but do not complete the work will receive an "F".

**YOU need to show up to lab and lecture on time and pay attention;** Microbiology (particularly in lab) can be a dangerous place and students arriving late put themselves and other students at risk. If you are excessively late, you will be asked to leave. Also, make sure you are aware of the supplies and safety clothing/equipment needed each day.

**Note:** All papers/quizzes/exams will be returned to the student as soon as possible. It is the student's responsibility to keep these records. No reconsideration of any grade is possible without evidence, and it is the student's responsibility to demonstrate the basis of any grade change. Students have 3 days once papers/quizzes/exams are returned (to the class) to dispute a grade in writing. After 3 days, no grade can be disputed.

- 1) **Academic Honesty:** Mt San Antonio College regulations and guidelines regarding academic honesty will be followed and enforced. Cheating or plagiarism will result in an F for the entire course. I will also write a letter stating that you have cheated and it will become part of permanent Mt. SAC record. Do not cheat or plagiarize in any form! The possession of any cheating items (ie, notecards, cell phones, ect.) during an exam will be interpreted as a cheating incident regardless of whether or not you actually "used" the item(s). All students must sign and return the Mt. SAC Biology Department Cheating Policy. All cheating incidents will be treated the same; it does not matter whether the cheating incident involves a quiz, exam or assignment.
- 2) **The instructor reserves the right to make any necessary changes to this syllabus or to any part of the class without prior warning. The schedule is tentative and will be adjusted as we proceed.**
- 3) **Attitude:** Please behave in a professional manner as mentioned in lecture on day 1!
- 4) **To succeed in this course:** Your study of biology will be an exciting and rewarding experience. We will cover a variety of topics that can be both interesting and useful in improving your life. However, do not make the mistake of taking your study of this course too lightly. To succeed in this course you MUST attend class regularly, study often AND effectively, and live a life that is conducive to learning (for example, you need to sleep, eat, work, etc. within your means!). Failure to meet these basic requirements will make success difficult for most.
- 5) **Incomplete policy:** It is the students responsibility to drop the class if that is their intention. An incomplete may be given if **all three** of the following conditions are met 1) The student has completed ALL course material (other than the final exam) 2) the student is passing with at least a "C" 3) the student can demonstrate they are unable to complete the remained of the semester. The instructor reserves the right to accept or reject a student's request for an incomplete.
- 6) **No cell phones or any other devices** that create distractions are allowed in class. Special considerations may be given by the instructor on an individual basis. No talking on your cell phone in the classroom or on any portion of a fieldtrip. Absolutely no cell phones are allowed out during a test, quiz, or pathogen test. Any cell phone that is used, looked at, or even visible by the instructor during a quiz, exam or test of any sort will result in a zero on that assignment and a possible "F" in the entire course.
- 7) I keep ALL exam and quiz questions. **YOU MAY NOT, under any circumstances, take one my exams or quizzes home with you. YOU MAY NOT zerox, copy, or photograph any of my exams or quizzes.** Failure to follow these rules may result in an "F" on the quiz/test or course
- 8) **Attendance and attitude.** I cannot stress enough the importance of attendance. I will be in class everyday and I expect you to be in class everyday. Missing class will almost certainly result in a lower grade. Also, I expect you to be on time to class EVERYDAY! You are expected to act as a mature, respectful, adult student in my course at all times. If you are behaving in a non-collegiate manner, I will ask you to leave the class.
- 9) **Competition. If your career goal is to become a pharmacist, nurse, medical doctor, dentist, veterinarian or other professional, you have a chosen a very competitive field to study. You need to be thinking about grades AND things like letters of recommendation, scholarships, externships, internships and so forth. Start looking now. Good grades will probably not be enough.**

- 10) I keep ALL exam and quiz questions. **YOU MAY NOT, under any circumstances, take one my exams or quizzes home with you. YOU MAY NOT zerox, copy, or photograph any of my exams or quizzes.** Failure to follow these rules WILL result in an "F" in the course.
- 11) Please notify me immediately if you have require accommodations (for example, due to disabilities or health issues of any sort). Our Accessibility Resource Center for Students (also called ACCESS) is also available to assist any needs you might have.
- 12) Please visit my website (instruction.mtsac.edu/trevell) and read the section on "How to be an excellent student".
- 13) I DO NOT have office hours during the weeks of finals. If you need to see me or look over an old an exam or quiz, you must do so BEFORE finals week. You may also look over your final exam the semester AFTER you have had the course (excluding summers and winters)
- 14) "It's real simple, you can either do it or don't do it" – Dr. Todd Newberry, UCSC professor emeritus and world famous invertebrate zoologist!

#### **Student Learning Outcomes:**

- 1) Aseptic technique. Students are able to demonstrate aseptic techniques that are appropriate for the allied health fields.
- 2) Aseptic Transfer. Perform aseptic transfer techniques and interpretations of laboratory results.
- 3) Basic Features. Explain the basic features of every group of microorganisms.
- 4) Control Methods. Apply physical and chemical methods of controlling microorganisms.
- 5) Diseases. Diagnose specific diseases on the basis of symptoms and laboratory test results.
- 6) Hand Washing. Analyze, using student's own experimental design, effective hand washing.
- 7) Host-Parasite Interaction. Explain the dynamics of host-parasite interaction.
- 8) Lab Procedures. Perform basic microbiology lab procedures using appropriate PPE required for this laboratory course.
- 9) Microscope. Demonstrate how to properly use the compound light microscope, as well as know its parts, their functions, how to safely transport and clean it.
- 10) Physiology. Describe the physiology and genetic processes of microorganisms.
- 11) Safe Handling Procedures. Demonstrate safe handling and proper hazardous waste disposal procedures for microorganisms and chemicals used.

#### **Course Measurable Outcomes:**

1. Explain the basic features of every group of microorganisms.
2. Describe the physiology and genetic processes of microorganisms.
3. Apply physical and chemical methods of controlling microorganisms.
4. Explain the dynamics of host-parasite interaction.
5. Diagnose specific diseases on the basis of symptoms and laboratory test results.
6. Perform basic microbiology lab procedures using appropriate PPE required for this laboratory course.
7. Demonstrate safe handling and proper hazardous waste disposal procedures for microorganisms and chemicals used.
8. Analyze, using student's own experimental design, effective hand washing.
9. Demonstrate how to properly use the compound light microscope, as well as know its parts, their functions, and how to safely transport and clean it.
10. Perform aseptic transfer techniques and interpretations of laboratory results.
11. Demonstrate proper and complete labeling of bacterial cultures and accurate recording of observations in the lab manual.