CHEM 1002 A for Summer 2025
General Chemistry II

We, the people of the Faculty of Science at Carleton University, acknowledge that our campus is located on the traditional, unceded territories of the Algonquin Anishinabeg people. Miigwetch for your hospitality and stewardship of this territory and the teachings that come from it. We are grateful for this land, the air that we breathe, and the water that sustains us all as well as for the animals, plants and other living beings: these enable us to research, teach, mentor, support, study, and learn. We recognize our responsibility to our natural environment and to reconciliation with Indigenous peoples.

All dates and times referenced in this course pertain to local time at Carleton University. This corresponds to Eastern Standard Time (EST) with Daylight Savings Time applied on the appropriate dates.

Course Instructor: Daniel Grégoire (He/Him)

How to address me: Anything respectful (ex. Daniel, Dr. or Prof. Grégoire, etc.)

Email: danielgregoire@cunet.carleton.ca

Best Ways to be in Touch: see page 7
(in class, via email, or during student hours)

Tutorial Hours: Friday, 10:00 – 12:00 PM, SC

Office Hours Location: SC 419, by appointment

Teaching Assistant for Tutorial:

Eden Goodwin (She/They)
EdenGoodwin@cmail.carleton.ca

Class Location: Pleas check Carleton Central for location.

Class Times: Monday & Wednesday, 11:30 AM – 2:30 PM

Prerequisites: CHEM 1001

Preclusions: CHEM 1006 (no longer offered),
CHEM 1012

Department/Unit: Chemistry

Lab Coordinator:

Natalie Mesnic (She/Her)
Natalie.mesnic@carleton.ca

Learning Outcomes and Topics Covered

Course Description
Topics include thermodynamics and spontaneity, kinetics, electrochemistry, organic chemistry, transition metal complexes, and green chemistry. Examples relate to health, energy, materials, and the environment.
Includes: Experiential Learning Activity

The course has an emphasis on the development of skills such as critical thinking, problem solving, analysis, and quantitative reasoning; these “transferrable skills” are essential to success in not just chemistry but also in other courses and many occupations. Any student receiving credit for CHEM 1002 will be expected to demonstrate competence in his or her ability to:

Discipline-Specific Outcomes	Transferrable-Skill Outcomes
Describe the importance of chemistry in everyday life and the interdisciplinary nature of chemistry. Use critical thinking skills to explain, make connections between and apply chemical principles, laws, and theories pertaining to thermodynamics, chemical kinetics, electrochemistry, organic chemistry and transition metal complexes. Evaluate and assess chemical data and explain how they relate to chemical theories/laws. Apply chemical theories or laws to solve a variety of new qualitative and quantitative chemical problems. Conduct laboratory experiments and draw conclusions from collected experimental data and results. Safely use a variety of laboratory equipment and instrumentation to perform experimental procedures and explain the underlying theory behind all of them.	Analyze and critically assess problems, and take a systematic approach to solve them. Obtain, evaluate, and integrate information from various sources, and determine its relevance. Work with others in an effective, practical, social, and ethical manner. Prioritize a set of tasks and manage the use of his or her time. Execute mathematical calculations accurately. Communicate thoughts, ideas, and observations verbally and in writing. Recognize when to seek assistance. Develop respect for, and comply with, regulations and policies. Accept responsibility for his or her decisions, actions, and non-actions.

Topics to be Covered

A detailed list of topics to be covered, and important dates can be found on pages 8 – 9 of this syllabus and in the calendar found on the last page.

Additional important dates and deadlines can be found here: https://carleton.ca/registrar/registration/dates/academic-dates/, including class suspension for fall, winter breaks, and statutory holidays.

Textbook

The text for the course is "Chemistry" 4th Canadian Edition by Olmsted, Williams and Burk published by Wiley. The book is available from Carleton's bookstore ($47-$165+tax), however, permanent electronic access is also available through the instructions listed on the course Brightspace page at a discounted price ($60+tax). **The latter is the recommended package to buy.**

Assessments
Grade Breakdown

Component	Notes	#1	#2	#3	#4	#5	#6	#7	#8
Mastering	6 Online Homework Assignments	5	--	--	--	5	--	--	--
Quizzes	6 Weekly Online Quizzes	10	10	5	10	10	10	5	10
Tutorials	Short quizzes	5	5	10	--	5	5	10	--
Laboratory	Four experiments	30	30	30	30	30	30	30	30
Midterm	3 h	20	25	25	25	12.5	12.5	12.5	12.5
Final Exam	3 hours	30	30	30	35	37.5	42.5	42.5	47.5
In class questions	**BONUS** marks	10	10	10	10	10	10	10	10

Grades for each component of the course will be released only via Brightspace.

