



COURSE OUTLINE

1. **Course:** CHEM 409, Appl Chem & Chem Path For Engg - Fall 2021

Lecture 01: TR 08:00 - 09:15 - Online

Instructor	Email	Phone	Office	Hours
Maryam Izadifard	maryam.izadifard@ucalgary.ca		ONLINE	Fridays 3-5 pm or by appointment

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 help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

This course has a registrar scheduled, synchronous final exam. The writing time is 2 hours + 50% buffer time.

Lectures will not be recorded, so attendance and participation in all scheduled synchronous classes are highly recommended. In addition, group quizzes will take place synchronously in-class on Sep. 23, Oct. 12&21 and Nov. 30.

During group presentation dates (Oct.26- Nov. 4), where a student is not presenting with their group, they are expected to attend and engage with the other presentations.

Scheduled synchronous classes will be cancelled Dec. 2-Dec. 9 so that students may use this time to engage with other teams' posters and video summaries asynchronously.

The final exam will occur synchronously via D2L.

For email inquiries about the course, please expect a reply within roughly 1-business day.

Course Site:

D2L: CHEM 409 L01-(Fall 2021)-Appl Chem & Chem Path For Engg

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

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.

2. **Requisites:**

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

Prerequisite(s):

Chemistry 209 and 357.

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	Timing
Group Quiz 1	10%	Sep. 23	**Synchronous (in-class)
Group Quizzes 2,3,4	15% = 3 x 5%	Oct.12, Oct 21, Nov 30	
Group Infographic Assignment	4%	Due: Oct.19 at 4:00 pm	Asynchronous
Group Presentation	8%	Oct. 26-Nov. 4	Synchronous (in-class)
Group Poster & Video summary	8%	Due: Dec.2 at 8:00 am	Asynchronous
		Gallery walk: Dec.2- Dec.9	
Peer evaluation*	7%	Dec 9th	Asynchronous
Final Exam (individual)	48%	Registrar-scheduled	**Synchronous

* **Peer evaluations.** The students complete a single, end-of-term peer evaluation that assesses their group members on all their contributions and teamwork throughout the term. If a student fails to submit peer evaluations for their group members, that student will receive zero on their own evaluation. In the meantime, there will be an informal (ungraded) mid- semester peer evaluation to know if the teamwork assignment is going according to plan and to identify the teamwork issues (if there is any).

** **Timed Synchronous Quizzes and Exams.** For any timed synchronous assessment, time will be adjusted for SAS students if needed and accommodations for students will be done on a case-by-case basis. Students needing accommodation for synchronous assessments due to extenuating circumstances (e.g. significant time zone differences, etc.) should contact the instructor no later than Sep. 18 to ensure that these needs are taken into account when groups are assigned for the term. Students in this situation may be placed in a smaller group to accommodate group work occurring at an alternative time.

Late assignments/Quizzes. Late submission of timed assessments will receive a penalty of 10% of the assignment points. No late submissions will be accepted for grading 10 minutes after the assessment end time. A buffer time has already been added on top of the writing time to account for technical issues.

Group quizzes (75 min, synchronous, in-class). Each group quiz is designed to be completed by students in their assigned groups during class time. Students must join their group's breakout room to participate and receive credit. All group members who are present during a given group quiz will receive the same score based on their group's submitted quiz. Each quiz is designed to be completed in 50-minutes, but an additional 50% buffer time has been provided for technical issues.

Group presentations. Group presentations (Oct. 26-Nov. 4) will take place synchronously during class time, and will include time for question and answer. The presentation date for each group will be assigned.

Group posters. Group posters will take place asynchronously. Group posters accompanied with video summaries will be submitted by D2L on Dec.2nd. These posters and videos will be made available for an online 'gallery walk', where students will asynchronously view other teams' work and ask questions. The synchronous classes on Dec. 2- Dec. 9 will be canceled so that students may use this time to engage with other teams' work.

