Faculty of Science
Department of Chemistry & Biomolecular Sciences

Principles of Chemistry
CHM1311E
Dr. Rachel Kozlowski
Fall 2025

Course Hours & Links

Lectures:
Tuesday 4:00 PM - 5:20 PM
Location: MRN 150

Thursday 2:30 PM – 3:50 PM
Location: MRN 150

Yuja CHM1311E streaming/recordings

Discussion Groups (DGD):
Monday 8:30 AM - 9:50 AM
Location: DMS 1140
Type: DGD 3 (E03)
TA: Tigist Tilahun
ttila069@uottawa.ca

Monday 7:00 PM - 8:20 PM
Location: CRX C442
Type: DGD 2 (E02)
TA: Sherif Meshref
smesh055@uottawa.ca

Friday 5:30 PM - 6:50 PM
Location: CRX C442
Type: DGD 1 (E01)
TA: Sherif Meshref/Tigist Tilahun

DGDs cover lecture material only, are not mandatory and start in week 3.

For lecture-based questions, please email your DGD TA. For laboratory-based questions, please email your laboratory TA or the lab coordinator, Rashmi Venkateswaran (vrashmi@uottawa.ca).

Professor

Dr. Rachel Kozlowski (rkozlows@uottawa.ca)

Office Hours
Tuesdays 5:30 PM - 6:30 PM
Location: STM 219

Please email in advance to ensure an appointment. Office hours outside of these times may be booked via email at least 2 days in advance.

Course Description

Chemical bonding, molecular geometry, chemical equations and quantitative relations, gas, liquids and solids, solutions, redox reactions, electrochemistry, kinetics and equilibrium, ionic equilibria, acids and bases in solution, pH. Previously CHM 1310.

Course Objectives

This course will introduce you to the fundamental concepts of chemistry with a focus on converting theoretical concepts into practical knowledge necessary for life.

The general objectives of this course are to:

1. Be able to convert theory from information into deeper knowledge so that it can be applied in a wide variety of contexts, including outside of the classroom
2. Be able to explain theoretical concepts covered here to communicate and share your understanding of material learned with others clearly and effectively
3. Be able to independently and collaboratively solve simple scientific problems

Lecture Component Format

The course will be managed through Brightspace. Lecture notes, lecture recordings, announcements and other course resources will be posted online in the appropriate section in Brightspace. Just prior to each class, an updated set of lecture slides will be posted in the content section of our Brightspace course page. Old lectures have also been posted there if you would like to read ahead. Lecture presentations will be posted to the course website as a PowerPoint slide deck and as a pdf document. We will be answering questions by hand in class, so bring paper and a writing utensil or your tablet.

Lectures will be live-streamed and recorded using uOttawa's YUJA lecture-capture software so you will be able to go back and re-watch them. Lecture recordings will typically be posted within 2 business days after each live lecture. Please note however, that technical issues with the recordings may occur, therefore, you may need to be prepared to ask a fellow student about any missed material if you miss a live lecture.

Absence Policy

If you miss a **lecture**, no need to let me know. If you miss a **midterm** the weight will be automatically re-distributed to your final exam, no explanation or proof is needed. If you miss the **final exam**, you will need to contact the Faculty of Science to have your final

exam deferred. More information can be found on the Faculty of Science website. If you miss a **lab**, please inform your assigned lab TA and/or contact Dr. Rashmi.

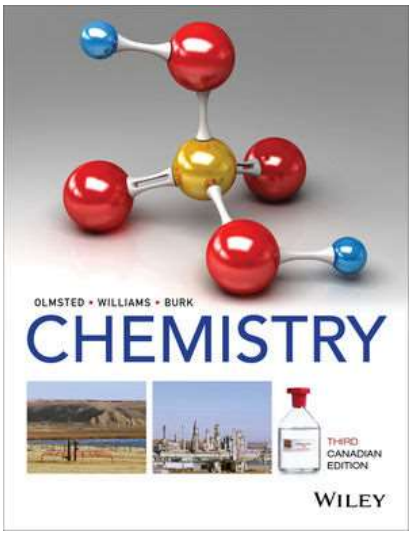
Lecture Outline

Lecture Topic List
Module 0: Introduction
Module 1: Chemical Equations
Module 2: Gases
Module 3: Energy and Thermochemistry
Module 4: Chemical Equilibrium
Module 5: Acids and Bases
Module 6: Ionic Equilibria
Module 7: Chemical Kinetics
Module 8: Quantum Theory

Textbooks and Course Materials

All midterm and final exam content will be based on the lecture content. There is no required textbook for CHM 1311. The use of a textbook is encouraged in order to provide alternative explanations of the concepts discussed in class and provide another source of reliable question sets for students who would like extra practice.

