BIO 150L General Biology Lab for Majors

Common Syllabus, Fall 2020

## Lab attendance is mandatory

**All students must be simultaneously registered for a BIO 150 Lecture. All students must attend the classes for which they are duly registered**

*We reserve the right to revise the syllabus, assignment schedule, or assignment guidelines at any point during the semester if we deem that changes are necessary. We will inform you of any changes in class and via email. We will also send and post any revised documents.*

**Course Description**:

In BIO 150L for Majors, students learn basic laboratory and microscope skills and then assume leadership and responsibility for designing, executing, analyzing and reporting scientifically sound experiments. Project areas will cover enzymes, osmosis and membrane transport, cellular respiration, photosynthesis and anatomy. Lab activities are exclusively online with enrichment opportunities available for hands-on experience in the laboratory. A major focus is on scientific communication: learning to write and present in scientific format.

**Important Dates:**

Week of August 24th – First Day of Lab

Monday, September 28th– University Closed – Yom Kippur

Friday, October 30th - Last day to withdraw from class with grade of “W”

November 25rd -28th – Fall Break – No Labs

**Required Materials**:

* Knisely, Karin**.** 2017**.** A Student Handbook for Writing in Biology, 5th Ed. Sunderland: Sinauer Associates, Inc. 288pp. (Available at the University Bookstore)
* Biology Goggles\*, available at the University bookstore (Biology style, or you may wear your chemistry goggles; available at the University Bookstore).

\*Goggles are ONLY required when attending lab in person for the enrichment opportunities.

**Attendance:**

Attendance and participation for every lab is **MANDATORY**. This is a synchronous online course run on its scheduled day & time. In addition, there will be on-ground/in-person enrichment lab opportunities. The in-person attendance rotation will be scheduled with your Instructor. During your scheduled enrichment lab, you will attend lab in person. On the remaining dates, you will attend lab remotely via Zoom. It is expected that you will have your **video ON** during our classes. Please contact your Instructor to discuss exceptions. All students are expected to participate fully during the class. All course material is posted on Blackboard. You are responsible for regularly checking Blackboard and your QU email for updates from your Instructor.

Each student is registered for a specific laboratory section. You may attend only the lab section for which you are registered. If you miss a lab, then you are required to contact your lab professor as soon as reasonably possible.

There is a limit of **ONE** absence in this course. You are still responsible for the material covered the day of your absence. Any unexcused absence beyond the first time will result in **one point deducted from your final course grade per unexcused absence**. Therefore, if you earned a 90 (A-) for your final course grade, but had two unexcused lab absences, you will receive an 89 (B-) for your final course grade for BIO 150/L.

SPECIAL NOTE CONCERNING THANKSGIVING RECESS

Thanksgiving recess is scheduled from November 25-28. Please do not plan an early departure or a late return. Faculty are not obligated nor expected to accommodate your schedule.

**Make-up policy**:

**Due dates for assignments are listed on the syllabus.** If you miss a deadline, either assignment or exam, you are required to contact the instructor as soon as possible. Communication is the key.  All assignments and exams should be made up as soon as possible, generally within one week of the original deadline or missed exam.  Acceptable reasons for missing deadlines or exams include medical absences, sanctioned University athletic competition, and religious holidays.  An unexcused absence will result in a grade of “0” for the assignment or exam.

**Methods of Evaluation:**

The course grade will be computed asa weighted average of the two components described below:

* Final score for BIO 150      75% of course grade
* Final score for BIO 150L    25% of course

Students receive the same grade for BIO 150 and BIO 150L.

If a student fails to meet the minimum grade requirement in BIO 150/L for their major program, or for progression to another class, they will need to retake BOTH BIO 150 lecture and laboratory.

1. A single, final course grade will be submitted for BIO150 Lecture (75%) and Bio150L Lab (25%). A minimum final course grade of C- in BIO150/L is required to progress to BIO151/L.
2. Letter grades will be assigned based upon correlation of the course numeric average with the grading scale published in the Quinnipiac University Catalog.

