



COURSE OUTLINE

1. **Course:** CHEM 321, Environmental Chemistry - Fall 2020

Lecture 01: TR 15:30 - 16:45 - Online

Instructor	Email	Phone	Office	Hours
Dr. Susana Kimura-Hara	s.kimurahara@ucalgary.ca	n/a	ZOOM MEETING	Tu/Th 16:45-17:45

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.

To access the on-line class, students need to registered through the zoom application prior to accessing the class. Instructor lectures will be recorded and will be available on D2L for students to review.

Reading assignment questions and case studies will be completed in groups (zoom breakout rooms). To help you engage and work well with your group, turning on your webcam and microphone are strongly encouraged during breakout room sessions with your group. Breakout room sessions will not be recorded.

Course Site:

D2L: CHEM 321 L01-(Fall 2020)-Environmental Chemistry

<https://d2l.ucalgary.ca/d2l/home/328084>

Students are encouraged to monitor the "News" section of the course for important information; alternately, students can update their D2L notification settings to email or text them any time new items are posted to the News section.

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):

One of Chemistry 203, 209 or 213.

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
Participation (4 Peerwise Assignments) - Individual	6%	Asynchronous due dates: Sep 24, Oct 15, Nov 11, Dec 3 @ 11:30 pm Mountain Time
Case Studies (2) - Group	15%	Synchronous In-class: Oct 15 and Nov 26
Case Study Attendance - Individual	2%	Synchronous In-class: Oct 15 and Nov 26
Reading Assignment Questions (8) - Individual	17%	Synchronous In-class every Tuesday (Except when a quiz is scheduled)
Quizzes (4) - Individual	60 %	Synchronous In-class: Sep 29, Oct 20, Nov 17, Dec 8

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	90 %	85 %	80 %	76%	72%	68 %	64 %	61%	56%	52 %	45 %

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. If students require accommodations for synchronous course components (e.g. for substantial time zone differences, etc.), they should contact the instructor as soon as possible, but no later than **Mon Sep 14** or on the date they register in the course, whichever is later.

There is no registrar-scheduled final exam in this course.

Groups will be pre-assigned at the beginning of the course (via <https://www.itpmetrics.com/>) and will remain the same for the entire term.

Quizzes

Each quiz will be designed to take at most 50-minutes for to complete, but an additional +50% will be provided as a buffer for technical issues. See Section 7 for allowed resources on quizzes.

Since the quizzes are the primary opportunity for students to demonstrate their understanding of the course material, students must complete a **minimum of 2 out of the 4 quizzes** in the course to achieve a passing grade; i.e. students who submit only one quiz during the term cannot receive a grade higher than an F and would be recommended to withdraw.

Case Studies

Case studies pre-work (i.e. watch a videos or review an article) will be done individually prior to each in-class case study (Oct 15 and Nov 26). Activities related to the case studies will occur in-class and attendance is mandatory (worth 2% of your individual grade). A case study analysis prepared by the whole group will be due two weeks after. The grade received in the analysis will be reflect the whole group work and will be graded as a group.

At the end of the term, you will evaluate the contributions of the other members of your team using an online survey via itpmetrics.com. Each team member will rate you using parameters relating to teamwork. We calculate the average of these ratings and determine your Peer Evaluation Score (PES) based on your teammates' evaluation. Your total Case Study Score will be multiplied by the PES to determine the final mark.

Reading Assignment Questions (30-45 min at the start of Tuesday class)

Reading assignment questions will occur synchronously at the beginning of the class. Students will be moved to pre-assigned groups to discuss the reading assignment and solve questions. Each student is responsible to start their own reading assignment questions in D2L and complete it no later than 4:15 pm Mountain Time. Each reading assignment will be graded individually. The lowest 2 grades of all your reading assignments will be dropped (including absences); i.e. if a student misses a reading assignment, the missed assignment will be one of the two grades dropped as the lowest.

The remaining class time on Tuesdays will be used for a whole class discussion/lecture.

Peerwise assignments

Each student is required to complete 4 peerwise assignments that correspond to each of the 4 modules. For each module, each student should contribute one question and answer 4 questions.

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.

- **Missed quizzes.** In case of missed quiz that was not completed in the allowed time, the percentage weight of a legitimately missed quiz will be transferred to the remaining quizzes. Students must complete a

minimum of 2 of 4 quizzes in order to pass the course (see also Section 3).

- **Missed reading assignments.** The lowest 2 grades of a student's 8 reading assignments will be dropped (including absences); i.e. if a student misses a reading assignment, the missed assignment will be one of the two grades dropped as the lowest. If a student is having significant difficulty submitting reading assignment questions on time due to extenuating circumstances (e.g. timezone differences, technical issues), they should contact the instructor as soon as possible for support, as no more than 2 of the 8 assignments will be dropped, and missed reading assignments will not be excused.

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

There are no scheduled out of class activities for this course.

6. **Course Materials:**

Required Textbook(s):

Colin Baird and Michael Cann, *Environmental Chemistry*: WH Freeman, 5th Ed. .

Recommended Textbook(s):

Stanley E. Manahan, *Fundamentals of Environmental and Toxicological Chemistry: Sustainable Science*: CRC Press .

Ronald Hites and Jonathan Raff, *Elements of Environmental Chemistry*: Wiley.

The required textbook will be needed for assigned readings to complete in-class activities. The ebook can be purchased or rented through vitalsource.com. Students that are in severe financial duress and cannot access the ebook please contact the instructor immediately. Other required handouts, videos, and readings for this course are available through postings on D2L. You will be responsible to look at electronic handouts in scheduled Zoom classes and to keep current with the reading material posted on D2L.

ITP Metrics provides some teamwork resources. This UCalgary-based system involves secure web-based tools to make teams (based on a survey answered by students) and for team peer evaluations. These tools are free to all students and are not dependent on prior access.

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:**

Quizzes will be taken through D2L and will be answered individually. The quiz is open book and materials obtained from CHEM 321's D2L are allowed. Internet sites other than D2L are prohibited.

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.

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.

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 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 (syasa@ucalgary.ca) or phone at [403-220-2208](tel: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 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 (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.
- g. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: sciencerep@su.ucalgary.ca. [Student Ombudsman](#), Email: 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:

- Describe principles of fundamental environmental processes in air, water, and soil.
- Recognize different types of toxic substances & responses and analyze toxicological information.
- Apply basic chemical concepts to analyze chemical processes involved in different environmental problems (air, water & soil).
- Describe water purification and wastewater treatment processes and the practical chemistry involved.
- Identify the many impacts of anthropogenic pollutants in the environment.
- Explain energy generation and aspects of sustainability, including anthropogenic climate change
- Recognize local and global environmental issues such as emerging contaminants of concern in water, acid rain, climate change, ozone depletion, soil erosion and acidification, and eutrophication
- Recognize the fundamental interconnectedness of chemical processes that unfold in different environmental compartments by giving examples

Electronically Approved - Sep 08 2020 10:55

Department Approval

Electronically Approved - Sep 08 2020 11:41

Associate Dean's Approval