Recommended Course Textbooks



The textbook that I recommend for this course is:
Chemistry: 3rd Canadian Edition (Olmsted, Williams, Burk)
Purchasing a textbook for this course is not mandatory. However, this is an introductory Chemistry textbook that not only covers the topics we will cover in this course, but also others. This is also a reliable resource for question sets if you are looking for extra practice.

Please note that other sections of this course may use different textbooks, so I recommend that you ensure you will be staying in this section prior to purchasing this textbook.

Not every student will want or need to invest in a new textbook, and so we also offer a completely free resource. Over the last few years, a team of students and professors at UOttawa developed a free textbook based on available Open Educational Resources: ***General Chemistry for Gee-Gees***.

Discussion Groups

The discussion groups (DGD) are optional, but highly recommended. In the DGDs, the TA will answer questions related to course material posed live or posted in advance in the Q&A Thread on the course website. However, the TA will not answer questions relating to your lab reports. If you have questions or need help with lab reports, please contact your assigned lab TA or watch the lab tutorials.

Laboratory Component

You will need to purchase a lab coat and safety goggles (see below for purchase options). You will be using **Stemble** as the software to compose and submit your lab reports. You will need to purchase access to Stemble, which will be given through the lab website.

Detailed information about the lab component of the course can be found on the lab website on Brightspace, but if you have specific questions, please contact the lab coordinator, Dr. Rashmi Venkateswaran (vrashmi@uottawa.ca).

Purchasing Lab Equipment

While you can purchase lab coats and safety goggles from many places, I recommend supporting your fellow students by buying them from the **Science Students' Association**. The SSA will be holding lab equipment sales until supplies last in MRN 023. You can find more information at the Science Student Association website. You may also be able to go to the SSA office before your lab session to rent equipment by exchanging your student card to borrow a lab coat, etc.

Grading Policy

The University of Ottawa uses a 10-point grading system. This means that you will obtain a final letter grade, based on the sum of your scores in the evaluation scheme.

Overall Percent	>90%	85 – 89%	80 – 84%	75 – 79%	70 – 74%	65 – 69%	60 – 64%	55 – 59%	50 - 54%	40 – 49%	< 39%
Letter Grade	A+	A	A–	B+	B	C+	C	D+	D	E	F
Grade Point	10	9	8	7	6	5	4	3	2	1	0

An incomplete course evaluation will result in a grade of *"EIN"*. You may be assigned this grade due to: an unexcused midterm absence, more than one missing lab report, an excused final exam absence. If you are approved for a deferred final exam, once your deferred exam score is calculated, your new course result will be determined, and the "EIN" will be updated correspondingly.

Course Evaluation

Quizzes (2 @ 10% each)	20 %
Midterm/Assignment	20 %
Final Exam	35 %
Laboratory	25 %
Total	100 %

Dual Pass Provision

Regardless of the final total grade, a passing grade must be achieved for both the laboratory and the lecture component in order to pass this course.

To pass the lab component, a minimum of 80% attendance (including work submission) is required

Evaluation Due Dates:

	Week	Date
Quiz 1	3	Thursday September 18 - during class
Quiz 2	5	Thursday October 2 - during class
Assignment: Part A	6	Thursday October 9 - during class
Break Week	**7**	**Monday October 13 – Friday October 17**
Assignment: Part B	9	Thursday October 30 - during class
Midterm	10	Thursday November 13 - during class
Exam	15	Final Exam Week

Quizzes: Lecture time will be made available for completion of all quizzes on their due date. Class times scheduled for due dates of quizzes are reserved solely for completion of evaluations, thus, there is no need to attend class in person on these days. Quizzes are scheduled to be administered through the quiz feature within Brightspace. Quiz access will begin approximately several days prior to each respective due date.

Midterm/Assignment: Class times scheduled for the dates of the midterm/assignment are reserved solely for completion of the assessment. The midterm is scheduled to be in-person. The assignment is scheduled online. Any collaboration for the midterm/assignment during completion during class time may be considered a breach of academic integrity and thus may result in associated sanctions. The weight of the midterm and/or assignment missed for any reason will be transferred to the final exam. If either one is attempted, that grade will account

for the entire 20%. If both are attempted, the grade of both is averaged for the 20% of the overall grade.

Final Exam: This is a cumulative assessment and will be administered in person. You must write the final exam to receive a grade in the course.

Practice Question Sets: Completion of practice question sets in Stemble, accessed via Brightspace, is optional. They are not graded but offer additional practice with the course material. These may be completed in your own time and may be discussed in DGD sessions.

