

College/University: Ferris State University
Department: Biology

BIOL108: Medical Microbiology Graphic Syllabus

Lecture Learning Assessments				<<< Lectures <<<----- Presentations ----->>> Laboratories >>>			Laboratory Learning Assessments				
☆☆	☆☆	☆☆☆	☆☆	Lecture Topics	Ultimate Course Learning Outcomes	Laboratory Exercises	☆☆	☆☆☆	☆☆	☆☆☆	☆☆☆
☆☆	☆☆	☆☆☆	☆☆	Course policies	Introduction	Lab safety	☆☆	☆☆☆	☆☆	☆☆☆	☆☆☆
Comprehensive Final Exam	Exam 1	Quiz 1	HW 1	Scope and history of microbiology	1) Microbial Diversity Give examples of and compare and contrast different types of microbes (including viruses, bacteria, fungi, and protozoa) as well as identify various structures and define their functions.	Environmental surveillance	pp 11-14	Quiz 1	Bacterial unknown project	Comprehensive Practical Exam	
			HW 2	Chemistry of Biology		Microscopy	pp 26-28				
		Quiz 2	HW 3	Tools of Microbiology		Simple stain	pp 33-34				Quiz 2
			HW 4	The prokaryotes		Gram stain	pp 38-39				Quiz 3
		Quiz 3	HW 5	The eukaryotes		Acid-fast stain	pp 49-50				Quiz 4 ¹
			HW 6	Viruses		Endospore stain	pp 54-55				Quiz 5
	Exam 2		Quiz 4	HW 7	Microbial nutrition and growth	2) Microbial Physiology Explain the various metabolic strategies employed by microbes providing specific examples of how metabolism is linked to environmental cycling of elements and pathogenesis. Describe basic concepts involving how genetic information flows in microbial cells, detailing the importance of mutation, recombination, and lateral genetic exchange in virulence.	Symbioses	pp 101-102			Quiz 6
				HW 8	Microbial catabolism		Anaerobes	handout			Quiz 4 ¹
			Quiz 5	HW 9	Fermentation and respiration		Viable cell counts	pp 83-84			Quiz 9
				HW 10	Microbial genomes		Genetic transformation	pp 145-146			Quiz 9
			Quiz 6	HW 11	Genetic expression						
				HW 12	Genetic transfer and mutagenesis						
Exam 3		Quiz 7	HW 13	Physical and chemical control	3) Antimicrobials & Immunity Distinguish between chemical, physical, and biological means of controlling microbial growth. Decide which means would be most appropriate when given a hypothetical scenario. Summarize and diagram the interrelated systems of the host immune defenses, differentiating between the innate, humoral, and cellular defenses and identify points of interaction. Explain how inappropriate immune responses can result in host damage.	Antiseptics and disinfectants	pp 122-123	Quiz 7 ²			
			HW 14	Antibiotics		Antibiotics	pp 130-131	Quiz 8			
		Quiz 8	HW 15	Human-microbe interactions		Environmental conditions	pp 109-110	Quiz 8			
			HW 16	Innate immune defenses		Food microbes	Handout	Quiz 7 ²			
		Quiz 9	HW 17	Specific immune defenses							
			HW 18	Immune disorders							
		Quiz 10	HW 19	Pathogens of the skin and eyes	4) Microbial Diseases Identify microbial pathogens and correlate them to the diseases that they cause. Describe several different molecular strategies employed by microbial pathogens and give several specific examples of each. List the most important microbial diseases in the U.S. or worldwide.	Water quality	pp 97-98	Quiz 10			
			HW 20	Pathogens of the nervous system		Exoenzymes	handout	Quiz 11			
		Quiz 11	HW 21	Pathogens of the circulatory system		Enterobacteriaceae	pp 157-158	Quiz 11			
			HW 22	Pathogens of the respiratory tract		Gram positive cocci	pp 165-166	Quiz 11			
		Quiz 12	HW 23	Pathogens of the gastrointestinal tract							
			HW 24	Pathogens of the genitourinary tract							
150	300	180	120	<<<----- Points available ----->>>			0	100	50	100	
750 points possible				1,000 total points available			250 points possible				