

BIOL 1560L - Microbiology Laboratory for Health Professions

Fall 2026 Syllabus, Section 05, CRN 40483,

Credit hours: 1

Public Instructor Information

Jonathan Caguia

Professional Qualifications:

Postdoctoral, Microbiology, The University of Georgia

Ph. D., Microbiology, The Michigan State University

Bachelor's, Biology – Cell & Molecular Biology, The University of Michigan

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Course Description

1560L. Microbiology Laboratory for Health Professions. Microscopy, cultivation, and identification of bacteria. Microbiology of foods. Disinfection techniques. Not applicable to a biology major. Three hours of laboratory per week. Must be taken concurrent with BIOL 1560. 1 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Microbiology for the Health Professions Laboratory Manual	Diana Fagan, Jonathan Caguia and Li Sui	979-8-3851-5600-9

This lab manual is not part of the First Day Program and should be purchased from the YSU Bookstore.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Tentative Course Schedule

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	8/24	No Class		
Mon	8/31	Week1: Labs 1-2	Check-in, Lab directives, The Use and Care of Microscopes and Microbes in the Environment	8/31/26
Mon	9/7	No Class		
Mon	9/14	Week 2: Labs 3-5	Simple-Stain, Pour Plate and Streak Plate Techniques Take good notes: you will write a lab report on these exercises	9/14/26
Mon	9/21	Week 3: Labs 6-8	Gram-Stain, Starch Hydrolysis and Gelatin Hydrolysis	9/21/26
Mon	9/28	Week 4: Labs 9-12	EMB, MacConkey and Mannitol Salts agar, Hemolysis, Motility and Catalase	9/28/26
Mon	10/5	Quiz 1 Week 5: Labs 13-15	Labs 1-8 Acid Fast Staining, Lactose Fermentation and Triple Sugar Iron	10/5/26 10/5/26
Mon	10/12	Labs Report Due Week 6: Labs 16-18	Week 2 labs 3-5 Desiccation, Disinfection and UV light Exposure	10/12/26 10/12/26

Mon	10/19	Week 7: Labs 19-21	Effect of Cold on Growth, Hand Washing and Antibiotic Sensitivity	10/19/26
Mon	10/26	Quiz 2	Labs 9-18	10/26/26
		Week 8: Labs 22-24	Effect of Osmotic Pressure, pH and High Temperature on Growth	10/26/26
Mon	11/2	Week 9: Labs 25-26	Bacteriological Testing on Water, and Bacteria on Fruits and Vegetables	11/2/26
Mon	11/9	Week 10: Labs 28-30	Yeast Fermentation (Dough), Yogurt Production by Lactobacillus and Synder's Agar - Lactobacillus detection in saliva	11/9/26
Mon	11/16	Quiz 3	Labs 19-25 (first half)	11/16/26
		Week 11: Labs 31-32	Standard Plate and Coliform Counts in Raw Milk Using Nutrient Agar and Violet Red Bile Plates. Also, Phosphatase Test	11/16/26
Mon	11/23	No Class		
Mon	11/30	Quiz 4	Labs 25 (second half), 26, and 28-32	11/30/26
		Comprehensive Quiz (Optional)	All lab exercises	11/30/26

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.