Biology 221H – Principles of Biology Laboratory
Oregon State University Fall 2023

Instructor Information	Course Information
TA: Chris Fryefield	CRN: 15835
(she/her)	Credits: 0
fryefiec@oregonstate.edu	Prerequisites/Co-requisites: 0
Office hour: Wednesday 12-1pm	Location: Weniger 226

Basic Needs:
Success at OSU means knowing and using your resources. One helpful resource is the community of staff available at the Basic Needs Center (BNC) for support (bnc@oregonstate.edu, 541-737-3747). Students can drop in during open hours and talk with a BNC student leader for resources, ideas and strategies connected to basic needs challenges. The BNC is often known for its food pantry but there are other resources connected to groceries and affording food often available and staff who can help you work through housing stressors. Undergraduate students, living in Oregon are especially encouraged to explore SNAP as a resource. Domestic undergraduate students living in Oregon are more likely than not to be eligible for SNAP and BNC staff are skilled with helping students navigate this process. Additionally, the BNC Textbook Lending Program offers students the opportunity to check out required textbooks for the academic term.

Furthermore, please notify **me** about your concerns if you are comfortable in doing so. This will enable them to provide any resources that they may possess.

Reach Out for Success:
University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about resources that assist with wellness and academic success at oregonstate.edu/ReachOut. If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).

Course Description:
This laboratory course consists of an introduction to the fundamental concepts and theories about the chemical and molecular basis of life, structure and function, transformation of energy and matter and information flow at a cellular and molecular level. More specifically in lab, we will practice the scientific method while developing skills used by modern day biologists. This is not a stand-alone course but part of the BI221 Principles of Biology course. See the Full Syllabus for complete course information.

Laboratory Learning Resources:
- Lab manual for BI221. 2023. Wonderful World of Worms: Critical Skills using Model Organisms, Hayden Mc Neil.
- Additional resources will be posted to the laboratory Canvas site.
- Other materials as lists in Course Syllabus

Measurable Student Learning Outcomes:
See full syllabus and lab manual for course learning outcomes.

Student Expectations:

Students are expected to:

- Attend class. Attendance is a critical part of your success in this course. Course assessments will draw primarily from in-class content.
- Complete the assigned reading and homework.
- Actively engage and contribute to discussions and activities.
- Think critically about course content.
- Respect others at all times.
- Apply yourself to the fully extent of your capabilities
- Follow the student conduct code: https://beav.es/codeofconduct

Lab Participation:

Labs and Makeup Policy:

- Students are expected to participate in every lab. You are expected to attend the entire lab to receive points for the lab.
- If you miss a lab, we encourage you to make it up by attending an open lab session. You may make up a maximum of 2 labs per term using the open lab.
- Open labs will be held on Fridays throughout the term with the exception of holidays from 11 am – 5 pm in Weniger 228. Please arrive on the hour (i.e., 11, 12, 1, 2, or 3) and no later than 3pm.
- You may not complete skills demonstrations during open lab.
- To receive full credit for the makeup, you must show your completed lab manual pages to the TA present at the open lab and demonstrate your mastery of the signature questions.
- Please refer to the schedule below to determine which labs will be available for makeup during (Note: you have one week to make up the missed lab before the materials are put away).

Open Lab Session	Labs Available for Makeup
Week 1 (Friday, October 6)	Lab 1
Week 2 (Friday, October 13)	Labs 1 and 2
Week 3 (Friday, October 20)	Labs 2 and 3
Week 4 (Friday, October 27)	Labs 3 and 4
Week 5 (November 3)	Labs 4 and 5
Week 6 (November 10)	Veterans Day (Campus Closed)
Week 7 (November 17)	Labs 5 and 6
Week 8 (November 24)	Campus Closed
Week 9 (December 1)	Lab 6 and 7
Week 10 (December 8)	Labs 7 and 8

Email Etiquette

I respond to emails during business hours (M - F; 8am - 5pm). I make a significant effort to respond promptly, and should do so within two business days at maximum. At that point, feel free to send me a polite reminder. I may occasionally respond outside of work hours, but do not expect or plan on this. Please be proactive in communicating about issues or questions you have.

Late Work Policy:

Students will be penalized 10% per day for late assignments including weekends.

