



## 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 471, Physical Chemistry: Kinetics and Spectroscopy - Winter 2020

Lecture 01: MWF 12:00 - 12:50 - Remote Learning (check with your instructor or coordinator for details)

Instructor	Email	Phone	Office	Hours
Dr. Max Anikovskiy	m.anikovskiy@ucalgary.ca	403 220-3115	EEEL 237A	By appointment

#### **Course Site:**

D2L: CHEM 471 L01-(Winter 2020)-Physical Chemistry: Kinetics and Spectroscopy

**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 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
Tutorials 1-7 (in person)	14	
Tutorials 8-10 (on-line)	6	
Quiz 1 (in person)	8	
Quiz 2 (on-line)	7	
Laboratory experiments	35	
Midterm examination (in class)	15	Feb 24
Final on-line assessment (April 18, 2020)	15	

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>	92 %	86 %	82 %	78%	74%	70 %	66 %	62%	58%	54 %	50 %

A passing grade for the weighted average of the midterm and final examination AND a passing grade for the laboratory component are required in order to pass this course with a letter grade higher than 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.

There are no make-up labs or deferred midterm examination. For midterm examination or any other course work, absences must be reported within 48 hrs to the course coordinator/instructor. For absences due to illness, the Physician/Counsellor statement form will be required <https://www.ucalgary.ca/registrar/student-forms>. If a student misses the course work for other reasons, then analogous documentation will be required. The course coordinator/instructor will need to see the original documentation (not electronic copy) for review/decision and keep it (or a copy) for their records. The documentation must be provided to the course coordinator/instructor within 15 days of the date of the midterm examination or any other course work 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 transferred to the final examination, the percentage weight of a legitimately missed laboratory experiment will be pro-rated among the remaining laboratory component of the course, the percentage weight of a legitimately missed quiz will be pro-rated among the remaining quizzes and assignments component of the course, and the percentage weight of a legitimately missed tutorial will be pro-rated among the remaining tutorial component of the course (see Section E.3 of the University Calendar).

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

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

#### 6. **Course Materials:**

Recommended Textbook(s):

Thomas Engel, *Quantum chemistry and Spectroscopy*. Pearson.

Thomas Engel, Philip Reid, *Thermodynamics, Statistical Thermodynamics, and Kinetics*. Pearson.

#### 7. **Examination Policy:**

The final online assessment will be administered from 3:30 pm to 4:30 pm on April 18, 2020 (as originally scheduled by the Registrar) as individually-completed, open-book written test which will be submitted for grading individually via D2L.

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

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

Laboratory Breakage Fees and Locker 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.

#### 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:** 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](http://www.ucalgary.ca/wellnesscentre) or call [403-210-9355](tel: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](mailto:svsa@ucalgary.ca)) or phone at [403-220-2208](tel: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](mailto: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](tel: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](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).
- 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 Information

Laboratory activities will begin on January 15, 2020. 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 laboratory manual can be found online on the course D2L site. The students are expected to consult the laboratory manual prior to attending any of the scheduled lab periods and print the portion of the manual that outlines the procedures that are to be performed in the laboratory.

### 14. Laboratory Safety Course

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 have not completed the safety course prior to the first laboratory will be denied admission to the laboratory. Students who have completed the chemistry safety course at the University of Calgary in the past five years are NOT required to repeat it.

#### Course Outcomes:

- Determine the rates of chemical reactions and relate the laws describing those rates to the mechanisms of reactions; explain the transition state theory and apply it to predict the reaction rates.
- Demonstrate an understanding of rotational, vibrational, and electronic spectroscopy and nuclear magnetic resonance; apply this knowledge to explain the underlying principles of different spectroscopic techniques.
- Have the capacity to engage in an independent research project.
- Critically assess and analyze interim kinetics and spectroscopic experimental results and adjust the experimental plan if necessary; design and conduct control experiments to support experimental findings.
- become expert users of the spectroscopic equipment in the Physical Chemistry laboratory; strengthen lab skillsB
- Participate actively in a group at all stages of working on the research project; communicate research ideas and findings effectively both in written and oral format.

Electronically Approved - Mar 23 2020 12:44

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#### Department Approval

Electronically Approved - Mar 23 2020 13:48

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#### Associate Dean's Approval for alternate final examination arrangements or remote learning