Biological Principles Project Lab

Last Updated: Mon, 07/28/2025

Course prefix: BIOS

Course number: 1207L

Section: A03

CRN (you may add up to five):
87288

Instructor First Name: Colin

Instructor Last Name: Harrison

Semester: Fall

Academic year: 2025

Course description:

A project-based laboratory introduction to the basic principles of modern biology, including biomacromolecules, bioenergetics, cell structure, genetics, evolution, and ecological relationships.

Course learning outcomes:

After participating in Biology 1207 Lab, we expect that you will be able to do the following:
A. Interpret and summarize primary biological literature.
B. Create a testable scientific hypotheses regarding real world scientific issues.
C. Work in groups to design experiments and gather background data to inform future experimental directions.
D. Learn how to utilize computational/bioinformatics programs to answer scientific questions.
E. Utilize and understand the function of common molecular biology techniques
F. Communicate their research findings in both written, short presentation, and poster formats.

Required course materials:

There is no required lab manual. You do need a computer and will be required to download free PYMOL software during the semester. If you don’t have a laptop computer you will be able to use computers in the lab space. You will also need a lab coat and safety goggles which are also available via the University Bookstore.

Grading policy:

Your lab grade is comprised of the components described below, all assignments are due by the time your lab meets unless stated in the syllabus:
- Group project components are worth 35% of your lab grade:
• Annotated bibliographies (two, each worth 5%) are worth 10%.
• Protein Structures 10%
• Poster Draft 5%
• Final Poster 10%

- Class individual participation components are worth 65% of your lab grade:
• Weekly reflection statements are worth 15%.
• Proposal Draft Sections (Abstract, Intro, Background Data/Discussion, Research Approach) 5%
• Final Proposal is worth 25%
• Lab participation is worth 20%. Participation includes attendance and active participation in synchronous sessions, lab notebook checks (2), and group evaluations (2). Tardiness to lab without excuse will result in a deduction of 1% for each 10 minutes.

Attendance policy:

If you have to miss class for any other reason please contact Dr. Harrison AND your TAs via email as soon as possible (all on the same email). Students will be allowed one excused absence for the semester and be required to make-up missed work/assignments. There are no make-up labs for unexcused absences. An unexcused lab results in a 10% reduction of your lab grade and loss of participation points for that lab. Note: if you miss a lab you are still responsible for completing assignments and getting data from group members.

Academic honesty/integrity statement:

Students are expected to maintain the highest standards of academic integrity. All work submitted must be original and properly cited. Plagiarism, cheating, or any form of academic dishonesty will result in immediate consequences as outlined in the university's academic integrity policy.

Core IMPACTS statement(s) (if applicable):

This is a Core IMPACTS course that is part of the STEM area.
Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help students master course content, and support students' broad academic and career goals.
This course should direct students toward a broad Orienting Question
• How do I ask scientific questions or use data, mathematics, or technology to understand the universe?
Completion of this course should enable students to meet the following Learning Outcome
• Students will use the scientific method and laboratory procedures or mathematical and computational methods to analyze data, solve problems, and explain natural phenomena.

Course content, activities and exercises in this course should help students develop the following Career-Ready Competencies:

- Inquiry and Analysis
- Problem-Solving
- Teamwork