## GRADE SCALE

(A) 100-93; (A-) 92-90; (B+) 89-87; (B) 86-83; (B-) 82-80; (C+) 79-77; (C) 76-73; (C-) 72-70; (D) 69-60; (F) 59-0

1. Grades (individual or averaged) will not be curved or scaled, and no extra-credit opportunities will be offered or provided.
2. Student athletes must notify the instructor at least 1 week in advance of any absences related to athletic events. All absences due to athletic events will be verified with the Athletic Department. Practice is not an acceptable reason for missing class or an examination.

Some assignments will be completed as a group, with each member contributing equally. These assignments will receive a group grade.

Reference for completing assignments: A Student Handbook for Writing in Biology, 5th Ed (Knisely); <https://knisely5e.sinauer.com/index.html>

Lab Reports 45%

Lab reports are individually written

* Enzyme Lab Report I (15%)
* Photosynthesis (30%)

Lab Report e-Portfolio 10%

* See Rubric posted in Blackboard for the format and list of materials to include.

Assignments/Quizzes 30% (Instructors will specify assignments and due dates in their personal syllabus)

* Lab Safety Quiz
* Scientific Writing assignments
* Groups Discussions
* Additional assignments as determined by individual faculty
* Group proposals

Group Poster Presentation 15%

**Lab Report e-Portfolio:**

One of the most important goals of this course is to improve student scientific writing skills. Individual lab reports will be required of each student (note these are to be done individually even though the experiments for these reports will be done as a group). After each lab report has been revised and the final report graded, the graded report should be saved in your e-Portfolio.

**Bio150 lab will be online:**

Your instructor will Zoom the class synchronously during your normally scheduled lab time.  In the Zoom classroom you will complete the online labs as instructed by your professor.  In addition to Zoom class meetings, there will be in-person, hands-on enrichment opportunities during Weeks 3, 5, 7, 9 and 11.  If a student chooses to attend one or more enrichment sessions, they will be required to wear goggles and face masks, and must adhere to all QU COVID-19 protocols (see a).  At the end of the enrichment opportunity, students will be asked to clean their work station.  Cleaning supplies will be provided.   The enrichment opportunities do NOT count towards the course grade tor attendance.  Students are NOT required to attend the enrichment sessions.

**COVID-19 Compliance Protocols**

See [University Policies](file:///Users/nancyburns/Documents/Syllabi/University%20policies.pdf) for more information. This document is also posted to Blackboard posted under the Syllabus tab.

**Bio150L Weekly Schedule Fall 2020**

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| **Week** | **Lab Topic and Investigation** | **Enrichment Activity (optional)**  Masks and Goggles required | **Assignment Due**  **at Start of Lab Period** |
| 1 | Syllabus  Lab Safety  Scientific Method and Measurement |  | Purchase Required Materials |
| 2 | Scientific Method  Student-designed experiments |  | Scientific Method Proposal  Safety quiz |
| 3 | Biological Molecules and Food Testing  Creating a standard curve in Excel | Measuring protein concentration in a sample using a spectrophotometer | Week 2 Assignments due  Lab D1(Scientific Method)  Biological Molecules Prelab  Knisely: Read Chapter 2 |
| 4 | Scientific Writing:  Plagiarism, paraphrasing, citations  Lab Report Writing |  | Knisely: Read Chapter 3  Excel graph  Lab D2 (Biological Molecules) |
| 5 | Microscopy  Osmosis in Cells | Learn proper use/handling of a microscope and microscope camera | Week 4 Assignments due |
| 6  No Mon lab 9/28. Yom Kippur University holiday | Enzymes |  | Prelab Due  Lab D3 (microscopy and osmosis)  Week 5 Assignments due  Group Proposals1  Knisely: Read Chapter 5 |
| 7 | Enzymes part II  Scientific Writing | Test the effect of variables on an enzymatic reaction | Knisely: Read Chapter 3 |
| 8 | Peer Review for Lab Report |  | Enzyme Lab Report due |
| 9 | Cellular Respiration | Test the cellular respiration rate in germinating seeds | Revised Enzyme Lab Report due |
| 10 | Photosynthesis |  |  |
| 11 | Anatomy: Heart | Anatomy: Heart |  |
| 12 | Group Poster Discussion |  | Photosynthesis Lab Report due |
| 13 | Group Poster Work  Breadth Reflection  E-Portfolio |  |  |
| 14 | Thanksgiving Break No Labs |  |  |
| 15 | Group Poster Presentation |  | Poster Due  ePortfolio due  Poster peer evaluation due |