



COURSE OUTLINE

1. **Course:** CHEM 571, Physical Chemistry Of Interfaces - Fall 2020

Lecture 01: TR 12:30 - 13:45 - Online

Instructor	Email	Phone	Office	Hours
Dr. Viola Birss	birss@ucalgary.ca	403 861-3664	ES 656	TBA

There will be three assignments (handed out on Sept. 29, Oct. 20 and Nov. 19), due one week later, and a group-based term paper will be due on Nov. 26, with the class divided into random groups of 4-5 people early in the term. A 2-hour midterm exam will be distributed on D2L on October 29, with 3 hours allowed to complete the exam over a 24 hour time period. This course will have a registrar scheduled final exam.

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 will be given online at the scheduled times to encourage questions, but will also be recorded. Recordings will be available via the course D2L page.

Course Site:

D2L: CHEM 571 L01-(Fall 2020)-Physical Chemistry Of Interfaces

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

In terms of responding to your email enquiries about the course, I will do my best to respond within 24 hours, except on weekends and holidays.

2. **Requisites:**

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

Prerequisite(s):

Chemistry 371 and 373.

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
3 Assignments	27	Handed out Sept. 29, Oct. 20, Nov. 19
Midterm Exam	20	Oct 29
Group Term Paper	18	Due Nov. 26
Final Exam	35	Scheduled by 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	95.00 %	87.00 %	82.00 %	77.00%	72.00%	66.00 %	62.00 %	58.00%	54.00%	50.00 %	45.00 %

This course has a registrar scheduled final exam.

There will be 3 assignments in this course (handed out on Sept 29, Oct 20 and Nov 19). The assignments are all to be completed individually. While you can discuss the questions and your approach with one another, your submission must be in your own words. All assignments will be due by 10 pm one week after the day they are made available on D2L. Late submissions will be penalized at 10% per day late.

A group-based term paper will be due at 10 pm on Nov. 26, with the class divided into randomly organized groups of 4-5 people early in the term. A late submission will be penalized at 20% per day late.

A one hour midterm exam will be distributed on D2L on October 29 at the normal lecture time, with 1.5 hours allowed to complete the exam.

This course will have a registrar scheduled final exam. This will be an asynchronous 2-hour exam, with 3 hours allowed to complete the exam over a 24 hour time period that will end at the end of the Registrar's scheduled time slot.

Midterm and final exams will be 'open notes'. Reference to only your course notes, textbook, and selected online resources will be allowed. Use of all other websites or online or offline resources during these exams is prohibited.

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.

There are no deferred Midterm/Term Test examinations. 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).

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

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

6. **Course Materials:**

Recommended Textbook(s):

Hans-Jurgen Butt, Karlheinz Graf and Michael Kappl, *Physics & Chemistry of Interfaces. 1st, 2nd or 3rd Ed.*: Wiley VCH.

The listed textbook is recommended. Copies of the text are available in the library and as digital downloads. A basic scientific calculator is required for this course and some graphs may need to be plotted using Excel or equivalent.

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:

Midterm and final exams will be 'open notes'. Reference to only your course notes, textbook, and selected online resources will be allowed. Use of all other websites or online or offline resources during these exams is prohibited.

Students who require accommodation must be registered with Student Accessibility Services (see section 12 (f.) below), and must identify themselves to their instructor as soon as possible.

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 (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/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.

In terms of responding to your email enquiries about the course, I will do my best to respond within 24 hours, except on weekends and holidays.

Course Outcomes:

- INTERFACES: Understand the origin of interfacial tension, its thermodynamics, and examples of interfacial tension in chemistry and nature.
- SOLID SURFACES: Understand surface crystallinity and its effect on surface energy. Become familiar with and understand principles of advanced surface characterization methods.
- ADSORPTION ISOTHERMS: Understand driving forces of adsorption, the meaning of different isotherms, and how adsorption is measured, and the connection with surface catalysis.
- DOUBLE LAYERS AT SOLID/LIQUID INTERFACES: Understand origin of double layers and impact on practical electrochemical processes.

Electronically Approved - Sep 04 2020 16:47

Department Approval