UNIVERSITY OF CALGARY
FACULTY OF SCIENCE

Department of Chemistry
Science A 229
403 220-5381
chem.info@ucalgary.ca

REVISED COURSE OUTLINE FOR REMOTE LEARNING

To account for the necessary transition to remote learning from March 13 onward, adjustments have been made to assessment deadlines and requirements so that all coursework tasks are in line with the necessary and evolving health precautions for all involved (students and staff). If you are unable to meet the deadlines or requirements specified, please connect with your course instructor to work out alternative dates/assessments.

1. **Course:** CHEM 203, General Chemistry: Change and Equilibriumm - Winter 2020

Coordinator(s)

Name	Email	Phone	Office	Hours
Dr Yuen-ying Carpenter	yyscarpe@ucalgary.ca	(email preferred)	EEEL 237B	See D2L

Section(s)

Lecture 01: MWF 13:00 - 13:50 - Remote Learning (check with your instructor or coordinator for details)

Instructor	Email	Phone	Office	Hours
Dr Yuen-ying Carpenter	yyscarpe@ucalgary.ca	(email preferred)	EEEL 237B	See D2L

Lecture 02: MWF 14:00 - 14:50 - Remote Learning (check with your instructor or coordinator for details)

Instructor	Email	Phone	Office	Hours
Dr. Azfar Hassan	azfar@ucalgary.ca	403 220-8797	SA 258	TBA

Lecture 03: TR 09:30 - 10:45 - Remote Learning (check with your instructor or coordinator for details)

Instructor	Email	Phone	Office	Hours
Dr Julie Lefebvre	jlefebv@ucalgary.ca	403 220-7602	EEEL 237C	TBA

Tutorials begin the week of **January 20th, 2020**. *Room assignments will be posted on D2L.*
Laboratory experiments begin the week of **January 27th, 2020**. *Consult your schedule on MyUofC for exact times and room assignments.*

Course Site:

D2L: CHEM 203 (Winter 2020) - General Chemistry: Change and Equilibrium

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 203 and any of 209, 213 or 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)	Weight %
PART 1: In-person course components	
Laboratory Activities (Experiments 1-3)	18%
Tutorial Activities (Tutorials 1-4)*	10%
Term test 1 (MON FEB 10th 7-9 PM)	15%
PART 2: Online course components (via D2L)	
Laboratory 4 Pre-lab quiz and Assignment	6%
Laboratory 5 Assignment	6%
Tutorial 5 Assignment	4%
Term test 2 (Mar 23-24)**	15%
Final exam (Apr 21-22)***	26%

* **Top Hat in-class participation** score from the *in-person portion* of the course can be used to replace the lowest non-zero in-person tutorial score.

** **Term test 2** will be administered as a 2.5 hour individually-completed, open-book assessment on D2L, available with a flexible start time anytime between 12 PM MDT on MON MAR 23 and 5 PM MDT on TUE MAR 24.

*** The **Final exam** will consist of **two** distinct individually-completed, open-book portions submitted on D2L - a timed assessment with a flexible start time and a non-timed "take-home" assessment.

- The timed portion of the exam will open for student access no later than 12 PM MDT on APRIL 21 and close for submissions no later than 6:30 PM MDT on APRIL 22. During this window, a student will have no less than 3 hours from the time that they begin the exam to submit all of their answers.
- The non-timed written component will be available for student access no later than the start of the exam period (8 AM MDT on APRIL 18) and must be submitted for assessment no later than 6:30 PM MDT on APRIL 22.
- The non-timed portion will be worth a minimum of 20% of the overall assessment.

For **both timed online assessments** (Term test 2 and the Final exam):

- The listed duration of the exam *includes* a built-in buffer of extra time for unexpected technical issues (e.g. temporary loss of internet, computer shut-down etc.). It is not expected that students will require the full duration to complete all questions under normal circumstances.
- In the event of catastrophic technical issues (e.g. power outage, computer failure, etc.), the student should contact the course coordinator:
  - If the student is available for sufficient time to re-attempt the timed exam within the available exam window, the start time may be manually reset.
  - If the technical issue prevents a student from having sufficient time for completion within the available window, the weight of the missed online assessment would be redistributed in a similar fashion to any other missed online work (see also **Item 4**).

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 %

Notes:

In order to achieve the prerequisite requirements (i.e., C-) for further Science courses, a student must meet all of the following requirements:

1. attend and submit at least one of the three in-person laboratory experiments, *and*
2. submit no less than three of the five laboratory reports/assignments (online or in-person), *and*
3. achieve a minimum 50% in the laboratory grading, *and*
4. achieve a minimum 50% weighted average on the examinations (Term Tests and Final).

This means that if a student scores below 50% in either the laboratory component or the examinations, then the *maximum* grade they can obtain in CHEM 203 is a D+.

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

The University has suspended requirements for students to provide evidence for reasons for absences so please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations. Please let your instructor know immediately if you are ill and cannot meet the deadlines specified.