Academic Integrity and Misconduct:
Students are expected to be honest and ethical in their academic work. Academic or scholarly misconduct is defined as any action that misrepresents a student's or group's work, knowledge, or achievement, provides a potential or actual inequitable advantage, or compromises the integrity of the educational process. It includes: (i) cheating, (ii) plagiarism, (iii) falsification, (iv) assisting, (v) tampering, (vi) multiple submission of work, and (vii) unauthorized recording or use.

Academic misconduct cases are handled initially by the academic units, following the process outlined in the University's Academic misconduct Report Form, and will also be referred to SCCS for action under these rules. See https://beav.es/codeofconduct for more information about the Student Conduct Code.

Statement of Accessibility:
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Academic Calendar
All students are subject to the registration and refund deadlines as stated in the Academic Calendar: https://registrar.oregonstate.edu/osu-academic-calendar

Student Bill of Rights

OSU has twelve established student rights. They include due process in all university disciplinary processes, an equal opportunity to learn, and grading in accordance with the course syllabus: https://asosu.oregonstate.edu/advocacy/rights

Laboratory Schedule and Due Dates:

Week	Lab Activities	Assignments Due
1	**Introduction to Microscopy and the Scientific Method** *Microscopic Organism Observation*	**Start Here Module**
2	**Membrane Function & Introduction to Nematodes** *Pipetting Workshop*	**Lab 2 Pre-Lab**
3	**Enzymes & Nematode Experiment Design** *Nematode Extraction Protocol* *Introduction to Science Communication Product*	**Lab 3 Pre-Lab: Individual Experimental Design** **Individual Figure Facts Assignment**
4	**Nematode Experiment Data Collection and DNA Extraction** *Article Discussion*	**Experimental set up (24-hrs before lab)** **Individual Annotated Bibliography Assignment**
5	**Nematode Experiment PCR & the Cell Cycle**	**Lab 5 Pre-Lab**
6	**Project Check-In & Skills Demonstrations**	**First Attempt Skills Demonstration**
7	**Gel Electrophoresis and Sanger Sequencing** *Peer Review*	**Lab 6 Pre-Lab** **Rough Draft Science Com. Product** **Peer Review of Sci. Com. Product**
8	**No Lab! Happy Thanksgiving!**	
9	**Nematode Data/DNA Analysis**	**Reflection on Science and the Arts**
10	**Genetics** *Presentation of Nematode Experiments*	**Final Science Com. Product** **Group Presentation** **Peer Evaluation Feedback Form** **Final Attempt Skills Demonstration**

Key: **Pre-lab Assignments** | **In-labs** | **Start Here Module** | **Skills Demonstrations** | **Term Project**

Assessment:

This course will consist of several categories of assessments: (1) **"Pre-lab" assignments** (due 30 minutes prior to the start of lab), (2) **"Lab" assignments** (activities completed during the laboratory time), (3) the **Start Here Module**, (4) **Skills Demonstrations** which will assess your mastery of using microscopes, and pipetting (6) a (really cool) **Term-long research project** to be completed in several stages throughout the term. The table below is an overview of these major assignments with corresponding point values. Further details and evaluation criteria for each assignment will be made available via Canvas.

Assignments	Points per Assignment	Number Graded	Total Points
Start Here Module – Group Norms	**2**	**1**	**2**
Start Here Module – Syllabus Quiz	**2**	**1**	**2**
Pre-lab Assignments	**2**	**4**	**8**
Lab Investigations	**4**	**8**	**32**
Skills Demonstrations	**10**	**2**	**20**
Reflection on Science and the Arts	**6**	**1**	**6**
Course-Based Undergraduate Research Project			
Individual Figure Facts Assignment	**12**	**1**	**12**
Individual Annotated Bibliography Assignment	**10**	**1**	**10**
Individual Science Communication Product Rough Draft	**5**	**1**	**5**
Peer Review of Science Communication Product	**5**	**1**	**5**
Individual Science Communication Product Final Draft	**40**	**1**	**40**
Group Project Presentation	**10**	**1**	**10**
Peer Evaluation Feedback Form	**2**	**1**	**2**
Total			**154/150**

Key: Pre-lab Assignments | Labs | Start Here Module | Skills Demonstrations | Term Project

Notes: You must attend and complete every lab to receive points for the lab. *There are 4 extra credit points built into the lab grading scale. This means that you can miss 1 lab without penalty even if you do not attend open lab. In other words, there are 154 pts available but your lab grade will be out of 150 pts.*

This extra credit will not be evident in the lab Canvas grade book but will be counted with the grades are merged with the lecture Canvas gradebook at the end of the term.