

Experiential Learning Syllabus

Department of Biochemistry & Molecular Biology

BIOC 3620, Winter 2026

Dalhousie University acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to the Indigenous knowledges held by the Mi'kmaq People, and to the wisdom of their Elders past and present.

The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people.

Dalhousie University also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

Course Coordinator

Name	Email	Office Hours
Kathryn Vanya Ewart	vewart@dal.ca	Book meeting

Course Description

This course is an outside-the-classroom learning experience in which the student works in a research laboratory an average of one day per week acquiring biochemistry or molecular biology knowledge and skills.

Course Prerequisites

BIOC 2300.03, BIOC 2610.03, BIOL 2020.03, BIOL 2030.03, CHEM 2401.03 and CHEM 2402.03 (all with a grade of B- or higher) or instructor's permission

Course Exclusion

The following may not be used towards BIOC 3620: lab work that is part of another scheduled class at a learning institution, study that would qualify for Special Topics classes, co-op work terms, and paid work. The class is only open to students registered in Biochemistry & Molecular Biology degree programs, either major or Honours, combined or concentrated. Students may not take BIOC 3620 concurrently with BIOC 4604 or BIOC 4605.

Registration: To register in this course, students must first find a faculty member willing to supervise the work experience. The supervisor can be a Biochemistry & Molecular Biology department faculty member or hold a cross-appointment in the department. Alternatively, the supervisor can be a faculty member or cross-appointee in other Faculty of Medicine departments or in the Faculty of Science. However, their research must fall within the scope of biochemistry & molecular biology. A learning agreement must be signed and submitted to the coordinator for approval. Instructions and forms are available at [BIOC_3620_Instructions](#).

Student Resources/Course Material

- Study materials, including PDF files and recorded lectures, are available in Brightspace.
- Peer-reviewed literature and more general background reading materials for the research and writing in this course are available through the library.
- There is no assigned textbook.
- Research materials, reagents, instruments, and personal protective equipment are provided to the student by the host lab.
- Meetings with the coordinator for assistance or advice can be scheduled using the following link: [Book meeting](#). Students who wish to meet but who cannot meet in the intervals indicated are welcome to contact me by email to schedule different meeting times.

Course Structure

The course involves several components.

1. **Online safety training:** Students are required to complete “WHMIS”, “Laboratory Safety Training”, and “Chemical Spill Response Training”, which are all available to Dalhousie students at [EHS_Safety_Training](#). (If certificates for any of these courses have been earned in the past three years, they can be uploaded without retaking the courses.) Certificates must be uploaded to Brightspace where indicated in the Assignments dropbox. These must be completed **before beginning research** in the lab (and normally in the first week of classes).
2. **Online preparation for research:** Students are required to learn the material presented in a set of four brief online videos and complete an online open-book quiz in Brightspace on this material **within the first week of research** in the lab.
3. **Laboratory research:** Students are required to work* in the host lab* for a minimum of 70 hours and a maximum of 90 hours per semester.

* This includes attendance at lab meetings.

** This may also include dry-lab (i.e., computer) work at the discretion of the supervisor.

4. **Reporting:** Students are required to record the hours spent in the lab in an online time sheet (to be provided by the coordinator) and to record their lab work in a format consistent with that used in the host lab (normally a lab notebook). Students are also required to complete a final report over the course of the semester, as indicated below.

Learning Objectives and Outcomes

The purpose of this course is to provide credit for a learning experience that is relevant to the program but outside the scheduled curriculum. It is distinguished from special topics and laboratory research project classes in being focused on the application of accumulated skills in a practical context, or learning skills not provided in the regular curriculum, rather than on addressing particular experimental hypotheses. The specific learning outcomes for each lab placement will be provided in the individual Learning Agreement documents.

Course Policies related to Academic Integrity and Safety

- Throughout the semester, students are expected to work with appropriate attention to their safety and to the safety of others in the lab. They are also expected to work with clear consideration of research ethics and responsibilities, as outlined in the course videos provided in the first week of classes.
- The **safety of students in the host labs is of utmost importance**. Any safety concerns that cannot be resolved within the host lab must be brought to the attention of the course coordinator.

