



## **Course Description**

This class incorporates online lectures and electronic homework activities and readings with engaging interactive class activities.

Students will watch online lectures, review textbook material, and do online homework outside of class.

## **Course Objectives**

**The objectives are in the text at the beginning of a new section in each chapter.**

The course is designed to introduce you to and provide basic skills and resources that will aid you in your medical employment or profession. The objectives of the lectures and labs are intended to help you learn the basics of microbiology, and understand the role and influence of microbes on our health, our environment, and everyday lives. Our goal at the end of the course is to help you:

- Appreciate the role of microbes in the environment and our economy.
- Understand microbial metabolism both aerobic and anaerobic.
- Understand growth requirements for microbes and methods of controlling growth of those microbes.
- Understand the role of adaptation of microbes to different environments and exposures.
- Know the basics of characterizing and classifying species.
- Understand in part how microbes affect our health.
- Understand in part how the body defends itself against microbes and disease.
- Be proficient at aseptic technique and in microscope use.

We hope that we can inspire you and prepare you better as a public or private health care worker, by being informed and, able to understand disease, and transmission of disease.

It is your responsibility to work on Learnsmart and Connect Chapter Homework assignments regularly.

The lab portion is intended to give a hands on training and visualization of lecture materials presented in class. It is a lab. You are expected to practice critical thinking skills, and work out the lab with some forethought. I will not be giving you a recipe card of instructions and telling you what to do, and when and how to do it. You will learn to use the compound light microscope, prepare smears, use of stains and indications, aseptic technique. You will gain insight into size, characteristics, needs of microbes, where they survive, how they are controlled, and their roles in our complex society.

## **Study and preparation**

This course includes a lot of new terms, names, classifications, techniques, concepts and terminology that must be mastered to be successful. I would recommend time studying your text. Use the reviews in the lab manual and text at the end of the chapters for studying. The best way to learn is read before class, then the next day review what you learned in class. Spending time reviewing with others is important and helpful.

## Websites

**www.masteringmicrobiology.com**

You can go online and use the tutorial resources available with your text.

Canvas website at : <https://bb.usu.edu>

You may go on canvas and look up tutorials, help and support.

<http://sites.google.com/site/scienceprofonline/microbiologyhelp>

<http://courses.cit.cornell.edu/biomi290/microscopycases>

<http://courses.cit.cornell.edu/biomi290/z.OldWebSite/immune/directions.html>  
connect.mheducation.com

## Laboratory

Spend a little time before class and lab to review the learning objectives and protocols, to be prepared for the short time available in the lab. There are things that require time, and need to be prepared early in the lab in order to be done by the end of the lab. The data sheets in the lab manual will be turned in for grades. Take your time and fill them out and answer the questions with as much detail as possible. Remember this is for your education not mine. If you need help, ask!

## Student Presentation

Each student is required to submit a written and provide an oral presentation of their research on an infectious disease. Report expectations and grading criteria will be provided. The written portion of the report will require a visit to the writing center. The oral portion of the assignment will be a power point presentation to be presented the last week of class. This is not for a burden, think of reasons why we might ask for this to be done, and how it will make you a better health care provider.

## Grading

Grades will be mainly from your test and lab quiz scores and lab data sheets. The letter grade is based on the percentage of total points earned on all the exams, lab quizzes, paper and student presentation. No extra credit, special projects, sympathy ploys, etc. to improve your grades. (This is an example grid)

<b>Points earned</b>	<b>Percentage of points earned</b>	<b>Grade</b>
555-600	93-100	A
537-554	90-92	A-
513-536	86-89	B+
495-512	83-85	B
477-494	80-82	B-
453-476	76-79	C+
435-452	73-75	C
417-434	70-72	C-

393-416	66-69	D+
357-392	60-65	D
356 or less	<59	F

**Students Responsibilities:** The student is expected to attend all lectures and laboratories, take notes, read the assignments, and achieve a cumulative score of 75% or greater on the exams. In the event of difficulty, it is the students' responsibility to seek help. This course requires as many hours outside the class in study and review as they are in class and lab.

**Classroom Etiquette:** Cell phones are only for **emergency**. There will be no texting or music or calls during class or labs. Language and dress are expected to be. I expect only one person to speak, and that is me, unless, there are questions or discussion pertaining to the material. Labs will require appropriate language, dress, actions, and behavior. No throwing specimens or instruments.

**Academic Honesty:** Do not remove any exam materials from the class or labs. Do not copy or remove exam material. No cheating allowed. The University expects that students and faculty alike maintain the highest standards of academic honesty. From the code of policies and procedures for students at Utah State University, Article V, Section E: Section 3, Violations of University Standards.

1. Acts of academic dishonesty.
  - A. Cheating includes intentionally: (1) using or attempting to use or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity; (2) depending upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (3) substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work; (4) acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission; and (5) engaging in any form of research fraud.
  - B. Falsification includes the intentional and unauthorized altering or inventing of any information or citation in an academic exercise or activity.

**Withdrawals and incomplete grades:** Incomplete grades are only given for conditions beyond the students control and not due to poor performance. Students who receive a incomplete must keep the scores they earned up until they leave the class. At a later date they are only allowed to complete the quizzes and exams that remained unfinished.

**Students with Disabilities:** Students with physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 103. All accommodations are coordinated through the Disability Resource Center (DRC) toll free at 1-800-259-2966. Alternate format materials (Braille, large print, or audio diskettes) are available with advance notice through the disability resource center.

