

**Optional materials:** Prescott's Microbiology (8<sup>th</sup> or 9<sup>th</sup> Edition), Willey, Sherwood and Woolverton

**Required materials:** 3405 Lab manual by Dr. Pakpour (available at bookstore)  
Black Sharpie permanent marker (lab coats will be provided)

**Prerequisites:** You MUST have completed the following: BIOL 1401, BIOL 1402, BIOL 1403 or equivalents, as well as organic chemistry. This course is not open to students with credit for BIOL 2025, 3005 or BIOL 4010. If you have not completed the required prerequisite you will be dropped from the course.

**Course Information:** There will be two lectures per week and all presentations will be made available on Blackboard AFTER the lecture. Audio recording of lectures is allowed and video of lectures may be available via East Bay Replay (<http://www20.csueastbay.edu/mats/eastbayreplay/access-lectures.html>)

**Grading:** Score totals from the assignments listed below will be posted on Blackboard. Grades will be determined based off a standard grading scale. Your grade is composed of 50% Lecture and 50% Lab.

**LECTURE 50%**

Midterms (2)	100 pts	200
Final exam (1)	150 pts	150
Quizzes (2)	20 pts	40
Good Citizen (1)	10 pts	10
Extra credit (1)	15 pts	

Total: 400

**LAB 50%**

Lab practicals (2)	100 pts	200
Skills test (4)	10 pts	40
Lab work (11)	10 pts	110
Unknown (1)	50 pts	50
Extra credit (1)	15 pts	

Total: 400

Midterms: Will consist of approximately 50 multiple-choice (50 pts) and short answer/fill-in (50 pts) questions

Final Exam: Consists of 100 pts worth of new material (multiple choice and short answer) and 50 pts of cumulative multiple choice questions. Make-up exams are given only in unusual circumstances, with documentation. You must notify the instructor that you will miss an exam *before* the exam takes place.

Quizzes: Will be based on the previous 3-4 lectures and will be given at the beginning of class.

Good Citizen: Students will be awarded 10 pts for good citizenship *unless* they are disruptive or disrespectful in lecture or lab (cell phone use, arriving excessively late, talking in class, messiness, relying on your lab partner).

Extra credit: Can be earned through in class activities in lecture and can be earned in lab by doing particularly excellent stains and/or procedures (these will be announced in lab)

Lab practicals: You will have ~3 min at ~25 stations testing your knowledge of the various techniques and we have performed in lab. Will be short answer and multiple choice.

Skills tests: Will be unannounced and will test the following skills: gram staining, focusing a microscope, cleaning a microscope, streaking for isolated colonies, aseptic technique and using a pipette.

Lab work: Assignments based on work done in lab.

Unknown: Identify the bacteria in an unknown sample you are given using the various tests and procedures that you have been taught in lab and the flow chart you have made previously.

**LABORATORY RULES:** Lab attendance is **MANDATORY**. More than 2 absences will result in an automatic failure of the course. Please arrive on time and stay for the entire lab session, or until excused by the instructor. If you are more than 15 minutes late you will be marked as absent. Safety/clean-up are critical lab components and any infractions will be deducted from your total score.

**ACADEMIC DISHONESTY POLICY:** By enrolling in this class the student agrees to uphold the universities standards of academic integrity. Academic Dishonesty will not be tolerated and will be prosecuted fully.

**ACCOMMODATIONS FOR THOSE STUDENTS WITH DISABILITIES:** Please contact me as soon as possible if you have a documented disability and wish to discuss academic accommodations. Students with disabilities needing accommodation should also speak with the Accessibility Services.

		Date	Lecture	Read	Lab
WEEK 1	T	1	Introduction / History of Microbiology	1.3-1.4	Safety, lab coats, microscopy, open/touch plate
	R	2	Prokaryotic Cell Structure	3.1-3.7	Aseptic technique, transfer, streak plate, microscopy
WEEK 2	T	3	Prokaryotic Cell Structure & microbial growth, <b>QUIZ 1</b>	7	Simple, gram, & negative stain
	R	4	Introduction to metabolism	10	Acid fast, spore, & capsule stains
WEEK 3	T	5	Metabolism - catabolism (not on exam I)	11	Environmental requirements
	R		<b>EXAM I</b>		Environmental results, Kirby bauer
WEEK 4	T	6	Metabolism - anabolism	12	Sterilization, Kirby bauer results
	R	7	Chemical & Physical Control	8 & 9	Results from sterilization, membrane filtration
WEEK 5	T	8	Bacterial genome & expression	13	Results from membrane filtration, Spread plates
	R	9	Regulation of expression, <b>QUIZ 2</b>		Spread plate results, review
WEEK 6	T		no lecture	14	<b>PRACTICAL 1</b>
	R	10	Genetic variation	16	biochem day 1
WEEK 7	T	11	Viruses (not on exam II)	6	biochem day 2
	R		<b>EXAM II</b>		biochem, flow charts, <b>Unknown Day 1</b>
WEEK 8	T	12	Recombinant DNA technology	17	<b>Unknown Day 2</b>
	R	13	Principles of disease	35	<b>Unknown Day 3</b>
WEEK 9	T	14	Innate immunity	33	<b>unknown report due</b> , start gram-pos bacteria
	R	15	Adaptive immunity	34	results from gram-pos, coagulase, demo chart
WEEK 10	T	16	bacterial human diseases	none	ELISA, review
	R		no lecture		<b>PRACTICAL 2</b>