Course Policies on Missed or Late Academic Requirements

- Items due for submission to research supervisor or to course coordinator will be docked 20% per day if submitted late (-20% if up to 24 hours past due, - 40% if 24 - 48 hours past due, etc.).
- If a student is unable to complete an assigned item at the scheduled time due to illness or another valid reason, the student must submit a **Student Declaration of Absence** form (available on Brightspace) either electronically or in printed form within 3 days of the due date. A maximum of 2 declarations of absence will be accepted per student. When a declaration of absence is submitted for an assignment, students then have **three** extra days to complete the assignment before marks are docked as described above.

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Assessment

Evaluation in BIOC 3620 will include the following components:

Component	Weight (% of final mark)	Exam date or item due date
Submission of the three safety training certificates	3% 1% for each certificate	Due on Sunday, January 11 th , 2026 at 11:59 p.m.
Quiz on preparatory lectures (open-book)	4%	Due on Sunday, January 18 th , 2026 at 11:59 p.m.
Early research evaluation (Evaluation by research supervisor)	15% 8% Research performance 2% Time sheet progress 5% Notebook evaluation	Due on Monday, February 23 rd , 2026 at 11:59 p.m. (Evaluation on or before this date)
Report Introduction and 1 Methods item (Evaluation by research supervisor)	15%	Due (to supervisor) on Monday, March 23 rd , 2026 at 11:59 p.m.
Final research evaluation (Evaluation by research supervisor)	20% 15% Research performance 5% Notebook evaluation	Due on Thursday, April 9 th , 2026 at 11:59 p.m. (Evaluation on or before this date)
Final time sheet (Evaluation by course coordinator)	3%	Due on Thursday, April 9 th , 2026 at 11:59 p.m.
Final report (Evaluation by course coordinator)	40%	Due (to coordinator) on Thursday, April 16 th , 2026 at 11:59 p.m.

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D	(50-54)
A (85-89)	B (73-76)	C (60-64)	F	(<50)
A- (80-84)	B- (70-72)	C- (55-59)		

University Policies and Statements

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel, and support. Visit or e-mail the Indigenous Student Centre at 1321 Edward St or elders@dal.ca. Additional information regarding the Indigenous Student Centre can be found at: https://www.dal.ca/campus_life/communities/indigenous.html

Internationalization

At Dalhousie, 'thinking and acting globally' enhances the quality and impact of education, supporting learning that is "interdisciplinary, cross-cultural, global in reach, and orientated toward solving problems that extend across national borders." Additional internationalization information can be found at: <https://www.dal.ca/about-dal/internationalization.html>

Academic Integrity

At Dalhousie University, we are guided in all our work by the values of academic integrity: honesty, trust, fairness, responsibility, and respect. As a student, you are required to demonstrate these values in all the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity. Additional academic integrity information can be found at: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Student Accessibility Centre is Dalhousie's centre of expertise for matters related to student accessibility and accommodation. If there are aspects of the design, instruction, and/or experiences within this course (online or in-person) that result in barriers to your inclusion, please contact the Student Accessibility Centre (https://www.dal.ca/campus_life/academic-support/accessibility.html) for all courses offered by Dalhousie with the exception of Truro. For courses offered by the Faculty of Agriculture, please contact the Student Success Centre in Truro (<https://www.dal.ca/about-dal/agricultural-campus/student-success-centre.html>)

Conduct in the Classroom – Culture of Respect

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness (Strategic Priority 5.2). Additional diversity and inclusion information can be found at: <http://www.dal.ca/cultureofrespect.html>

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner - perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution. The full Code of Student Conduct can be found at:

https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Fair Dealing Policy

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie. Additional information regarding the Fair Dealing Policy can be found at:

https://www.dal.ca/dept/university_secretariat/policies/academic/fair-dealing-policy-.html

Originality Checking Software

The course instructor may use Dalhousie's approved originality checking software and Google to check the originality of any work submitted for credit, in accordance with the Student Submission of Assignments and Use of Originality Checking Software Policy. Students are free, without penalty of grade, to choose an alternative method of attesting to the authenticity of their work and must inform the instructor no later than the last day to add/drop classes of their intent to choose an alternate method. Additional information regarding Originality Checking Software can be found at: <https://www.dal.ca/about/leadership-governance/academic-integrity/faculty-resources/ouriginal-plagiarism-detection.html>

Student Use of Course Materials

Course materials are designed for use as part of this course at Dalhousie University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as books, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law. Copying this course material for distribution (e.g. uploading to a commercial third-party website) may lead to a violation of Copyright law.