

**GENERAL MICROBIOLOGY LABORATORY**  
Fall Semester 2014

<b>Day</b>	<b>Date</b>	<b>Lab #</b>	<b>Lab Exercises</b>
Th	Sept. 4		Introduction and Safety
T	Sept. 9	1	Ubiquity of Microorganisms Microscopy
Th	Sept. 11	2	Simple Stains: Direct and Negative Morphological Unknown: Direct stain
T	Sept. 16	3	Differential Stains: Cell Wall (Gram and Acid-Fast) Morphological Unknown: Gram and Acid-Fast stain
Th	Sept. 18	4	Differential Stains: Cell Structures (Endospore and Capsule) Morphological Unknown: Endospore Stain
T	Sept. 23	5	Aseptic Technique Cultivation of Bacteria: Culture Media/Nutritional Requirements Enumeration of Bacteria: Standard Plate Count
Th	Sept. 25	6	Cultivation of Bacteria: Pure Culture/Streak Plate Environmental Influences: Temp., Osmotic Pressure and pH
T	Sept. 30	7	Microbial Diversity and Ecology: Bioluminescence and the Winogradsky Column ( <i>Pipetmen</i> )
Th	Oct. 2	8	Control of Microbial Growth: UV and Antibiotics Bacterial Genetics: Isolation of Drug Resistant Mutants
T	Oct. 7	9	Control of Microbial Growth: Disinfectants and Antiseptics Effectiveness of Antiseptics in Hand Washing Bacterial Genetics: Isolation of Drug Resistant Mutants (cont.)
Th	Oct. 9	10	Bacterial Genetics: Transformation
		11	Bacteriophage: Isolation
T	Oct. 14	12	Bacteriophage: Titering a Phage Suspension
Th	Oct. 16	13	Fungi
		<b>14</b>	<b>Skill Tests #1 – complete by Friday, Oct. 17</b>

Day	Date	Lab #	Lab Exercises
T	Oct. 21	15	Enzyme-Mediated Biochemical Activities of Bacteria: Physiological Testing for Identification
Th	Oct. 23	16	Enzyme-Mediated Biochemical Activities of Bacteria: Physiological Testing for Identification
T	Oct. 28	17	Complete Physiological Testing for Identification Unknown: Gram Stain and Streak for Isolation
Th	Oct. 30	18	Unknown: Gram Stain and Prepare Reserve and Working Stocks Food Microbiology: Preparation of Wine
T	Nov. 4	19	Unknown: Biochemical Testing
Th	Nov. 6	20	Unknown: Biochemical Testing The Rapid KOH String Test
T	Nov. 11	21	Genomics and the Application of Computer-Based Nucleotide Sequence Searches for Identification of Unknown Bacteria and their Phylogenetic Relationships Complete Unknown: Identification
Th	Nov. 13	22	Immunology
T	Nov. 18	23	Water Microbiology: PA test, Membrane Filtration and MTFM
Th	Nov. 20	24	Soil Microbiology: Enrichment of <i>Azotobacter</i> and Enumeration Water Microbiology (cont.)
T	Nov. 25		NO LAB – Thanksgiving Break
Th	Nov. 27		NO LAB – Thanksgiving Break
T	Dec. 2	25	Food Microbiology: Natural Antimicrobials in Food
Th	Dec. 4	26	Food Microbiology: Preparation of Yogurt (clean up)
		27	<b>Skill Tests #2 – Complete by Friday, Dec. 5</b>