BIO 150L General Biology Lab for Majors

Common Syllabus, Fall 2019

**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 and anatomy. Projects are primarily hands-on and conducted in the laboratory. A major focus is on scientific communication: learning to write and present in scientific format.

**Important Dates:**

Week of August 26th – First Day of Lab

Monday, September 2nd– University Closed – Labor Day Holiday

Wednesday, October 9th– University Closed – Yom Kippur

Friday, November 1st - Last day to withdraw from class with grade of “W”

November 25th -30th – Fall Break – No Labs

Wednesday December 4th – Departmental Poster Session

**Required Materials**:

* BIO 150L General Biology Lab Manual (Available at the University Bookstore)
* 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)

**Attendance:**

Attendance and participation at every lab is **MANDATORY**.

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. All work is due at the beginning of the following lab.

It is the responsibility of the student to obtain and provide the instructor with written documentation to support an excused absence. Based upon the documentation provided by the student, the instructor, with the assistance of the Laboratory Coordinator and Biology Department Chair, will determine if the absence is excused. **Note that the Quinnipiac University Health Center does not provide written documentation.**

There is no make-up period available for missed laboratory sessions. If you have a documented *and* excused absence from a laboratory period, please meet with your instructor to remediate the work.

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. Any pre-lab due the date of your unexcused absence will not be accepted; quizzes cannot be made up. All other work is due at the beginning of the following lab and will receive a **10% grade reduction**.

SPECIAL NOTE CONCERNING THANKSGIVING RECESS

Thanksgiving recess is scheduled from November 19-24. Please do not plan an early departure or a late return. Faculty are not obligated nor expected to accommodate your schedule.

**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.

**Due dates for assignments are listed on the syllabus. Students handing in assignments one lab period late will receive a 10% reduction of their grade for that assignment. Assignments turned in later than one class lab period are not accepted, and students receive a “0” for that assignment.**

**Pre-Lab Activities will not be accepted after the beginning of lab on the date due.** Failure to turn in the assignment at the beginning of the lab on the date due will result in a “0” for that assignment.

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%)
* Enzyme Lab Report II (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 (week 2)
* Biological molecules Prelab
* Group Proposals
* Protein standard curve
* Enzyme Pre lab
* Osmosis Assignment
* Additional assignments as determined by individual faculty

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.

**Department of Biological Sciences Course Policies**

For: BIO 101/101L, BIO 102/102L, BIO 150/150L, BIO 211/211L & BIO 212/212L

***Class and Laboratory Attendance***

Your attendance and active participation in all classroom sessions and/or laboratories for these courses are mandatory. To fulfill this expectation, you are expected to:

1. Arrive on time for regularly scheduled classes and laboratory meetings.
2. Arrive prepared and willing to master the specific tasks at hand.
3. Be an active participant in the classroom and laboratory.
4. Assume responsibility for mastering the material being presented.

You are responsible for your own work.

***Grade Requirement***

Please be advised of the grade requirements for progression in the following sequence courses:

* Students must have a minimum earned alpha grade of C- in BIO 150 Lecture and BIO 150 Laboratory in order to progress to BIO 151 and BIO 151L.
* Students must have a minimum earned alpha grade of C- in BIO 151 Lecture and BIO 151 Laboratory in order to progress to BIO 211 and BIO 211L.
* **Students must have a minimum earned alpha grade of C- in BIO 211 Lecture and BIO 211 Laboratory in order to progress to BIO 212 and BIO 212L.**

***Classroom and Laboratory Rules and Regulations***

1. Class and laboratory attendance is mandatory. In case of illness, written documentation (ex: a doctor’s note) will be required. Please note that the Quinnipiac University Health Center will not be able to assist you in this regard.
2. Students arriving late to class are expected to take the first available seat closest to the door.
3. Cell phones are not permitted in the classroom or laboratory. They must be turned off. Silent mode is not acceptable. If you have a unique situation, please discuss it in advance with your instructor so a reasonable accommodation can be made.
4. Food and beverages are not permitted in the classroom or laboratory. Please dispose of such items PRIOR to entry into the classroom (do not bring food and/or drinks into the classroom to throw them away).
5. Students are expected to be honest and truthful in all aspects of their academics; this includes but is not limited to refraining from signing attendance rosters or sheets on behalf of others.
6. Students are expected to show respect for their faculty and fellow students.
7. Use of cell phones, iPods, MP3 players and similar devices outside of the scope and approval of the instructor is not permitted.
8. Use of laptop computers and similar devices outside of the scope and approval of the instructor is not permitted.
9. Photographing (still images), video, and audio recording during class time are strictly prohibited unless you have received written approval from both your instructor AND the Biology Department Chair. Violation of the policy prohibiting recording (photographic, video or audio) during class or in laboratory will automatically result in a failing grade for the course where the violation occurred. For those courses in which the classroom and laboratory components are combined, a failing grade will be issued for the course.

***Rationale for restricting photography (still image) and video capture in classrooms as well as teaching and research laboratories***

Biological, biomedical and health sciences departments at many universities prohibit photography in classrooms as well as teaching and research laboratories. The rationale for this prohibition is based upon the fact that individuals may be disturbed by such images, particularly when they are presented outside of their instructional and research contexts. The Department of Biological Sciences at Quinnipiac University maintains a policy of prohibiting photography (still image) and video capture in classrooms and instructional laboratories. Many of our students will matriculate after graduation to professional or graduate schools where upholding such policies is part of their professional responsibilities. Our policy introduces students to those responsibilities as undergraduates. While other students may not pursue careers in the biomedical sciences, this does not preclude them from upholding and adhering to the same ethical standard. We show respect for all biological materials used in our studies. Honoring the donors of their bodies for anatomical education is a moral responsibility of the highest order. The second rational for this policy is Quinnipiac University’s commitment to providing and maintaining a safe environment for all individuals and the protection of property. These objectives require implementation of rational, common sense procedures to mitigate risk. Prohibiting the taking of photographs (still images) and videos in the classrooms as well as the teaching and research laboratories is one element of the process of protecting the Quinnipiac University community.

