Syllabus for The Chemical World

Department of Chemistry

CHEM 1001 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 Instructor(s)

Name	Email	Office Hours
Dr. Mark Stradiotto	mark.stradiotto@dal.ca	By appointment only

Course Description

This class is intended for non-scientists who wish to improve their scientific literacy. The class will provide a non-mathematical introduction to some fundamental concepts of chemistry and will explore various relevant topics (e.g., environment, energy, health) to make connections to the chemical world around us.

Course Prerequisites

CHEM 1001 does not have any prerequisites. The course is intended for students not registered in the Faculty of Science, who have little science background.

Course Exclusions

CHEM1011/1021 & CHEM1012/1022:

Students CAN take CHEM 1011/1021 and/or CHEM 1012/1022 after having completed CHEM 1001, but cannot take CHEM 1001 for credit after having completed CHEM 1011/1021 and/or CHEM 1012/1022.

CHEM 1001 does not serve as a prerequisite for any other chemistry class, nor does it count as a chemistry credit towards any degree that requires CHEM 1011/1021 or 1012/1022.

Student Resources

- CHEM 1001 Brightspace Site: CHEM1001 – The Chemical World - 2026 Winter
- Office hours: By appointment only

All course materials, news and course updates will be posted on the CHEM 1001 Dalhousie Brightspace site. This is the primary method by which information will be disseminated to all students in the class, so you are responsible for checking Brightspace on a frequent basis. Brightspace will be used for the following:

- Course syllabus
- Announcements
- Lecture PowerPoint files
- Accessing grades
- Any additional assignments/discussion questions

Course Structure

Course Delivery

This course will be delivered in person. Lecture sessions will not be recorded. The second half of each Thursday lecture (unless noted) will be allocated as a question and answer period (Q&A), to allow time for students to have questions answered by the instructor, in-class. This might include structured discussions of questions posted in advance by the instructor on Brightspace. There will be no additional tutorials or office hours allotted outside of the scheduled class time, and questions sent to the instructor by e-mail or other will not be responded to (beyond administrative issues arising). Please note that there are additional Q&A sessions built into the schedule in advance of the scheduled testing components.

Lectures 3 hours/week; *Laboratories* N/A; *Tutorials* See above.

Course Materials

Braving the Elements, Gray, Simon, and Trogler, University Science Books, 1995 (available via Dalhousie Bookstore)

https://uscibooks.aip.org/books/braving-the-elements/

Assessment

Component	Weight (% of final grade)	Date
Term Tests (80 min, in class)	20	February 5, 2026 (Chapters 1-3)
	20	March 5, 2026 (Chapters 4&5)
	20	March 26, 2026 (Chapters 6-8)
Final exam (3 hours)	40	*to be scheduled by Registrar* (Chapters 1-11)

The in-class term tests are a closed-book assessment and may consist of any of the following types of questions: multiple choice, true or false, matching and/or short answer questions.

The final exam is cumulative and will take place during the scheduled final examination period. You will have 3 hours to complete the final exam. The exact date, time and location will be posted by the Registrar.

Conversion of numerical grades to final letter grades follows the Dalhousie Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (0-49)
A- (80-84)	B- (70-72)	C- (55-59)	

Course Policies on Missed or Late Academic Requirements

Short-term absence policy: Dalhousie university policy stipulates that in the case of a missed academic requirement due to **short-term absence** (defined as "absence of three (3) consecutive days or fewer due to minor physical or mental health conditions, or other extenuating circumstances such as caregiving duties; immediate family illness, injury or death; involvement in an accident; legal proceedings or being a victim of a crime, domestic or intimate partner violence") no doctor's note is to be submitted. Instead, students are asked to:

(1) notify the instructor by email within 24 h of the missed academic deadline or test

(2) submit a **Student Declaration of Absence (SDA)** form on-line (through the **CHEM1001 Brightspace site**) within three (3) calendar days following the last day of absence.