To obtain credit for the course, all three requirements below must be met:

1. Obtain a minimum of 50% on the overall course grade, as calculated above using the method that gives the highest grade.
2. All laboratory experiments MUST be completed, and all lab reports MUST be submitted by 11:59 PM on August 2nd, 2025.

Students who fail to meet the above requirements will receive a course grade of F and will not receive credit for the course.

Mastering Chemistry Online Homework Assignments

The optional (see Grading schemes above) homework system, Mastering Chemistry, can be purchased from Carleton's bookstore ($72+tax), or at a discounted price ($60+tax) directly from the publisher using the instructions posted on the course Brightspace page. Problem assignments will be given regularly via Mastering Chemistry (one assignment per week, see p. 10 for due dates). It is your responsibility to check the answers and take action if you have not understood the latest material. **Those who neglect these assignments do not typically do well on tests and exams, where the stakes are much higher. Evidence from previous years shows that those who scored well on their assignments typically also scored well in the course.**

Online Quizzes

There will be 6 timed quizzes (60 minutes per quiz), but only the best 5 will be used to calculate your mark on the Brightspace Quiz component of the course. If you receive academic accommodations for a missed quiz, the remaining 5 quizzes will be counted. Access to these timed quizzes starts on Thursday at 12:01 am and closes on Monday at

10:00 AM (unless it is a holiday). Quizzes are 1 hour in length and must be started by the Monday at 9:00 AM at the latest. Quizzes will begin on July 3rd, 2025, and continue weekly for the term except Aug 11th - 23rd. Please see the calendar for details (p. 10).

Tutorials

A two-hour tutorial will be led by your TA Eden Goodwin on Fridays from 10:00 AM to 12:00 PM (see p. 10 for calendar). These tutorials are a great opportunity to work through practice problems, ask questions about content, and learn more about how chemistry can be used in research. We will be giving a short, written quiz as part of these tutorials, which can optionally count towards your final grade.

Laboratory

Details of the laboratory portion of this course can be found on the Brightspace site. Students are required to wear protective goggles ($6.29), a lab coat ($26.68) and use a lab notebook ($7.22) which can all be purchased from Science Stores (https://payments.carleton.ca/science/science-stores/)

You must complete all activities for the laboratory portion of the course before August 2nd, 2025 at 11:59pm to receive a passing grade in this course. Follow the lab schedule on Brightspace for the exact dates and deadlines for each experiment.

Midterm

The midterm for this class will take place during class time on July 23rd, 2025.

Final Exam

The Final Exam will be scheduled by the Registrar's office and will take place on campus, between August 17th and 23rd, 2025 (which can include Friday evening, Saturday or Sunday). The Final Exam will be scheduled by the Registrar's office and will take place on campus, between August 17th and 23rd, 2025 (which can include Friday evening, Saturday or Sunday).

In-class questions

As part of the active learning approach we use in this class, we'll be using the software **Wooclap** to answer in-class questions. You can find more information on **Wooclap** use at Carleton through this link: https://carleton.ca/brightspace/instructors/wooclap/. It is critical that we have a way to track your response, so when you log in using your email or Carleton credentials, please create a username with the following format: LASTNAME_STUDENT#. This is the first time we are using this software since Carleton changed licensing, which is why we're allocating **BONUS** marks for your responses. Thank you in advance for your patience as we pilot this new tool.

Late and Missed Work Policies
Late Work

Students have *2-7 days* (see the lab schedule for due dates) to complete and submit their lab reports for each lab, and multiple submissions are permitted up until the due date. As a result, lab reports that are submitted late for any reason will be subject to the late penalty of 10% per day, with a mark of 0 assigned if an assignment is submitted more than 4 days late. Therefore, you are encouraged to submit your lab report a day or two early, and update it, if necessary, to ensure that you have no issues with your lab submission.

Missed Work

For short term (a week or less) incapacitation, students must complete and submit the Academic Consideration for Coursework Form - Registrar's Office (https://carleton.ca/registrar/academic-consideration-coursework-form/) within 48 hours of the missed work. For approved missed tests, the weight will be transferred to the final exam. For missed online quizzes, the top 5 of 6 quizzes are used to calculate the final mark and the missed quiz would be 1 of the quizzes not counted. Assignments are open for the times in the calendar (p. 10) whereupon the answers are released. In the event that a due date is missed, the work on the assignment up to that point is used for that assignment grade and extensions are not provided. Students are encouraged to start the assignments early. There is a single makeup lab opportunity available to students on July 31st, 2025, in the event that they have received a lab deferral. Therefore, missing more than one lab, deferred or not, will result in an F in the course as the course/department requirement that "All laboratory experiments MUST be completed and all lab reports MUST be submitted by August 2nd, 2025" would not be fulfilled.