***Consequences Associated with Infractions of Classroom and/or Laboratory Rules and Regulations***

*Infractions of Statements 1 through 8:*

* First Offense: Meeting with the course faculty member.
* Second Offense: Meeting with the Chair of Biological Sciences.
* Third Offense: Meeting with the Dean.

*Infractions of Statement 9:*

Photographing (still images), video, and audio recording during class time are strictly prohibited unless you have received **written approval from both your instructor AND the Biology Department Chair**. Violation of the policy prohibiting recording (photographic, video or audio) during class or in laboratory will automatically result in a failing grade for the course where the violation occurred. For those courses in which the classroom and laboratory components are combined, a failing grade will be issued for the course.

***Academic Integrity***

Please be certain that you read the university handbook on academic honesty (integrity) because by attending Quinnipiac University you have accepted this policy. Cheating is a lack of Academic Integrity (also called Academic Dishonesty). Cheating by borrowing or providing information on assignments and/or exams does not help you to learn the information or, more importantly, to develop and maintain respect for yourself and each other. Using another’s words as your own by failing to properly cite is plagiarism (in fact, plagiarism is derived from the Greek “plagium” which means kidnapping). Falsifying signatures on attendance sheets, falsifying reasons for absence, or intentionally distorting information is included as Academic Dishonesty. Removal of materials including but not limited to specimens, equipment, supplies, and software is strictly forbidden and is also a type of academic dishonesty. Students removing materials (as indicated above) will earn a failing grade for the course.

A lack of Academic Integrity (including but not limited to those mentioned above) is a serious infraction at Quinnipiac University. If you have any concerns about acceptable collaboration and/or what constitutes cheating of any sort, please feel free to come speak with your instructor during office hours. Please be advised that any individual caught in violation of the Academic Integrity Policy will, at a minimum, be reported to the Quinnipiac University Academic Integrity Board. Please be advised that all QU students are responsible for knowing and following the university’s Academic Integrity Policy.

**Office of Student Accessibility (OSA)**

*Quinnipiac University is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any barriers to learning in this course, please feel welcome to discuss your concerns with me.*

*If you have a disability, or think you may have a disability, you may also want to meet with the Office of Student Accessibility, to begin this conversation or to request reasonable accommodations. Quinnipiac University complies with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973.*

*Please contact the Office of Student Accessibility by emailing*[*access@qu.edu*](mailto:access@qu.edu)*, or by calling* *(203) 582–7600.  If you have already been approved for accommodations through the Office of Student Accessibility, please meet with me so we can develop an implementation plan together.*

**LAB SCHEDULE:**

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| --- | --- | --- | --- |
| **Week** | **Lab Topic** | **Investigation** | **Assignment Due**  Safety Goggles Each Week |
| 1 | Scientific Method | Syllabus and Course Policies  Lab Safety  Scientific Method and Measurement (pg 1) | Purchase Required Materials |
| 2 | No Labs -Self-directed learning week:1  Scientific Writing/Plagiarism Activity  Scientific Writing Problem Set | | Lab Safety Quiz due  Knisely: Read Chapter 3  Students will be responsible for completing out-of-class assignment1 |
| 3 | Biological Molecules | Biological Molecules and Food Testing (pg 11) | Week 2 Assignments due  Prelab due  Bring 2 food items and nutritional information to lab  Knisely: Read Chapter 2 |
| 4 | Biological Molecules | Biological Molecules and Food Testing (pg 11) | Bring 2 food items and nutritional information to lab  Knisely: Read Chapter 4 |
| 5 | Enzymes | Tyrosinase Experiments  (pg 25) | Protein Standard Curve due  Enzyme Pre-Lab due |
| 6 | Enzymes  Scientific Writing | Student-designed Experiments on Enzymes  Lab report discussion | Group Proposals2  Knisely: Read Chapter 5 |
| 7 | Microscopy  Scientific Writing | Foundations in microscopy (pg 43)  Peer Review Enzyme Lab Report | Enzyme Lab Report due |
| 8 | Microscopy  Osmosis | Osmosis in Plant Cells (Elodea) (pg 55) | Revised Enzyme Lab Report due |
| 9 | Cellular Respiration  E-Portfolio | Respiration of Germinating Peas (pg 69)  ePortfolio |  |
| 10 | Enzymes II | Follow up tyrosinase experiments (pg 41) | Group Proposals2 |
| 11 | Anatomy | Anatomy I  Poster Discussion | Enzyme Lab Report II due  Bring laptops |
| 12 | Anatomy | Anatomy II |  |
| 13 | Group Poster | Poster Review  Scientific Writing Reflection | Poster Due |
| 14 | **Thanksgiving Break – No Labs** | | |
| 15 | Departmental Poster Session |  | ePortfolio due  Poster peer evaluation due |

1Students are responsible for this material when writing their laboratory reports and students are encouraged to meet with their professors during office hours to ensure a solid understanding of material.

2Group Proposal due dates will vary; your instructor will provide specific dates