Students can use the SDA form **twice** in this course. The submission of the SDA form **does not provide an automatic exemption** from any academic requirements that were missed or late during an absence. Once the form is submitted, course policies will apply regarding procedures for making up the missed academic requirement (see below).

- **Missed test**: Missed in-class tests will be weighted to the final exam with academic accommodation. Without accommodation a missed term test will receive a grade of zero.

If a student misses the **final exam** due to illness or other exceptional circumstances (see Section 16.8 of the University Calendar), they must notify the instructor within three (3) calendar days of the missed final exam if they wish to write a make-up. The student will then have the opportunity to write up a make-up exam at a time that is mutually convenient for the instructor and the student. If no appropriate notification for the absence is provided within the timeframe described above, no make-up will be allowed and you will earn a grade of zero for the missed exam component.

Please note that if you are more than 30 minutes late to write a test or exam, it will be considered a missed test/exam.

For long-term absences greater than three (3) consecutive days, students should contact the instructor within five (5) calendar days following the last day of absence.

The Student Declaration of Absence form will not be accepted for long-term absences.

Students experiencing recurring long-term absences are strongly encouraged to meet with a Faculty or Declared Major Advisor, or Faculty Program Coordinator and refer to the University's Student Accommodation Policy.

Course Policies related to Academic Integrity

Unless you are explicitly instructed to collaborate, all assessment components, including assignments, must be the product of each student's individual work. Any form of plagiarism will not be tolerated.

On term tests and the final exam, using or possessing unauthorized aids, as well as looking at someone else's answers or collaborating/discussing answers during the test are considered a breach of academic integrity policy.

Please note that the use of websites (such as Chegg.com or the course discussion board) to post assignment/term test questions or to post/access answers to questions will also considered a breach of academic integrity policy.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Dalhousie Academic Integrity policy.

It is recommended that you do not use generative artificial intelligence (AI) tools/software/apps (*e.g.*, ChatGPT) in completing your assignments, especially considering the high rate of factual fabrication that can plague such software. All assignment submissions should be your own.

Learning Objectives

Students who successfully complete this class will be able to demonstrate competence in their ability to:

- Describe the importance of chemistry in everyday life.
- Use basic chemical terminology to describe chemical systems and phenomena.
- Use critical thinking skills to explain, make connections between, and apply chemical principles, laws, and theories.

- Examine, integrate, and critically assess information relevant to the field of chemistry, including media coverage of chemistry related topics.

Approximate Course Timeline (subject to modification)

Date	Lesson Topic(s)	Reading/Assessment
Jan 8, 13, 15	The Periodic Table	BTE, Chapter 1
Jan 20, 22	The Atomic Nucleus: The Alchemist's Dream	BTE, Chapter 2
Jan 27, 29	Chemical Bonding	BTE, Chapter 3
Feb 3	Q&A for Test 1 and Newsworthy Molecules	BTE, Chapter 4
Feb 5	Test 1	Chapters 1-3
Feb 10, 12	Newsworthy Molecules: Part 2	BTE, Chapter 4
Feb 17, 19	Study Break	
Feb 24, 26	Chemical Reactivity	BTE, Chapter 5
Mar 3	Q&A for Test 2 and Wall Street Chemistry	BTE, Chapter 6
Mar 5	Test 2	Chapters 4&5
Mar 10	Wall Street Chemistry and Synthetic Materials	BTE, Chapters 6&7
Mar 12	Synthetic Materials	BTE, Chapter 7
Mar 17, 19	Biochemistry	BTE, Chapter 8
Mar 24	Q&A for Test 3 and Photochemistry	BTE, Chapter 9
Mar 26	Test 3	Chapters 6-8
Mar 31	Photochemistry and Atmospheric Chemistry	BTE, Chapters 9&10
Apr 2	Chemistry and Cancer (no Q&A today)	BTE, Chapter 11
Apr 7	Full Class Q&A on all chapters (pre-exam)	BTE, Chapters 1-11
Final Exam Period: April 8 – 25		

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.