



## COURSE OUTLINE

### 1. **Course:** CHEM 201, General Chemistry: Structure and Bonding - Fall 2020

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

<b>Name</b>	<b>Email</b>	<b>Phone</b>	<b>Office</b>	<b>Hours</b>
Dr Bronwen Wheatley	bmmwheat@ucalgary.ca	403 220-8077	SA 144C	please see D2L

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

Lecture 01: MWF 13:00 - 13:50 - Online

<b>Instructor</b>	<b>Email</b>	<b>Phone</b>	<b>Office</b>	<b>Hours</b>
Dr Bronwen Wheatley	bmmwheat@ucalgary.ca	403 220-8077	SA 144C	please see D2L

Lecture 02: TR 09:30 - 10:45 - Online

<b>Instructor</b>	<b>Email</b>	<b>Phone</b>	<b>Office</b>	<b>Hours</b>
Dr Michelle Dolgos	michelle.dolgos1@ucalgary.ca	403 338-3315	SB 323	TBA

Please assume that any Zoom meeting associated with the course (lectures, tutorials, laboratory activities, office hours, and so forth) is being recorded.

#### **Online Delivery Details:**

This course is being offered online in real-time via scheduled meeting times, you are required to be online at the same time.

Lectures: Both CHEM 201 lecturers will be offering synchronous lectures via Zoom, and are expecting students to attend and participate as much as possible. The Zoom lectures will be recorded and posted to D2L afterwards for students who cannot attend any given session. Additional activities associated with Top Hat or Padlet, logistics permitting, will be incorporated into lectures.

Tutorials: Five synchronous CHEM 201 tutorials will be held during Registrar-scheduled timeslots. Students are expected to submit pre-tutorial work, attend the tutorial sessions to participate in the activities, and submit tutorial activity work.

Laboratory Activities: Five synchronous CHEM 201 laboratory activities will be held during Registrar-scheduled timeslots. Students are expected to submit pre-lab work, attend the online lab sessions to participate in the activities, and submit lab activity work.

Exams: There are three planned course exams: two midterm exams and one final exam. The first midterm exam will be opened Monday October 5th, and the second Monday November 2nd, both at 5:30 p.m. The final exam will be Registrar-scheduled.

Throughout the semester, course TAs and/or instructors will be engaging with students, possibly in one-to-one Zoom meetings, to ensure students are engaging with the course and its content. D2L will be used to communicate information to students, and students might be directed to D2L for answers to questions, rather than receiving an extensive personalized e-mail reply.

Academic integrity is a very important part of CHEM 201. Please consult the following university resources to ensure your work in CHEM 201 is performed with integrity:

- Information about unauthorized assistance: <https://www.ucalgary.ca/live-uc-ucalgary-site/sites/default/files/teams/1/unauthorized-assistance.pdf>
- Information to assist you making the best choice concerning academic integrity: <https://www.ucalgary.ca/live-uc-ucalgary-site/sites/default/files/teams/1/ai-resources.pdf>
- A university contact outside CHEM 201 where you can direct your questions about whether or not certain activities are consistent with academic integrity: [askacademicintegrity@ucalgary.ca](mailto:askacademicintegrity@ucalgary.ca)

#### **Course Site:**

CHEM 201 - ALL - (Fall 2020) - General Chemistry: Structure and Bonding - F2020CHEM201L01

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

## Laboratory Exemptions

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. Students choosing to exempt from the lab should be aware that,

- the new online labs in Fall 2020 may be significantly different from prior labs in this course;
- the material covered in these online labs will be integrated into other course assessments; and,
- the lab grade achieved on the previous attempt will be carried forward.

Prior to applying for an exemption, students are encouraged to connect with their course instructor or coordinator to better understand the risks and benefits in their specific online course, as well as what access they will (or will not) have to lab materials or feedback as an exempt student.

Applications for lab exemptions must be emailed to the Undergraduate Science Center (science.advising@ucalgary.ca) before the drop date (September 17th, 2020).

### 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 201 and any of 209, 211 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)	Weighting %	Date
Laboratory Activities *	35%	#1: September 15 - 18 #2: September 29 - October 2 #3: October 13 - 16 #4: October 27 - 30 #5: November 17 - 20
Tutorial Activities *	35%	#1: September 22 - 25 #2: October 6 - 9 #3: October 20 - 23 #4: November 3 - 6 #5: November 24 - 27
Midterm Exams ** (see also Section 5)	2 x 10% each = 20%	#1: October 5 #2: November 2
Final Exam **	1 x 10% = 10%	Registrar-scheduled

For any synchronous assessment, time will be adjusted for SAS students if needed and accommodations for students will be done on a case-by-case basis.

