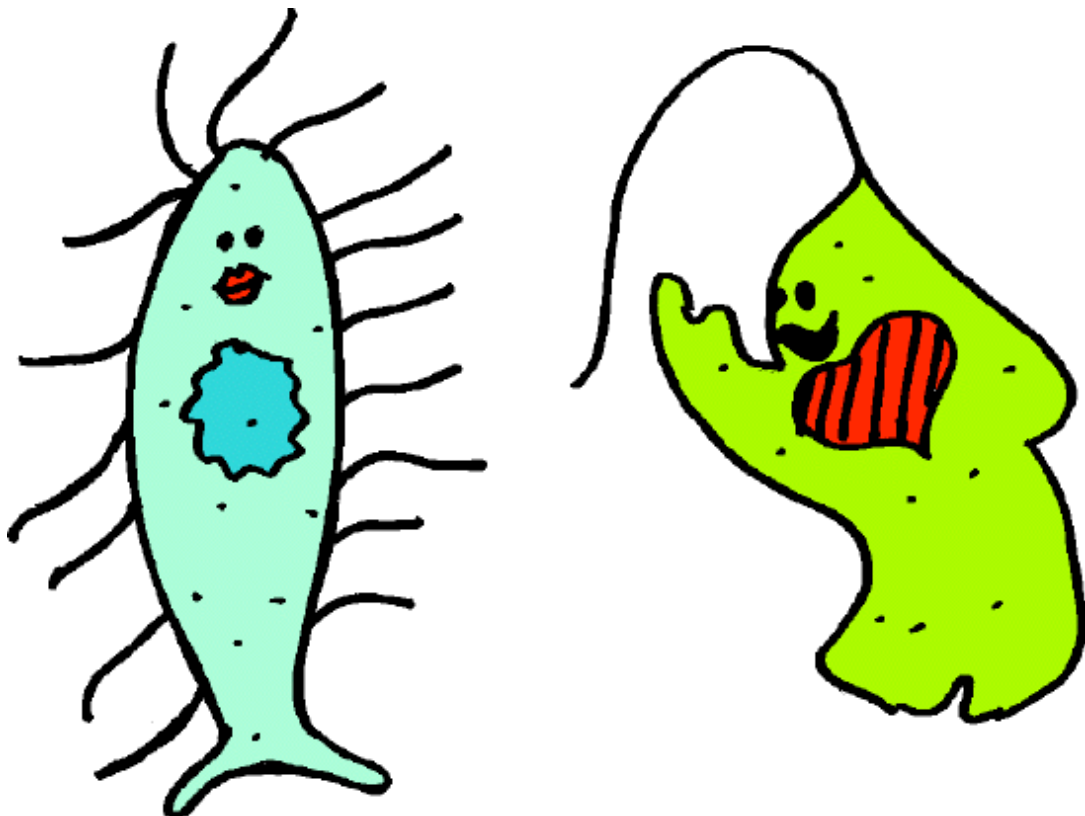


GENERAL MICROBIOLOGY LABORATORY MANUAL

MOLB/MICR 2021

Fall Semester 2010



University of Wyoming
Laramie, Wyoming

GENERAL MICROBIOLOGY LABORATORY

Fall Semester 2010

Day	Date	Lab #	Lab Exercises
Th	Aug. 26		Introduction and Safety
T	Aug. 31	1	Ubiquity of Microorganisms Microscopy
Th	Sept. 2	2	Simple Stains: Direct and Negative Morphological Unknown: Direct stain
T	Sept. 7	3	Differential Stains: Cell Wall (Gram and Acid-Fast) Morphological Unknown: Gram and Acid-Fast stain
Th	Sept. 9	4	Differential Stains: Cell Structures (Endospore and Capsule) Morphological Unknown: Endospore Stain
T	Sept. 14	5	Aseptic Technique Cultivation of Bacteria: Culture Media/Nutritional Requirements Enumeration of Bacteria: Standard Plate Count
Th	Sept. 16	6	Cultivation of Bacteria: Pure Culture/Streak Plate Environmental Influences: Temp., Osmotic Pressure and Oxygen
T	Sept. 21	7	Microbial Diversity and Ecology: Bioluminescence and the Winogradsky Column (<i>Pipetmen</i>)
Th	Sept. 23	8	Control of Microbial Growth: UV and Antibiotics Bacterial Genetics: Isolation of Drug Resistant Mutants
T	Sept. 28	9	Control of Microbial Growth: Disinfectants and Antiseptics Effectiveness of Antiseptics in Hand Washing Bacterial Genetics: Isolation of Drug Resistant Mutants (cont.)
Th	Sept. 30	10	Bacterial Genetics: Transformation
		11	Bacteriophage: Isolation
T	Oct. 5	12	Bacteriophage: Titering a Phage Suspension
Th	Oct. 7	13	Fungi
			Lab Practical Review
T	Oct. 12	14	Practical Exam I

Day	Date	Lab #	Lab Exercises
Th	Oct. 14	15	Enzyme-Mediated Biochemical Activities of Bacteria: Physiological Testing for Identification
T	Oct. 19	16	Enzyme-Mediated Biochemical Activities of Bacteria: Physiological Testing for Identification
Th	Oct. 21	17	Complete Physiological Testing for Identification Unknown: Gram Stain and Streak for Isolation
T	Oct. 26	18	Unknown: Gram Stain and Prepare Reserve and Working Stocks Food Microbiology: Preparation of Wine
Th	Oct. 28	19	Unknown: Biochemical Testing
T	Nov. 2	20	Unknown: Biochemical Testing The Rapid KOH String Test
Th	Nov. 4	21	Genomics and the Application of Computer-Based Nucleotide Sequence Searches for Identification of Unknown Bacteria and their Phylogenetic Relationships Complete Unknown: Identification
T	Nov. 9	22	Immunology
Th	Nov. 11	23	Water Microbiology: PA test, Membrane Filtration and MTFM
T	Nov. 16	24	Soil Microbiology: Enrichment of <i>Azotobacter</i> and Enumeration Water Microbiology (cont.)
Th	Nov. 18	25	Food Microbiology: Natural Antimicrobials in Food Soil Microbiology: Nitrogen Fixation (cont.) and Ammonification Water Microbiology (cont.)
T	Nov. 23		Optional Winogradsky Column Observation
Th	Nov. 25		NO LAB – Thanksgiving Break
T	Nov. 30	26	Food Microbiology: Preparation of Yogurt (clean up) Lab Practical Review
Th	Dec. 2	27	Practical Exam II