



## COURSE OUTLINE

### 1. **Course:** CHEM 209, General Chemistry For Engineers - Fall 2019

#### **Coordinator(s)**

Name	Email	Phone	Office	Hours
Dr Vivian Mozol	vjmozol@ucalgary.ca	TBA	SA 144E	TBA

#### **Section(s)**

Lecture 01: TR 14:00 - 15:15 in SB 103

Instructor	Email	Phone	Office	Hours
Dr Vivian Mozol	vjmozol@ucalgary.ca	TBA	SA 144E	TBA

Lecture 02: TR 12:30 - 13:45 in SB 103

Instructor	Email	Phone	Office	Hours
Dr Nicole Sandblom	nicole.sandblom@ucalgary.ca	403 210-9816	SA 144J	TBA

Laboratory and Tutorial Start Dates September 9<sup>th</sup>, 2019

#### **Tutorial/Laboratory Coordinator**

Name	Email	Phone	Office	Hours
Dr. Roxanne Jackson	rjjackso@ucalgary.ca	TBA	SA 156	TBA

#### **Course Site:**

D2L: CHEM 209 L01-(Fall 2019)-General Chemistry For Engineers

**Note:** Students must use their U of C account for all course correspondence.

### 2. **Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

#### **Prerequisite(s):**

Chemistry 30 (or Continuing Education - Chemistry 2) and one of Mathematics 30-1 or Mathematics 2 (offered by Continuing Education).

#### **Antirequisite(s):**

Credit for Chemistry 209 and any of 201, 203, 211, 213 and 301 will not be allowed.

### 3. **Grading:**

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Component(s)	Weighting %	Date
Tutorial Assignments (11)	20	see Syllabus for scheduled dates
Laboratory Experiments (5)	20	see Syllabus for scheduled dates
Midterm Examination	20	October 16 <sup>th</sup> , 7-9pm
Final Examination	40	To be scheduled by the Registrar

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum % Required	92.0 %	86.0 %	82.0 %	78.0%	74.0%	70.0 %	66.0 %	62.0%	58.0%	54.0 %	50.0 %

This course has a registrar scheduled final exam.

In order to achieve the prerequisite requirements (i.e., C-), a student must meet ALL of the following requirements:

1. attend and submit the worksheets or reports for no less than three of the five laboratory experiments, and
2. attend and submit the worksheets or quizzes for no less than nine of the eleven tutorial activities, and
3. achieve a minimum 50% in the laboratory component, and
4. achieve a minimum 50% in the tutorial component, and
5. achieve a minimum 50% weighted average on the examinations (Midterm and Final).

This means that if a student scores below 50% in either the laboratory, tutorial, or the examinations, then the maximum grade they can obtain in CHEM 209 is a D+.

#### 4. Missed Components Of Term Work:

In the event that a student misses the midterm or any course work due to illness, supporting documentation, such as a medical note or a statutory declaration will be required (see [Section M.1](#); for more information regarding the use of statutory declaration/medical notes, see [FAQ](#)). Absences must be reported within 48 hrs.

The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize themselves with these regulations. See also [Section E.3](#) of the University Calendar.

There is no deferred midterm examination. In the event that a student misses the midterm or any course work due to illness then an official medical note or statutory declaration will be required. Absences must be reported within 48 hrs. If a student misses the midterm or course work for other reasons, then analogous documentation will be required. The course coordinator will need to see the original documentation (not electronic copy) for review /decision and keep it (or a copy) for their records. The documentation must be provided to the course coordinator within **10 business days** of the date of the midterm or course work in order for an excused absence to be considered. If an excused absence is approved, then the percentage weight of a legitimately missed midterm examination will be pro-rated among the remaining components of the course (see Section E.3 of the University Calendar).

There is no make up lab for CHEM 209. If a student missed a tutorial or a laboratory experiment for nonlegitimate reasons (e.g. vacation, incomplete or insufficient score in pre-lab assignment), and did not perform the experiment, the contribution of that experiment in the final course grade will be zero. If a student misses a tutorial or a laboratory experiment for legitimate reasons (e.g. varsity sports or medical emergencies) they are required to submit an online request for an excused absence (accessed via the course management system, D2L) within 48 hours of the missed activity. Supporting documentation must be provided.

#### 5. Scheduled Out-of-Class Activities:

The following out of class activities are scheduled for this course.

Activity	Location	Date and Time	Duration
Midterm 1	ENA 201, ICT 121, ST 148	Wednesday, October 16, 2019 at 7:00 pm	2 Hours

**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.** If you have a conflict with the out-of-class-time-activity, please contact your course coordinator/instructor no later than **14 days prior** to the date of the out-of-class activity so that alternative arrangements may be made.

## 6. Course Materials:

Recommended Textbook(s):

Silberberg, M., Amateis P., Lavieri S., Venkatswaran R., *Chemistry: The Molecular Nature of Matter and Change, 2nd Canadian Edition*: McGraw-Hill Reyerson.

Alternate Textbook: Online Educational Resource (OER) textbook available through D2L course website.

Other course materials:

- Schulich-approved (non-programmable) scientific calculator
- 2 blue laboratory notebooks (available for purchase at the Bookstore)
- Approved laboratory coat
- Approved safety glasses/goggles

## 7. Examination Policy:

Students must use a Schulich School of Engineering sanctioned calculator for quizzes, tests, and examinations. No other aids are allowed during examinations.

Students should also read the Calendar, [Section G](#), on Examinations.

