

Faculty of Science Course Syllabus  
Department of Biochemistry & Molecular Biology  
**BIOC 4604.03: Research Project I**  
Fall 2024 (Winter 2025, Co-op)

**Coordinator:** Dr. Stephen L. Bearne [sbearne@dal.ca](mailto:sbearne@dal.ca) Tupper 9J

**Lectures:** attendance at departmental research seminars (Tuesdays, 4:00 PM, Tupper Theatre A)

**Laboratories:** the equivalent of one day per week in a faculty member's research lab

**Meetings:** with the Coordinator, as needed

**Course delivery:** in-person

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**Course Description:** BIOC 4604.03 requires original biochemical research in the laboratory of a faculty member, and expects the equivalent of at least one day per week to be spent in the lab. A report is submitted at the end of the term. **NOTE:** This course is intended to be taken in conjunction with BIOC 4605.03, and credit cannot be given for one course without the other. The work undertaken in BIOC 4605.03 should be a continuation of that initiated in BIOC 4604.03; hence the report submitted as part of BIOC 4605.03 may include data and analysis incorporated in the BIOC 4604.03 report. In exceptional cases, the research project can be done outside the Department of Biochemistry & Molecular Biology; prior approval must be obtained from the Course Coordinator.

**Course Prerequisites:** Permission from the Course Coordinator and a member of the Department who will serve as supervisor; at least a B average for BIOC 3300.03, BIOC 3400.03 and BIOC 3700.03.

**Course Objectives/Learning Outcomes:**

- Synthesize relevant background literature
- Design and carry out experiments
- Analyze experimental results
- Evaluate new observations
- Explain relevance of new findings
- Discover whether one has the interest and skills for a research-based career

**Course Materials:** A manual describing BIOC 4604.03 and 4605.03 in detail is provided. Policies outlined in the *Honours Manual* apply to this course.

**Course Assessment:**

- Early Evaluation, due Sept. 27, 2% of final (4604.03 + 4605.03) grade
- Fall Term Report, due 5:00 PM Dec. 4, 2024, 10% of final (4604.03 + 4605.03) grade
- Evaluation of lab performance, 8% of final (4604.03 + 4605.03) grade

**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)

**Other course requirements:**

- attendance at departmental research seminars (Tuesdays, 4:00 PM, Tupper Theatre A)
- brief written summaries/evaluations of at least six research presentations

**Short-term absence:** Extension of the Fall Term Report due date is possible only in a case of medical illness; in this situation, the student should if possible notify the Course Coordinator or department office prior to or within 48 h of the Final Report due date. The student must also submit a Student Declaration of Absence Form to the Course Coordinator via e-mail within three (3) calendar days following the last day of absence. Other reasons, such as excessive workload, are not normally acceptable. Extension of the due date does not normally exceed 7 calendar days. The grade for a late Report is reduced by an absolute value of 10% for each day after the due date (including weekend and holiday days).

Extension for the research presentation is possible, upon notification of the Course Coordinator or departmental office within 48 h of the presentation date, only in a case of medical illness; in this situation, the student should if possible notify the Course Coordinator or department office prior to or within 48 h of the presentation date. The student must also submit a Student Declaration of Absence Form to the Course Coordinator via e-mail within three (3) calendar days following the last day of absence. The presentation is then normally scheduled within 7 calendar days of the original presentation date. Non-medical reasons are not normally acceptable unless prearranged with the Course Coordinator. A missed presentation for which no satisfactory arrangement is made is assigned a mark of 0%.

The Student Declaration of Absence form can be submitted no more than two (2) separate times per course during a term. A student who exceeds this limit must inform the course instructor(s) and will be required to register with an Advisor at Student Academic Success (SAS). If a student has recurring short-term absences and does not register with SAS, it is at the instructor(s)' discretion to disallow any further Student Declarations and deny alternative coursework arrangements.

