

Biology 349 Microbiology Lab Syllabus

Fall 2023

Section 02: Monday 9:30am – 12:20pm (ISC 302)

Section 03: Monday 2:00pm – 4:50pm (ISC 302)

Section 04: Tuesday 2:00pm – 4:50pm (ISC 302)

Instructor: Dr. Matthew Hatkoff

Office: ISC 139A

Email: mhatkoff@geneseo.edu

Office Hours

Tuesday 9:30am – 12:00pm

Thursday 10:00am – 12:30pm

Or By Appointment (Face to Face or Virtual)

Course Description

An introduction to microorganisms, including Bacteria, Archaea, Eukaryotes, and Viruses. Topics include cell structure and function, cultivation, genetics, metabolism, ecology, evolution, and diversity of microbes. The role of microorganisms in human health and disease will also be examined. Laboratory activity complements lecture material.

Required Text

For the laboratory portion of the course there are no required materials. All laboratory materials will be available on Brightspace. Students are expected to print out lab materials before coming to class and to check Brightspace for materials. A three-ring binder is encouraged to organize these materials.

Grading

Your lab grade is a component of your overall BIOL 349 grade; your final grade is a combination of your lecture and lab grade. Please see the lecture syllabus for a full assignment/grading summary.

The table below summarize the lab portion of your BIOL 349 grade.

Lab Presentation	8%
Group Lab Report (Draft and Final)	10% (Draft 2.5% and Final 7.5%)
Short Reports (3 total)	10%
Final Practical	7%

Any grade disputes by initiated within one week from when the assignment was returned.

Unexcused absences from lab will result in a 5% deduction from your lab grade. If you have more than 2 unexcused absences you will get a zero (0) from the lab section of the course.

Tips for Success

Laboratory activities will be posted on Brightspace 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. Since lab materials are posted on and printed from Brightspace, you can keep your materials in a binder, and add in pages for any notes that you have. I will allow you to use your notebook for the lab practical, so it will greatly benefit you to keep an organized notebook.

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.

Student Accommodations

SUNY Geneseo is dedicated to providing an equitable and inclusive educational experience for all students. The Office of Accessibility will coordinate reasonable accommodations for persons with physical, emotional, or cognitive disabilities to ensure equal access to academic programs, activities, and services at Geneseo. Students with letters of accommodation should submit a letter to each faculty member and discuss their needs at the beginning of each semester. Please contact the Office of Accessibility Services for questions related to access and accommodations.

Office of Accessibility Services

Erwin Hall 22

(585) 245-5112 access@geneseo.edu; (<mailto:access@geneseo.edu>);

www.geneseo.edu/accessibility-office

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.

Guidelines for Attendance and Public Health

As we continue to deal with variants of the COVID-19 virus well into the future, I share these expectations for classroom attendance and protecting public health. SUNY Geneseo is a residential liberal arts college where we all learn together in a shared space. This classroom community is vital for engaging in discussions, solving problems, and answering questions

together. Learning is an active process, and it requires engagement - on my part and yours. I promise to create an interactive and collaborative classroom space, and in return I expect you to attend and engage in the activities.

We know that COVID is shifting from a pandemic to endemic stage, and it's possible that some of you may get infected over the course of the semester. Because we want you to be successful and because we value your contribution to the course, we expect you to prioritize attendance. If you are experiencing symptoms associated with COVID* on a day we have class, please take a COVID test. Testing is available through the Health Center, or you may take a self-test if you have one. If you test negative and feel well enough to attend (no fever without fever-reducing medication), put on a well-fitting mask, come to class, and maintain physical distance as much as possible. If your symptoms do not allow you to attend class, stay home (except to go to the health center), rest, and take care of yourself. I expect you to communicate with me directly about your absences. I can support you to keep up with class if you are out for COVID-related reasons, but I need you to take responsibility for being transparent and clear in letting me know when you are out and why. Although I can work with you on keeping up, you may miss some course content and extended absences may impact your ability to realize your full potential in this class. For extended absences (i.e., more than a couple of days of classes), you should contact the Dean of Students who can assist with reaching out to your faculty.

Finally, I want you to succeed and learn in this class, and I want to protect our community from COVID as best as I can.

Policies Governing Religious Observances

Under state law (Education Law, Section 224-a) students should be excused from course requirements, such as examinations, class attendance, or other academic study and work requirements, for religious observance. Students must be permitted to make up missed work without penalty. It is the student's responsibility to notify the College about any religious practices that may interfere with their attendance. See the full policy and links to holidays.

Additional Student Success Resources and Policies

Additional policies and resources can be found at the Geneseo Wiki page below.

<https://wiki.geneseo.edu/display/PROVOST/Syllabus+Resources+Related+to+Student+Success>

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

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

Week	Date	Subject (Assignments)
1	Aug 28/29	Check In and Intro, Aseptic Technique, Making Media, Enrichment Columns/Winogradsky Columns
2	Sept 4/5	No Lab on Sept 4th or 5th
3	Sept 11/12	Isolation of Bacteria, Introduction to Microscopy and Staining
4	Sept 18/19	Gram Staining, Winogradsky Columns <i>(Short Report 1 Due: Serial Dilution Series and Microscopy)</i>
5	Sept 25/26	Bacterial Growth Curve, PCR
6	Oct 2/3	Gel Electrophoresis, Kirby-Bauer <i>(Practice Practical during lab time)</i>
7	Oct 9/10	No Lab on Oct 9th or 10th
8	Oct 16/17	Finish Kirby-Bauer, Physical and Chemical Inhibition of Bacterial Growth
9	Oct 23/24	Biochemical Activities of Bacteria #1 <i>(Short Report 2 Due: Growth Inhibition & Kirby Bauer)</i>
10	Oct 30/31	Finish Biochemical Activities #1, Biochemical Activities #2 <i>(Rough Draft of Bacterial Growth Curve Report Due)</i>
11	Nov 6/7	Finish Biochemical #2, Tentative ID of Unknown
12	Nov 13/14	Bioinformatics Lab- Final ID of Unknown <i>(Short Report 3 Due: Biochemical Tests)</i>
13	Nov 20/21	No Lab on Nov 20th or 21st
14	Nov 27/28	Group Presentations on Unknown Bacteria <i>(Microscopy Photo Content Submissions Due)</i>
15	Dec 4/5	Final Lab Practical <i>(Final Draft of Bacterial Growth Curve Report Due)</i>