## 8. Approved Mandatory And Optional Course Supplemental Fees:

Laboratory Breakage Fees and Locker Check-out: The Department of Chemistry has a laboratory glassware breakage fee. At the start of the course, each student is assigned a locker and checks in to establish that they have a complete set of usable glassware. By signing for check-in, a student agrees that they are now responsible for the glassware until check out. Any equipment that is missing, unusable or has been replaced during the semester will be charged to the student. All students, even those who withdraw early from the course must check out of the laboratory before the last day of lectures [December 6<sup>th</sup>, 2019]. Any student who fails to check out before the last day of lectures for the term will be assessed a charge of \$30.00. If this fee is not paid by the payment deadline (Jan 31, 2020), an additional \$10.00 administrative fee will be charged and university services (registration, transcripts, etc.) may be withheld

## 9. Writing Across The Curriculum Statement:

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also [Section E.2](#) of the University Calendar.

## 10. Human Studies Statement:

If you agree, your course work may be used for research purposes. Your responses will remain anonymous and confidential. Grouped data (no individual responses) may be used in academic presentations and publications. Participation in such research is voluntary and will not influence grades in this course. Students' signed consent forms will be withheld from instructors until after final grades are submitted. More information will be provided at the time student participation is requested.

See also [Section E.5](#) of the University Calendar.

## 11. Reappraisal Of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **10 business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall immediately submit the Reappraisal of Graded Term work form to the department in which the course is offered. The department will arrange for a re-assessment of the work if, and only if, the student has sufficient academic grounds. See sections [I.1](#) and [I.2](#) of the University Calendar
- Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

## 12. Other Important Information For Students:

- Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive

campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).

- b. **SU Wellness Center:** The Students Union Wellness Centre provides health and wellness support for students including information and counselling on physical health, mental health and nutrition. For more information, see [www.ucalgary.ca/wellnesscentre](http://www.ucalgary.ca/wellnesscentre) or call [403-210-9355](tel:403-210-9355).
- c. **Sexual Violence:** The University of Calgary is committed to fostering a safe, productive learning environment. The Sexual Violence Policy (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>) is a fundamental element in creating and sustaining a safer campus environment for all community members. We understand that sexual violence can undermine students' academic success and we encourage students who have experienced some form of sexual misconduct to talk to someone about their experience, so they can get the support they need. The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email ([svsa@ucalgary.ca](mailto:svsa@ucalgary.ca)) or phone at [403-220-2208](tel:403-220-2208).
- d. **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/ fabrication of experimental values in a report. **These are only examples.**
- e. **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- f. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head of the Department of Chemistry, Dr. Farideh Jalilehvand by email [ahugchem@ucalgary.ca](mailto:ahugchem@ucalgary.ca) or phone 403-220-5353. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.

- g. **Safewalk:** Campus Security will escort individuals day or night (See the [Campus Safewalk](#) website). Call [403-220-5333](tel:403-220-5333) for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- h. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- i. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca). SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca). [Student Ombudsman](#), Email: [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca).
- j. **Internet and Electronic Device Information:** Unless instructed otherwise, cell phones should be turned off during class. All communication with other individuals via laptop, tablet, smart phone or other device is prohibited during class unless specifically permitted by the instructor. Students that violate this policy may be asked to leave the classroom. Repeated violations may result in a charge of misconduct.
- k. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a

difference - please participate in these surveys.

- I. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

### 13. Laboratory Information

Laboratory Activities will begin on September 9<sup>th</sup>, 2019 with check-in for those in odd-numbered lab sections. Check-in begins September 16<sup>th</sup>, 2019 for those in even-numbered lab sections. Consult your Student Centre schedule to confirm what days and times you should attend lab.

It is mandatory that students wear a lab coat and safety glasses at all times when working in the lab, as well as being properly dressed (see the course website for guidelines). Students wearing inappropriate attire for the laboratory will not be permitted to conduct experiments for safety reasons. Lab coats and safety glasses may be purchased at the University Bookstore. Gloves are provided in the lab.

The manual can be found online on the course D2L site. You must consult the online laboratory manual prior to attending any of your scheduled lab periods and print out the required portion of the manual that outlines the procedures you will be doing.

Students repeating the course within the last two years can be exempted from the Laboratory Component of the Course if a grade of 75% or higher was obtained. The lab grade achieved on the previous attempt will be carried forward. Such students must contact the Chemistry Undergraduate Program Administrator in the Chemistry Main Office, SA 229 before the drop date (September 20<sup>th</sup>, 2019).

### 14. Laboratory Safety Course

All undergraduate students taking chemistry laboratories are required to complete an introductory course (approx. 50 minutes) on laboratory safety. This course is presented in an online format and information on how to access it can be found on the course D2L site. The **Safety Course must be completed before the first laboratory experiment**. It is not required for the check-in activity. Students who do not complete the Safety Course will be denied admission to the laboratories. While it will not count directly to the final grade, the material is considered to be part of the course and is therefore appropriate for inclusion into laboratory pre-labs and exams. Students who have previously completed the Chemistry Safety Course at the University of Calgary in the past five years are NOT required to repeat it.

#### Course Outcomes:

- Identify factors that affect reaction rate, depict reaction rate with symbols, and explain rates at the molecular level
- Identify factors that affect reaction extent, depict reaction extent with symbols, and explain extent at the molecular level
- Recognize how different reactions behave for key examples of acids & bases, solubility, electrochemistry
- Connect atomic and chemical properties with the electronic structure of atoms, molecules, and ions and between these species
- Develop an appreciation for why these aspects of chemistry are important to engineers
- Apply good laboratory practice

Department Approval:

Electronically Approved

Date: 2019-09-04 12:48

Associate Dean's Approval for out of regular class-time activity:

Electronically Approved

Date: 2019-09-04 15:00