Final exam (3 hours, synchronous). The final exam is designed to be completed individually in 2-hours, but an additional 50% buffer time has been provided for technical issues. See section 7 for more details.

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	95 %	90 %	85 %	80%	75%	70 %	65 %	60%	55%	50 %	45 %

This course will have a final exam that will be scheduled by the Registrar. [The Final Examination Schedule](#) will be published by the Registrar's Office approximately one month after the start of the term. The final exam for this course will be designed to be completed within 2 hours.

The final exam will be administered using an on-line platform. Per section [G.5](#) of the online Academic Calendar, timed final exams administered using an on-line platform, such as D2L, will be available on the platform. Due to the scheduling of the final exams, the additional time will be added to **the end** of the registrar scheduled **synchronous** exam to support students. This way, your exam schedule accurately reflects the **start time** of the exam for any **synchronous** exams. E.g. If a **synchronous** exam is designed for 2 hours and the final exam is scheduled from 9-11am in your student centre, the additional time will be added to the **end** time of the

synchronous exam. This means that if the exam has a 1 hour buffer time, a synchronous exam would start at 9 am and finish at 12pm.

Note: Students must earn 50% or higher on the final exam to receive C- or higher in the course.

The University of Calgary offers a [flexible grade option](#), Credit Granted (CG) to support student's breadth of learning and student wellness. Faculty units may have additional requirements or restrictions for the use of the CG grade at the faculty, degree or program level. To see the full list of Faculty of Science courses where CG is not eligible, please visit the following website: <https://science.ucalgary.ca/current-students/undergraduate/program-advising/flexible-grading-option-cg-grade>

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, one possible arrangement is that the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course. This option is at the discretion of the coordinator and may not be a viable option based on the design of this course.

- **Missed group quiz.** There are no deferred quizzes. If an individual is absent from their group during a scheduled group quiz, they are not eligible to receive the group assessment score for that quiz. If an excused absence is approved, the percentage weight of that quiz will be pro-rated among the remaining group quizzes for that individual student.

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

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

6. **Course Materials:**

Required Textbook(s):

Jacob A. Moulijn, Michiel Makkee, Annelies E. van Diepen, *Chemical Process Technology (2nd edition)*: Wiley (2001 or 2013)- A copy of the first Edition of this reference book is freely available online.

Recommended Textbook(s):

Andreas Jess & Peter Wasserscheid, *Chemical Technology: An Integral Textbook*. Wiley (2020).

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 and final exams are all open-book; students are only allowed to use their lecture notes, course materials posted to D2L, and the recommended course textbooks listed in this outline.

Group quizzes are to be completed within the assigned groups - communication with individuals outside of the group (other than the instructor) during the quiz is not permitted. The Final exam is to be completed individually by the student - communication with anyone other than the course instructor during the exam is not permitted.

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 Services:** 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 (syva@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/legal-services/sites/default/files/teams/1/Policies-Sexual-and-Gender-Based-Violence-Policy.pdf>)
- d. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)
Student Academic Misconduct [Policy](#) and [Procedure](#)
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

e. Academic Accommodation Policy:

It is the student's responsibility to request academic accommodations according to the University policies

and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Academic Accommodation Form](#) and sending it to Dr. Yuen-Ying Carpenter by email yyscarpe@ucalgary.ca preferably 10 business days before the due date of an assessment or scheduled absence.

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

- Integrate the knowledge of fundamental chemistry concepts to deconstruct the design of modern industrial scale chemical processes. Then be able to use these fundamental concepts to “design” a chemical process from the ground-up.
- By using fundamental chemistry knowledge, to further develop the ability to find, assess, interpret, and deconstruct literature related to processes involved in chemical industry.
- Further develop the ability to communicate, present, and give detailed explanations of the chemistry behind phenomena related to chemical processes; using team-based learning, oral, poster, written and pictographical presentations.

Electronically Approved - Sep 07 2021 13:40

Department Approval