BIO 151L General Biology Lab for Majors

Common Syllabus, Fall 2021

## Lab attendance is mandatory

**All students must be simultaneously registered for a BIO 151 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 151L 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 DNA electrophoresis, microscopy, gene expression, cell signaling, cell communication, ELISA, DNA restriction enzyme analysis and scientific writing. Lab activities are exclusively online with opportunities available for hands-on experience in the laboratory. A major focus is on scientific communication: learning to write and present in scientific format.

## Semester Calendar:

(M) January 25 First Day of Undergraduate Classes (first week online)

(F) January 29 Last day for late registration or schedule changes

(M) February 1 First day of in person instruction

(T) March 9 Self-care day, no classes

(W) March 17 Midterm grades are due

(F) March 26 Last Day to withdraw from a course with a “W”

(W) April 21 Self-care Day/Bobcat Day

(Sa) May 1 Last day of undergraduate classes

(M) May 10 Final grades are due

**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. On days when an on-ground lab option is offered, you may attend in-person according to the schedule posted by your instructor. Remote students will attend lab synchronously via Zoom. It is expected that you will have your **video ON** during lab. Please contact your Instructor to discuss exceptions. All students are expected to participate fully during lab. 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 151/L.

**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>

**30%** Apoptosis Lab Report

* Lab reports are individually written

**20%** Assignments/Quizzes (these will be assigned by your Instructor and may include the following)

* Group Lab Proposal (Cell signaling)
* Pre-Lab assignments (DNA electrophoresis, Case It and ELISA)
* Electrophoresis assignment
* Mitosis assignment

**40%** PowerPoint Presentation

* Apoptosis (20%)
* Case It! (20%)

**10%** Lab Report e-Portfolio

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

**Grades (individual or averaged) will not be curved or scaled, and no extra-credit opportunities will be offered or provided.**

**Bio151 lab will be online with on-ground opportunities:**

Your instructor will Zoom the class synchronously during your normally scheduled lab time.  In the Zoom classroom you will complete the labs as instructed by your professor.  In addition to Zoom class meetings, there will be in-person, hands-on enrichment opportunities during Weeks 2, 3, 4, 8, 9, 14. If 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. At the end of the enrichment opportunity, students will be asked to clean their work station.  Cleaning supplies will be provided.  Students are NOT required to attend the enrichment sessions in-person.

**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). The lab report should be saved in your e-Portfolio. Students will also complete a breadth reflection and post it the e-portfolio.

**Grade Scale:**

The University has set the following grade scale:

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

**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.

**LAB SCHEDULE:**

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| --- | --- | --- | --- |
| **Week** | **Lab Topic and Investigation** | **Activity**  **\*(On-ground attendance optional)**  Masks and Goggles required | **Assignment Due**  **at Start of Lab Period** |
| 1 | Introductions | Syllabus and Course Policies Lab Safety | Purchase Required Materials |
| 2 | DNA Fingerprinting | DNA electrophoresis Part I \* | Prelab Due |
| 3 | DNA Fingerprinting | DNA electrophoresis Part II \* |  |
| 4 | Gene Expression | Microscope/mitosis\* | Electrophoresis Assignment Due |
| 5 | Scientific Writing | Apoptosis research/journal club | Mitosis Assignment Due |
| 6 | Cell Signaling | Apoptosis presentations | Group Presentations due  Group Proposals\*\* |
| 7 | Gene Expression | pGLO experiment |  |
| 8 | Cell Communication | Apoptosis I\* |  |
| 9 | Cell Signaling | Apoptosis II\* |  |
| 10 | Cell Signaling | Scientific writing | Lab report due |
| 11 | Case It! | Case It! | Prelab Due  Apoptosis Lab Report Due |
| 12 | Case It | Case It Presentations | Case It! presentations due |
| 13 | Cell signaling | eportfolio |  |
| 14 | Cell signaling | ELISA\* | Prelab due  Eportfolio due |

\*\*Due dates may vary; your instructor will provide specific dates