**Biology 2060 – Elementary Microbiology**  
**Schedule of Classes, Fall 2015**



Week	Day	Subject	Reading in Text
1	Tue, Aug 29	Course Introduction	iv-xii
	Tue, Aug 29	Introduction to Microbes	Chapter 1
	Lab Tuesday	Lab safety #1 Contamination	Lab safety Appendix A Lab 1
	Thu, Sep 1	Tools of the Laboratory	Chapter 2
	Lab Thursday	#2 handwashing #3 intro to microscope	Labs #2, #3
2	Tue Sept 6	Bacteria and Archea	Chapter 3
	Tue lab	Finish and turn in #1, #2, #3 Start #17 specimen handling #18 medical asepsis	#1, #2, #3 Labs #17, #18
	Thur Sept 8	Eukaryotic cells and Microorganisms	Chapter 4
	Thur lab	Finish #17, #18	#17, #18
3	Tue, Sept 13	Viral Structure and Life Cycles	Chapter 5
	Tue Lab	Start #4 measuring microbes #5 advanced micro	Labs #4, #5
	Thu, Sept 15	Microbial Nutrition and Growth	Chapter 6
		Microbial Nutrition and Growth	Chapter 6
	Thur lab	Finish #4, #5	<b>Labs #4, #5</b>
4	Mon, Sept 19	<b>EXAM #1 Testing Center</b>	Chapters 1, 2, 3, 4
4	Tue, Sept 20	<b>Last Day to Drop Without Notation on Transcript!</b>	
		Microbial Metabolism	Chapter 7
	Tues lab	Start # 9 simple stain #10 gram stain	Labs #9, #10
	Thu, Sept 22	Microbial Metabolism	Chapter 7

	Thur lab	<b>Lab Quiz #1</b> Finish Labs #9, #10	<b>#1 Lab Quiz #1</b> <b>Labs 1,2,3,4,5,17,18</b>
5	Tue, Sep 27	Microbial Genetics	Chapter 8
	Tue lab	Labs #11 capsule stain #12 spore stain	Labs #11, #12
	Thur, Sep 29	Microbial Genetics	Chapter 8
	Thur lab	Finish #11, #12	Turn in prior labs
6	Mon, Oct 3	<b>EXAM #2 testing center</b>	Chapter 5, 6, 7, 8
	Tue, Oct 4	Physical and Chemical controls	Chapter 9
	Tue lab	Start Labs #6 transfer technique #7 streak plate, and pour	Labs #6, #7
	Thu, Oct 6	Antimicrobial Treatment	Chapter 10
	Thur lab	Finish #6, #7	
7	Tue, Oct 11	Antimicrobial Treatment  <b>Draft due to writing center this week</b>	Chapter 10
	Tue lab	Need letter from writing center Start labs #27 pathogenic cocci #28 flora of the mouth	Labs #27, #28
	Thu, Oct 13	Interactions Between Microbes and Humans.	Chapter 11
	Thur lab	<b>LAB QUIZ #2</b> <b>Finish #27, #28</b>	Labs 6,7, 9, 10, 11, 12 Finish #27, #28
8	Tue, Oct 18	Spanish Flu video	Youtube
	Tues lab	#32 phage typing Kevin set up.	Labs #32
	Thur, Oct 20	Fall Break no class	Fall Break
	Thur. Lab	<b>NO LABS</b>	
9	Mon, Oct 24	<b>EXAM #3 testing center</b>	Chapters 9, 10, 11, video
	Tue, Oct 25	Host Defenses	Chapter 12
	Tue lab	Start #22 control with abx	#22,

		#14 bacterial conjugation #14	
	Thu, Oct 27	Host Defenses	Chapter 13
	Thur lab	Finish #14, 22	
10	Tue, Nov 1	<b>Last day to drop with “W” on transcript</b>	---
	Tue lecture	Specific Host Defenses	Chapter 13
	Tue lab	Lab #29 culture of anaerobes	Lab #15
	Thu, Nov 3	Disorders in Immunity	Chapter 14
		<b>Finish #15, Lab Quiz #3</b>	Labs # 14,21,22,27,28,32
11	Tue, Nov 8	Diagnosing Infections	Chapter 15
	Tue Lab	Start Labs #26 white blood cell #30 enteric bacteria	Labs #26, #30
	Thu, Nov 10	Microbial Diseases of the Skin and Eyes	Chapter 16
	Thur lab	Finish #26, #30	
	<b>Should be</b>	<b>working on finishing up your papers</b>	<b>and presentations now</b>
12	Tue, Nov 15	Microbial Diseases of the Nervous System	Chapter 17
	Tue lab	Start #25 blood typing #33 epidemiology	#25, #33
	Thu, Nov 17	Microbial Diseases of the GI system	Chapter 20
		<b>Last Day to Drop With a “WF” on Transcript</b>	
	Thur lab	Finish #25 blood typing #33 epidemiology Start Student presentations	Start student presentations
13	Mon, Nov 21	<b>EXAM #4 testing center</b>	Chapters 12,13,14,15
	Tue, Nov 22	Microbial Diseases of the Cardiovascular and Lymphatic Systems	Chapter 18
	Thu, Nov 24	No class THANKSGIVING	NO CLASS
		<b>Student presentations</b>	NEXT WEEK
14	Tue, Nov 29	Microbial Diseases of the Urinary and Reproductive Systems Student presentations on disease	Chapter 21
	<b>Written</b>	<b>Scientific papers are due!!!!!! No labs</b>	
	Thur, Dec 2	Microbial Diseases of the Respiratory System LAST DAY OF CLASS	Chapter 19

15	Tue, Dec 6		
	Lab	Student presentations on disease	
16	Mon, Dec 12	<b>Comprehensive Final Exam Chapters 16-21</b>	Chapters 16-21