**Long-term absence: Refer to the link below.**

[https://www.dal.ca/dept/university\\_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html](https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html)

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**Faculty of Science Course Syllabus (Section B)****Research Project I, BIOC 4604****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](mailto:elders@dal.ca). Additional information regarding the Indigenous Student Centre can be found at: [https://www.dal.ca/campus\\_life/communities/indigenous.html](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](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](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](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](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.

## Student Resources and Support

### University Policies and Programs

Important Dates in the Academic Year (including add/drop dates): [http://www.dal.ca/academics/important\\_dates.html](http://www.dal.ca/academics/important_dates.html)

Classroom Recording Protocol: [https://www.dal.ca/dept/university\\_secretariat/policies/academic/classroom-recording-protocol.html](https://www.dal.ca/dept/university_secretariat/policies/academic/classroom-recording-protocol.html)

Dalhousie Grading Practices Policies: [https://www.dal.ca/dept/university\\_secretariat/policies/academic/grading-practices-policy.html](https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html)

Grade Appeal Process: [https://www.dal.ca/campus\\_life/academic-support/grades-and-student-records/appealing-a-grade.html](https://www.dal.ca/campus_life/academic-support/grades-and-student-records/appealing-a-grade.html)

Sexualized Violence Policy: [https://www.dal.ca/dept/university\\_secretariat/policies/health-and-safety/sexualized-violence-policy.html](https://www.dal.ca/dept/university_secretariat/policies/health-and-safety/sexualized-violence-policy.html)

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>

### Learning and Support Resources

General Academic Support – Advising (Halifax): [https://www.dal.ca/campus\\_life/academic-support/advising.html](https://www.dal.ca/campus_life/academic-support/advising.html)

General Academic Support – Advising (Truro): <https://www.dal.ca/about-dal/agricultural-campus/ssc/academic-support/advising.html>

Student Health & Wellness Centre: [https://www.dal.ca/campus\\_life/health-and-wellness.html](https://www.dal.ca/campus_life/health-and-wellness.html)

On Track (helps you transition into university, and supports you through your first year at Dalhousie and beyond): [https://www.dal.ca/campus\\_life/academic-support/On-track.html](https://www.dal.ca/campus_life/academic-support/On-track.html)

Indigenous Student Centre: [https://www.dal.ca/campus\\_life/communities/indigenous.html](https://www.dal.ca/campus_life/communities/indigenous.html)

Indigenous Connection: <https://www.dal.ca/about-dal/indigenous-connection.html>

Elders-in-Residence (The Elders in Residence program provides students with access to First Nations elders for guidance, counsel, and support. Visit the office in the Indigenous Student Centre or contact the program at [elders@dal.ca](mailto:elders@dal.ca) or 902-494-6803: <https://cdn.dal.ca/content/dam/dalhousie/pdf/academics/UG/indigenous-studies/Elder-Protocol-July2018.pdf>

Black Student Advising Centre: [https://www.dal.ca/campus\\_life/communities/black-student-advising.html](https://www.dal.ca/campus_life/communities/black-student-advising.html)

International Centre: [https://www.dal.ca/campus\\_life/international-centre.html](https://www.dal.ca/campus_life/international-centre.html)

LGBTQ2SIA+ Collaborative: <https://www.dal.ca/dept/vpei/edia/education/community-specific-spaces/LGBTQ2SIA-collaborative.html>

Dalhousie Libraries: <http://libraries.dal.ca/>

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Dalhousie Student Advocacy Services: <https://www.dsu.ca/dsas?rq=student%20advocacy>

Dalhousie Ombudsperson: [https://www.dal.ca/campus\\_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html](https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html)

Human Rights and Equity Services: <https://www.dal.ca/dept/hres.html>

Writing Centre: [https://www.dal.ca/campus\\_life/academic-support/writing-and-study-skills.html](https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html)

Study Skills/Tutoring: [http://www.dal.ca/campus\\_life/academic-support/study-skills-and-tutoring.html](http://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html)

Faculty of Science Advising Support: <https://www.dal.ca/faculty/science/current-students/undergrad-students/degree-planning.html>

### Safety

Biosafety: <http://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <http://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Laser Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety/laser-safety.html>