BIO 151L Molecular and Cell Biology and Genetics

Common Syllabus, Spring 2020

**Course Description**:

Selected projects will develop skills in experimental design through an investigative/inquiry-based approach, data analysis and scientific writing.

**Important Dates:**

Jan 21- Labs Begin (No labs on Jan 20)

March 9 -14 – Spring Break (no labs)

Thursday, March 26 – Last day to withdraw from class with grade of “W”

Friday, April 24-Departmental Poster Session

**Required Materials**:

* BIO 151L 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)
* Basic Calculators – cell phone calculators may not be used during lab

**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 scheduled. 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 **regular** laboratory sessions. If you have a documented *and* excused absence from a regular 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 151/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 SPRING BREAK:

Spring Break is scheduled from March 9-14. Please do not plan an early departure or a late return. Faculty are not obligated nor expected to accommodate your schedule.

**Evaluation:**

BIO 151L lab is worth 25% of your final grade for BIO 151. Grading policies are listed below.

**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 pre-lab 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.

Lab Reports 40%

Lab reports are individually written

* Gene expression (20%)
* Cell signaling (20%)

Lab Report e-Portfolio 10%

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

Assignments/Quizzes 15% (these will be assigned by your Instructor and may include the following)

* Group Proposals (Gene expression and Cell signaling)
* Pre-Lab assignments
* Poster Peer Evaluation
* Electrophoresis assignment

PowerPoint Presentation 15%

* Case It!

Poster Presentation 20%

* Group Poster (Gene expression and Cell signaling))

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

**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. Students will also complete worksheets designed to encourage reflection on their writing skills. These portfolio assignments are also required to be filed with the final graded paper in 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)

**Department of Biological Sciences Course Policies**

For: BIO 101/101L, BIO 102/102L, BIO 150/150L, BIO 151/151L, 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.

***The Americans with Disability Act and the Rehabilitation Act (504)***

Quinnipiac University complies with the Americans with Disabilities Act (1990) and the Rehabilitation Act (1974 Section 504). In general, Quinnipiac students may disclose a disability at any time, but disclosure and arrangement of reasonable accommodations are best done early in the semester, perhaps even before the semester begins.

Because the self-disclosure process takes time, you are encouraged to begin the process of disclosure within the first week of the semester so that all accommodations are in place.

Students with disabilities who wish to request reasonable accommodations should contact the Office of Student Accessibility in Arnold Bernhard Library north wing at (203) 582-7600 or North Haven at SLE 340 (203)-582-7600 ([access@quinnnipiac.edu](mailto:access@quinnipiac.edu)). Quinnipiac University complies with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. **The learning management system (LMS) used for this course is Blackboard 9. Blackboard adheres to Section 508 of the American with Disabilities Act (ADA).**

**LAB SCHEDULE:**

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| **Week** | **Lab Topic** | **Investigation** | **Assignment Due**  Bring Safety Goggles Each Week |
| 1  No Monday labs | 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 | Prelab Due |
| 4 | Gene Expression | pGLO experiments | Electrophoresis Assignment Due |
| 5 | Gene Expression | Student-designed pGLO experiments | Group Proposals\* |
| 6 | Scientific Writing | Scientific Writing review | Lab Report Due  Bring Knisely book |
| 7 | Cell Signaling | ELISA | Prelab Due  Final Lab Report Due |
| 8 | **SPRING BREAK** | **NO LABS** |  |
| 9 | Cell Communication | Yeast Microscope Activity | Prelab Due |
| 10 | Cell Signaling | Yeast Apoptosis |  |
| 11 | Cell Signaling | Student designed Apoptosis Experiments  ePortfolios | Group Proposals\*  Bring laptops |
| 12 | Case It!  Poster Discussion | Case It!  Poster Discussion | Prelab Due  Apoptosis Lab Report Due |
| 13 | Case It | Case It Presentations | Case It! presentations due |
| 14 | Departmental Poster Session Friday 4/24 | Poster Session | Posters Due (apoptosis or gene expression) |
| 15 | Evolution | Evolution Simulation Lab | Prelab Due  Bring Laptop  ePortfolio Due |

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