- ***Missed Term tests:*** There are no deferred term test examinations Supporting documentation for a missed ***in-person*** test must be provided to the course coordinator**within 10 business days** of the date of the term test 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 course examinations (see Section E.3 of the University Calendar).
- ***Missed In-person Laboratories*:** Priority for the available spaces in the scheduled make-up laboratory will be given to students with legitimate reasons for absence, as described in the documentation section above. Absences for other non-legitimate reasons (*e.g.* vacation, tardiness, incomplete or insufficient score in a pre-lab assignment) are not guaranteed any accommodation, and will be handled at the coordinators discretion. If a student missed an experiment or a make-up lab for non-legitimate reasons and did not perform the experiment, the contribution of that experiment in the final course grade will be zero.
- ***Missed In-person Tutorials:*** Priority for a makeup tutorial will likewise be given to students with legitimate reasons for absence, with other reasons being handled at the coordinator's discretion. Due to scheduling constraints, if a makeup tutorial is not available, a legitimate absence from tutorial may be excused and replaced by the average of the other tutorial grades. A missed tutorial without legitimate reason will result in a score of zero on that tutorial.
- ***Online work*** (Lab or Tutorial Assignments or Tests) that cannot be completed within the assigned time window due to extenuating circumstances may be pro-rated towards other similar course components at the coordinator's discretion.

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

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

Activity	Location	Date and Time	Duration
CHEM 203 Term Test 1	TBA	Monday, February 10, 2020 at 7:00 pm	2 Hours
CHEM 203 Term Test 2	TBA	Monday, March 16, 2020 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):

Flowers, Theopold, Langley, Robinson, et al.,*Chemistry*: Open Stax.

Important note about your textbook:

- Our recommended text is an *open-educational resource*, freely available online through the **Open Stax** website (https://openstax.org/details/books/chemistry-2e). You are welcome to (i) refer to the text online, (ii) download the PDF to your own device, or (iii) purchase a print copy through the bookstore.

Recommended practice resources:

- **Top Hat** – *Active participation is an important part of your lectures* You are strongly recommended to bring you cell phone, tablet, or laptop to lectures and participate during in-class Top Hat activity questions. Access to Top Hat is free for University of Calgary students. Each student's lowest non-zero **in-person** tutorial score can be replaced with their cumulative Top Hat score from in-person lectures (see also, item 13). More details will be provided on the first day of lecture.
- **Sapling Learning** – *Practice solving chemistry problems is a critical component of this course* Recommended practice questions (with feedback) will be made available for the course on the online Sapling Learning platform. You can purchase a license for Sapling through the bookstore, or access Sapling for free on a limited number of computers on-campus. More details will be provided on the first day of lecture.

Other REQUIRED course materials (available from the bookstore)**:**

- Lab coat & safety glasses
- A non-programmable scientific calculator (Casio FX 260 or equivalent)

7. **Examination Policy:**

All sections will write the same examinations. The questions are based on input from all instructors for the course.

During **in-person** exams students are allowed to bring only pencils, pens, erasers, their ID card, and non-programmable calculators. *Programmable TI graphing calculators from high school are not acceptable*. If in doubt, check your calculator with your instructor prior to the first term test.

Online exams are open-book (resources are allowed), but are to be completed individually by the student.

Students should also read the Calendar, Section G, on Examinations.

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

Laboratory breakage fees and check-out: Due to the mid-semester transition to online learning, laboratory checkout is not required this semester. *No fees will be assessed* for either breakage or failure-to-checkout. References to these fees in the laboratory manual can be disregarded.

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.

a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten 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 submit the Reappraisal of Graded Term work form to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections I.1 and I.2 of the University Calendar

b. **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:**

a. **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 or call 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) or phone at 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 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 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 Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: 403-220-3913 Email: sciencerep@su.ucalgary.ca. Student Ombudsman, Email: 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.

l. **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 and Tutorial Information

In addition to the Lecture component of the course, students are scheduled for in-person tutorials and laboratory experiments in alternating weeks. In any given week, all students in the course will perform either a tutorial or a laboratory experiment. For in-person components, **you must attend your assigned tutorial or laboratory time slot,** *unless you have been given permission by the coordinator.*

Safety during In-person Laboratory Experiments. It is mandatory that students wear a lab coat and safety glasses at all times when working in the lab. Students wearing inappropriate laboratory attire will not be permitted to conduct experiments for safety reasons. The manual can be found online (course D2L site). You must consult the online laboratory manual prior to attending any of your scheduled in-person lab periods and printout 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 (January 23, 2020).**

Tutorials. Tutorials allow students to meet and work closely with other students, both collaborating in small groups on problems and providing peer feedback on individual work. A student's lowest non-zero in-person tutorial grade can be replaced by cumulative scores from in-person lecture Top Hat questions.

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. The Safety Course must be completed before the first laboratory experiment. Students who do not complete the safety lessons will subsequently 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:

- Use the kinetic molecular theory for ideal gases as a model to explain relationships between temperature, kinetic energy, and reactivity
- Apply principles of chemical equilibria to predict the extent of aqueous chemical changes, including acid/base reactions, dissociation of ionic species, and redox reactions in electrochemical cells

- Identify factors that affect reaction rate, depict reaction rate with graphs and symbols, and explain rates at the molecular level
- Identify the thermodynamic enthalpy and entropy changes associated with a chemical reaction to determine which chemical reactions may or may not occur spontaneously, and describe how to alter that spontaneity.
- Use chemical equations and empirical measurements to solve quantitative problems relating to kinetic, thermodynamic and equilibrium principles
- Communicate the results of chemical changes in terms of observable macroscopic outcomes, molecular-scale models/representations, and mathematical equations. Communicate experimental results with appropriate precision of language and measurement.

Electronically Approved - Mar 22 2020 14:52

Department Approval

Electronically Approved - Mar 22 2020 15:49

Associate Dean's Approval for alternate final examination arrangements or remote learning and out of regular class-time activity