Long term (longer than 1 week) incapacitation, will be evaluated on a case-by-case basis and discussions of accommodations may involve the Chair of the Department of Chemistry and/or the Office of the Dean of Science.

Academic Accommodations and Regulations

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes are outlined on the Academic Accommodations website (https://students.carleton.ca/course-outline/).

AI Use in This Course

Students may use AI tools for basic word processing and formatting functions, including:

- Grammar and spell checking (e.g., Grammarly, Microsoft Word Editor)

- Basic formatting and design suggestions (e.g., Microsoft Word's formatting tools, PowerPoint Design editor)

Documenting AI Use: It is not necessary to document the use of AI for the permitted purposes listed above. If you have questions about a specific use of AI that isn't listed above, please consult your instructor.

Academic Integrity

The University Senate defines plagiarism as "presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one's own." This can include:

- reproducing or paraphrasing portions of someone else's published or unpublished material, regardless of the source, and presenting these as one's own without proper citation or reference to the original source;
- submitting a take-home examination, essay, laboratory report or other assignment written, in whole or in part, by someone else;
- using ideas or direct, verbatim quotations, or paraphrased material, concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another's data or research findings;
- failing to acknowledge sources through the use of proper citations when using another's works and/or failing to use quotation marks;
- handing in substantially the same piece of work for academic credit more than once without prior written permission of the course instructor in which the submission occurs.

Plagiarism is a serious offence that cannot be resolved directly by the course's instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of "F" for the course.

Misconduct in scholarly activity will not be tolerated and will result in consequences as outlined in Carleton University's Academic Integrity Policy. A list of standard sanctions in the Faculty of Science can be found here.

Additional details about this process can be found on the Faculty of Science Academic Integrity website.

Students are expected to familiarize themselves with and abide by Carleton University's Academic Integrity Policy.

Student Rights & Responsibilities

Students are expected to act responsibly and engage respectfully with other students and members of the Carleton and the broader community. See the 7 Rights and Responsibilities Policy for details regarding the expectations of non-academic behaviour of students. Those who participate with another student in the commission of an infraction of this Policy will also be held liable for their actions.

Mental Health and Wellness:

As a student you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you. For more information, please consult https://wellness.carleton.ca/.

Communicating With You

This is a big class, but you will find that you can get any help you need easily by one of the following methods:

1. If it is a course content related question, please post it to the Brightspace forum. Chances are if you have the question, your colleagues do as well and could benefit from the answer.
2. Bring your question to the tutorial hours, which are blocked to help students work through course material. Dr. Grégoire will also meet with students by appointment. Please allow Dr. Grégoire up to two business days to respond to emails.
3. If it is an administration/accommodation related issue, email Dr. Grégoire directly (danielgregoire@cunet.carleton.ca). Please note, if it is a course content related question, it will be redirected to the Brightspace forum, office hours or Brightspace.
4. Your TAs, fellow students and other people on campus are also great resources and form a great study tool.

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	Monday	Tuesday	Wednesday	Thursday	Friday
	July				
Intro **Ch 3**			**July 2 –** Intro and Ch 3	**July 3 –** *Quiz 1 opens*	**July 4 –** *Tutorial hours*
Ch 3 + Ch 12	**7 –** Ch 3 continued *Quiz 1 due at 10:00 am*	**8**	**9 –** Ch 12	**10 –** *Quiz 2 opens*	**11 –** *Tutorial hours* *Mastering Chem #1 due at 11:55 pm*
Ch 13 + Ch 17	**14 –** Ch 13 *Quiz 2 due at 10:00 am*	**15**	**16 –** Ch 17	**17 –** Quiz 3 opens	**18 –** Tutorial hours *Mastering Chem #2 due at 11:55 pm*
Midterm	**21 – Midterm Review** *Quiz 3 due at 10:00 am*	**22**	**23 – MIDTERM**	**24 –** Quiz 4 opens	**25 –** Tutorial hours *Mastering Chem #3 due at 11:55 pm*
Ch 17 + Ch 10	**28 –** Ch 17 continued *Quiz 4 due at 10:00 am*	**29**	**30 –** Ch 10	**31 –** Quiz 5 opens Lab make up day	**Aug 1 –** Tutorial hours *Mastering Chem #4 due at 11:55 pm* Last day to withdraw from class
	August				
Ch 11	**4 -** Holiday, no class	**5**	**6 –** Ch 11 *Quiz 5 due at 10:00 am*	**7 –** Quiz 6 opens	**8 –** Tutorial hours *Mastering Chem #5 due at 11:55 pm*
Ch 19	**11 –** Ch 19 *Quiz 6 due at 10:00 am*	**12**	**13 – Final exam review**	**14 –** Last day of classes *Mastering Chem #6 due at 11:55 pm*	**15**