#### \* Laboratory and Tutorial Activities

- These activities will be assessed on both **individual asynchronous** work (pre-tutorial and pre-lab activities) and **synchronous group work** (during the tutorial or lab period). Students will submit individual pre-tutorial and pre-lab activities, and submit group work at the end of the synchronous tutorial and laboratory sessions. All students associated with a given piece of group-submitted coursework receive the same grade for that item. Laboratory and Tutorial Activities will require additional resources to be used - please read the instructions for each activity carefully to determine what resources and what degree of collaboration is allowed.
- Each submitted item of coursework in the lab or tutorial might be graded in whole or in part. If only part of an activity is graded, the selection will comprise tasks that are meant to showcase a range of student abilities, and the selection will be the same for each student for that item of coursework.
- In order to receive credit for completed Tutorial and Laboratory Activities, students must be present during the Zoom session and have work associated with their names submitted for grading. The best four out of five Tutorial Activities and the best four out of five Laboratory Activities will be considered for the final grade. Should a student miss either a Tutorial Activity or Laboratory activity, that missed activity will be the one automatically dropped from the final grade calculation. At least three Tutorial Activity grades and three Laboratory Activity grades must be part of the final grade calculation for a pre-requisite pass in the course (see below).
- 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 by the end of the term (December 9th, 2020). 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. Evidence of the completion of the Safety Course will be incorporated into the grade for one Laboratory Activity.

#### \*\* Examinations

- All exams in this course will be synchronous and may cover content from all aspects of the course (lecture, lab, and tutorial). All students are responsible for reviewing all Fall 2020 CHEM 201 course content to be fully prepared for exams.

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
<b>Minimum % Required</b>	95 %	87 %	82 %	77%	72%	66 %	62 %	58%	54%	50 %	45 %

This course has a registrar scheduled final exam.

In order to be awarded a letter grade higher than a D+, which would indicate that students have sufficiently mastered CHEM 201 material for prerequisite purposes, students must:

-receive a grade of at least 50% in each of the tutorial, lab activity, and exam components of the course,

and

-receive a grade of at least 50% on the final exam,

and

-attend and submit the associated work for a minimum of three laboratory activities and three tutorial activities.

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

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, then the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course.

Students with conflicts for either midterm exam must contact the course coordinator with as much advance notice as possible to schedule an alternate time to write.

#### 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	Web-Based	Monday, October 5, 2020 at 5:30 pm	2 Hours
Midterm 2	Web-Based	Monday, November 2, 2020 at 5:30 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.

The exam is built for student work to take 80 minutes, allowing 40 minutes for technical difficulties.

#### 6. Course Materials:

Required Textbook(s):

Flowers et al., *Chemistry 2e.*: OpenStax.

A commercial molecular model kit is strongly recommended.

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

## 7. Examination Policy:

Both midterms and the final exam are "open-book". You can refer to your course notes, textbook (electronic or paper edition), and recommended online resources; use of all other resources, especially those involving communication with other people, is prohibited. A detailed list of allowed resources will be posted to D2L at least one week prior to each exam. All exam papers are to be completed individually by the student who is submitting the exam.

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

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

There are no mandatory or optional course supplemental fees for this course.

## 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.

Students will be asked typed work, with the exception of chemical structures which should be drawn by hand and inserted into the submitted document as images. During the first few weeks of the semester, activities designed to help students gain this proficiency will be provided.

## 10. Human Studies Statement:

Students will not participate as subjects or researchers in human studies.

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.

Students must submit the work they wish to be regraded to the appropriate Dropbox on D2L. Since answer keys are released rapidly upon the completion of each course component, and student instruction and comprehension are key to CHEM 201, a significant time delay might be associated with regrade requests. All regrade requests will be addressed by the day final course grades are due in January 2021.

## 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:** 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 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 ([syva@ucalgary.ca](mailto:syva@ucalgary.ca)) or phone at 403-220-2208. The complete University of Calgary policy on sexual violence can be viewed at (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>)

- 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. **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. Yuen-Ying Carpenter by email [ahugchem@ucalgary.ca](mailto:ahugchem@ucalgary.ca) or phone 403-220-6908. 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.

- f. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP). 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.
- g. **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).
- h. **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.

#### Course Outcomes:

- OBSERVATION/ANALYSIS: Collect and analyze observations related to experiential chemical activities.
- ATOMS; Use the quantum theory description of the energy and spatial distribution of electrons to correlate the physical properties of atoms with how atoms interact
- CHEMICAL SPECIES; Generate Lewis & VSEPR diagrams and use bonding theories to describe and evaluate the connectivity between atoms and spatial arrangement of bonding in a chemical species
- COLLECTIONS OF CHEMICAL SPECIES; Identify the charge distribution in a chemical species and use it to illustrate how collections of chemical species will interact with each other physically and chemically.

Electronically Approved - Sep 03 2020 17:11

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**Department Approval**

Electronically Approved - Sep 03 2020 19:16

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**Associate Dean's Approval**