

**BIOLOGY 230: Principles of Microbiology, Spring 2019
LAB SYLLABUS**

Section 02 Tues 09:00 am-10:55 am, ISC 302
 Thurs 09:00 am-09:55 am, ISC 302

Section 03 Tues 01:30 pm-03:25 pm, ISC 302
 Thurs 01:30 pm-02:25 pm, ISC 302

Instructor: Betsy Hutchison

Office: ISC 359

Email: 585-245-5038

Office Hours: Mon 10-11 am, Wed 9-10 am, or by appointment.

Course TA

The TA for this course is Taylor Moore (tem5@geneseo.edu). Taylor took the course during the Fall 2018 semester, and will be attending the Tuesday labs. She is available to help with lab (or lecture) material, and is a great resource for asking questions about the material, about lab technique, and about lab assignments.

Course Description

The structure, cultivation, physiology, ecology, and importance of microorganisms (including bacteria, yeasts, and viruses) are studied. Laboratory activity complements lecture material. Prerequisites: BIOL 222 and CHEM 211 or CHEM 223.

Required Texts

None, all laboratory materials are available on Canvas. Students are expected to print our laboratory materials before coming to class, and to check Canvas for materials.

Grading

Lab Grades

Lab Notebook	10 pts
Presentation	20 pts
Individual Lab Report (1)	25 pts
Group Lab Reports (2)	50 pts
Lab Practical	25 pts
Biochemical Tests Assignment	5 pts

Make ups are NOT administered except under special circumstances (such as significant medical or family issues). No other excuses (vacations, weddings, travel, etc) will be accepted.

Attendance. Please note: unexcused absences from lab will result in a 10 pt deduction from your overall BIOL 230 grade. If you have ≥ 2 unexcused absences, you will get a zero (0) for the lab section of the course.

Grade disputes must be initiated within one week from when the assignment was handed back.

Tips for Success

Laboratory activities will be posted on Canvas and you are required to read over them

before coming to lab.

One of the components of success in the lab is keeping a good lab notebook. I will post guidelines for your lab notebooks, and assessment of lab notebooks will be done at random, so you'll need to keep up with your notebook throughout the semester.

To be a good microbiologist, there are some basic skills (aseptic technique, media making, plate streaking, microscopy, etc) that you need to learn, and these skills will be necessary in almost any microbiology or molecular biology lab. You'll have two opportunities to demonstrate your mastery of these skills in a lab practical. The first lab practical we do will be shorter, and will not be graded. This is meant to be a learning experience, and to help you prepare for the second lab practical, which occurs at the end of the semester. If we have any down time in lab, use this time to practice skills, or you can schedule some extra time outside of lab (for example during office hours) to practice.

Students with Disabilities

SUNY Geneseo will make reasonable accommodations for persons with documented physical, emotional, or cognitive disabilities. Accommodations will be made for medical conditions related to pregnancy or parenting. Students should contact Ms. Heather Packer in the Office of Disability Services (disabilityservices@geneseo.edu or [585-245-5112](tel:585-245-5112)) and their faculty (Dr. Hutchison) to discuss needed accommodations as early as possible in the semester.

Academic Dishonesty & Plagiarism

Students are expected to adhere to the University's policy on academic dishonesty and plagiarism, located in the student handbook. Academic dishonesty and plagiarism have serious consequences, and if you're struggling in class, please ask for help rather than resort to academic dishonesty! Academic dishonesty will result in a zero on the assignment or exam. In addition, a report will be filed to the department chair and Dean of the College, and a record of academic dishonesty will be placed in the student's file at the Dean of Students Office.

Tentative Schedule (subject to change at instructor's discretion)

It is expected that you check Canvas at the beginning of each week for lab materials and instructions).

Week	Date	Subject
	(R) 01/24	no lab first week
1	(T) 01/29 (R) 01/31	Check-in and Intro; Aseptic Technique; Making Media Enrichment cultures (Winogradsky, Purple Nonsulfurs)
2	(T) 02/05 (R) 02/07	Isolating pure cultures; isolation of unknown bacterium Isolating pure cultures
3	(T) 02/12 (R) 02/14	Introduction to Microscopy & Staining Isolation of unknown; PCR
4	(T) 02/19 (R) 02/21	Gram Stain, KOH test Viewing bacterial structures (endospores, flagella); Winogradsky columns Lab notebook checks begin
5	(T) 02/26 (R) 02/28	Methods to enumerate bacteria Methods to enumerate bacteria
6	(T) 03/05 (R) 03/07	Bacterial Growth Curve; Purple Nonsulfurs Bacterial Growth Curve Individual Lab Report 1 due (topic: Gram Stain & KOH test)
7	(T) 03/12 (R) 03/14	Biochemical Activities of Bacteria Biochemical Activities of Bacteria
	(T) 03/19 (R) 03/21	No lab – Spring Break No lab – Spring Break
8	(T) 03/26 (R) 03/28	Biochemical Tests Finish Biochemical tests, tentative ID of unknown; biochemical tests assignment due
9	(T) 04/02 (R) 04/04	Kirby-Bauer tests; isolation of antibiotic producers from soil; isolation of yeasts; Group Lab Report 1 due (topic: growth curve) Kirby-Bauer tests
10	(T) 04/09 (R) 04/11	Practice Lab Practical ; Isolation of antibiotic producers from soil Bioinformatics Lab
11	(T) 04/16 (R) 04/18	Food Microbiology; isolation of antibiotic producers from soil, isolation of yeasts Food Microbiology

12	(T) 04/23 (R) 04/25	Biofilms and Chemotaxis; work on presentation Chemotaxis Lab Group lab report 2 due (topic: Kirby Bauer)
13	(T) 04/30 (R) 05/02	Biofilm lab; work on presentation Presentations due (topic: unknown identification); Microscopy contest images due
14	(T) 05/07	Lab Practical