Academic Integrity Statement

An academic integrity breach, or academic fraud, is an act by a student that may result in a false evaluation (including papers, tests, examinations, etc.). It is not tolerated by the University. Any person found guilty of academic fraud will be subject to severe sanctions.

Here are some examples of academic fraud:

- Plagiarism or cheating of any kind;
- Present research data that has been falsified;
- Submit a work for which you are not the author, in whole or part;
- Submit the same piece of work for more than one course without the written consent of the professors concerned.

Please consult this webpage. It contains regulations and tools to help you avoid plagiarism.

An individual who commits or attempts to commit academic fraud, or who is an accomplice, will be penalized. Here are some examples of possible sanctions:

- Receive an “F” for the work or in the course in question;
- Imposition of additional requirements (from 3 to 30 credits) to the program of study;
- Suspension or expulsion from the faculty.

You can learn more about these topics on this academic integrity webpage.

Chemistry Help Centre

The Chemistry Help Centre runs throughout the semester and offers free course assistance to students. Please make use of this resource if you are having difficulty with the course content. You can find more information here: https://www.uottawa.ca/faculty-science/student-life-services/help-centres.

Student Services

Academic Writing Help Centre

At the AWHC you will learn how to identify, correct and ultimately avoid errors in your writing and become an autonomous writer.

In working with our Writing Advisors, you will be able to acquire the abilities, strategies and writing tools that will enable you to:

- Master the written language of your choice
- Expand your critical thinking abilities
- Develop your argumentation skills
- Learn what the expectations are for academic writing

Career Services

Career Services offers various services and a career development program to enable you to recognize and enhance the employability skills you need in today's world of work.

Counselling Service

There are many reasons to take advantage of the Counselling Service. We offer:

- Personal counselling
- Career counselling
- Study skills counselling

Access Service

The Access Service acts as intermediary between students, their faculty and other University offices to ensure that the special needs of these students are addressed and that the best possible learning conditions are being offered.

Note that the University of Ottawa is affiliated with AERO and ACE services for the adaptation of accessible academic materials for students with perceptual disabilities. If you have any questions, please contact the Accessibility Librarian or the Access services for textbooks.

Steps to Success in Chemistry

1. **Read** the relevant sections in a textbook, or slides before the class.

2. **Review** your notes as soon as possible after each class. Midterms should be reviewed as soon as possible too.

3. **Write** the key concepts in your own words.

    a. Ask yourself questions like "why does that work?" and "how does that work?"

    b. Try to identify the underlying concepts

4. **Practice regularly:**

    a. **Complete the assignments.** If you copy the correct answer from a Facebook post, you are not giving yourself a chance to learn the material. Write out the answers as well as answering the questions online. It can help with retention of the material. Ask questions during a DGD, in class, or at office hours about concepts you don't understand.

    b. **Complete additional questions** (not just the night before the exam). There are lots of introductory chemistry texts that cover this material. Try problems from these texts. Note: Attempt each question BEFORE looking at the answer. It is much easier to understand the question with the answer in front of you.

5. **Attend tutorials** (DGDs) and extra help sessions.

6. **Group study** is extremely useful because discussions will help make the material and concepts easier to remember and deepen your understanding. You may be

asked to work in small groups in class — take advantage of this learning opportunity!

7. **Ask questions.** Your professor and TAs are here to help you succeed, but you have to put the time and effort into the course.

8. **Remember that learning takes time.** All learning requires self-teaching. While every individual has a unique learning style and aptitude, it is generally recommended that for every lecture hour, 2 – 4 hours is spent studying outside class time.

Notice of Collection of Personal Information for recording of Lesson Capture

In accordance with the *Freedom of Information and Protection of Privacy Act* (Ontario) and with University Policy 90, your personal information is collected under the authority of the *University of Ottawa Act*, 1965.

The lessons will be recorded via **Yuja** for purposes consistent with the fulfillment of the course learning activities and outcomes. The recording may include the use of your name, appearance, image, voice and messages. If you are attending the lesson online and you choose not to have your image or audio recorded, you may disable the audio and video functionality within the recording platform. If you are attending the lesson in person and do not wish to be recorded, please contact your instructor the first week of class to discuss alternative arrangements. The information collected in accordance with this notice will be retained for one year from the end of the semester. If you have questions about the collection, use and disclosure of your personal information in this notice, please contact your instructor. Questions of a general nature regarding the collection, use and disclosure of information should be addressed to the Chief Privacy Officer by email at aipo@uottawa.ca.

Bilingualism Notice

Except in programs and courses for which language is a requirement, all students have the right to produce their written work and to answer examination questions in the official language of their choice, regardless of the course's language of instruction. In this course, that means you have the right to answer midterm/exams questions and/or submit your lab reports in English or French.