Experiential Learning in Chemistry Syllabus

Department of Chemistry

CHEM 3801 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
Prof. Mita Dasog	mita.dasog@dal.ca	Can be arranged via email

Course Description

This is an outside-the-classroom learning experience in which students work to acquire knowledge and skills relevant to chemistry under the direction of a supervisor. Suitable work environments can be located at Dalhousie or in a commercial/industrial setting.

Course Prerequisites

At least four of the following courses are required: CHEM2101, CHEM2201, CHEM2301, CHEM2304, CHEM2401 and CHEM2402. (In special cases, permission may be given by the coordinator when this condition is not met.)

Course Exclusions

This course is restricted to students in their third year or above (minimum of 10 credits) who are registered in a 20-credit degree program in which Chemistry is a formal component (honours, major, minor).

To register for this course, each student must first find a supervisor willing to supervise the chemistry work experience. The student and supervisor must sign a learning agreement that has been approved by the course coordinator.

The following may not be used towards CHEM3801: work that is part of another scheduled course at a learning institution, study that would qualify for a Special Topics course, co-op work terms, and paid work. Only one experiential learning course is permitted per degree.

Student Resources

Articles on scientific writing, best lab practices, sustainability will be made available on the course Brightspace page.

Course Structure

Course Delivery

The student and the supervisor will arrange a mutually acceptable schedule for the student's activities related to the course, including laboratory work and meetings. This should represent a minimum of 72 hours (total) of meaningful learning experience and at least 6 - 8 hours per week.

Lectures

There are no formal lectures for this class.

Course Materials

There Is no formal textbook or lab manual for this class, but readings may be assigned by the supervisor. All the necessary forms will be available on the Brightspace page.

Important dates

Task	Due date
Complete, sign and email Learning Agreement Form to Dr. Mita Dasog	January 14, 2026
Complete WHMIS Training	January 16, 2026
Complete Laboratory Safety Course	January 16, 2026
Final report	April 8, 2026

Assessment

Course requirements

The following are the course requirements for CHEM3801.

• The student and supervisor must complete a Learning Agreement Form which outlines the learning activities and outcomes for the experience. Assessment of the student will be based on the successful achievement of the learning outcomes. This form should be signed by the student and supervisor(s) and submitted to the CHEM3801 Coordinator **no later than January 14, 2026**.

• The student should engage in learning outcomes associated in the general field of scientific work in chemistry.

• The student must record activities related to the course in a hard cover or an electronic laboratory notebook, including a log of dates and times spent in meetings, laboratory work and other related activities. The format of the notebook should be discussed with the supervisor within the first ten hours of the learning experience. The supervisor will monitor the entries in the lab book and provide feedback as required.

• Students will submit a final report/summary to their research supervisor and CHEM3801 Coordinator (1000 - 1200 words, excluding references) by **April 8, 2026**. The supervisor will provide directions regarding the format and content of the report. Students will pass a draft document to their supervisor for review not later than 72 hours of the learning experience. The supervisor will review the draft report before the termination of the learning experience and will provide feedback as appropriate.

Laboratory Safety

Students working in laboratories must be familiar with the safety policies of the environment in which they are working, whether this is inside or outside of the Chemistry Department. The student should meet with the supervisor before beginning any laboratory work to discuss safety issues and Standard Operating Procedures (SOPs). Students working in Dalhousie laboratories are, at a minimum, required to complete the Workplace Hazardous Materials Information System (WHMIS) training, available online at: http://www.dal.ca/dept/safety/programs-services/chemical-safety/whmis.html

It is the responsibility of the supervisor to ensure that all safety requirements (including background checks and immunizations) are satisfied for the learning environment.

WHMIS Training course: All students who will be working in-person within the Department of Chemistry must complete a WHMIS training course prior to entering the workplace.

WHMIS, or the Workplace Hazardous Materials Information System, is a global harmonized system used to classify and label hazards and regulate handling procedures within industry and academic fields, especially those in science. Regardless of your chosen field of study within science, being familiar with WHMIS is a significant asset. As such, the Department of Chemistry requires ALL students participating in their laboratory programs to complete WHMIS 2015 training provided by the Environmental Health and Safety Office. This training course is provided through the Dalhousie College of Continuing Education. Upon completion of your WHMIS 2015 course you will receive a Letter of Completion (as a PDF document) via email from the College of Continuing Education (cceehs@dal.ca). Please email the course coordinator your completion date of your WHMIS training and your certificate when you receive it from CCE. Please ensure that you register and complete the WHMIS course well in advance of the letter submission deadline. After you have received your Letter of Completion, please upload the PDF document to the Brightspace site. Please note a WHMIS certificate is valid for three years.

NOTE: WHMIS training MUST be completed before doing any work in any laboratory at Dalhousie University. **The deadline to complete WHMIS training for CHEM3801 students is January 16, 2026.** If conducting work in-person and WHMIS training is not completed at this time you will no longer be eligible to continue in CHEM3801.

Laboratory Safety Training course

All third- and fourth-year students are also required to complete the Laboratory Safety Training course developed by the Environmental Health and Safety Office also provided through the Dalhousie College of Continuing Education.

This online course was designed for all students, staff and faculty at Dalhousie working in laboratories that can potentially be exposed to a variety of hazardous products and processes. It covers the major elements of laboratory safety giving you a strong general foundation to understand the risks associated with working in a laboratory.

According to the DCCE website, the course also addresses safe laboratory practices such as responsibilities; recognition and mitigation of laboratory hazards; working safely with chemicals; the use of engineering controls, administrative controls, and personal protective equipment; and emergency procedures. **The deadline to complete the Laboratory Safety Course for all CHEM3801 students is January 16, 2026**.

Just like for the WHMIS Training course, you will receive a Letter of Completion (as a PDF document) via email from the College of Continuing Education (cceehs@dal.ca). After you have received your Letter of Completion, please upload the PDF document to the Brightspace site.

You can access these online courses (WHMIS Training and the Laboratory Safety Training) on the Environmental Health and Safety link here: https://dalu.sharepoint.com/sites/ehs/SitePages/chemical-safety.aspx

This course is graded as **Pass/Fail**.

Supervisors will complete the CHEM3801 Supervisor's Evaluation Form (attached) and submit it to the CHEM3801 Coordinator before the first day of exams for the term, along with the grade recommendation. The CHEM3801 Coordinator is responsible for submitting the grade.

Course Policies related to Academic Integrity

Intellectual integrity is vital to an academic community and for fair evaluation of your written report in CHEM3801. All written work completed and/or submitted in this course must be your own, completed in accordance with the University's Guidelines on Academic Integrity. The use of generative artificial intelligence tools (genAI) or apps for written components in this course, including tools like ChatGPT and other AI writing or coding assistants, is prohibited. As such, students are not allowed to use advanced automated tools (artificial intelligence or machine learning tools such as ChatGPT or Dall-E) for writing the report in CHEM3801. Each student is expected to complete the final report without substantive assistance from others, including automated tools. Spelling and grammar checking is allowed in CHEM3801, and students are all encouraged to spell, and grammar check their reports prior to submission.

Other Policies

• Students may not receive pay from their CHEM3801 supervisor or for work in their laboratory for the duration of the academic term in which CHEM3801 is taken.

• Students should consult with their supervisor regarding other policies that are specific to their learning environment.

Learning Objectives

This will be unique to each project and will be completed by the supervisors and students during the first week of the Winter term.

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.