

Chemistry 1210 – General Chemistry I

Fall Semester 2019

- TEXT:** Tro, “Chemistry, Structure and Properties”, 2nd Ed., plus Pearson’s Mastering Chemistry and Learning Catalytics Packages. These are best purchased together, as will be discussed in our first class. Also required are the lecture notes, which will be available at the bookstore, most likely in the first week of classes. Prerequisites may be found in the course schedule, and are enforced. The Chemistry department advisors are in charge of permission codes.
- CLASS:** Lecture: MTuTh 4:10 pm–5:00 pm, 2008 HEB
Discussions: Begin the first week of classes
Laboratory: The labs (Chem 1215) are handled independently by others
This 4 unit class satisfies the SF requirement, but is not suitable for students who have poor math and/or science backgrounds.
- INSTRUCTOR:** Professor (or Doctor) Richard D. Ernst
Office: HEB 2166 (581-8639)
Consultation Hours: 12:40 – 1:30 pm (MTuTh) or by appointment or when available; ernst@chem.utah.edu (**DO NOT SEND MESSAGES BY CANVAS**)
- MIDTERM EXAMS:** **Dates for the exams will be decided and announced in class.**
- FINAL EXAM:** Friday, December 13: 3:30–5:30 pm (special Department-wide arrangement)
- WITHDRAWAL:** Last day to add w/o a permission code or to wait list: Friday, August 23, 2019;
Last day to add, drop (delete), elect CR/NC, or to audit: Friday, August 30, 2019.
Last day to withdraw: Friday, October 18, 2019. Last day to reverse CR/NC option: Wednesday, November 27, 2019.
- EXAMINATIONS:** **NO PROGRAMMABLE CALCULATORS MAY BE BROUGHT TO ANY EXAM.** A grade of 0 will be given in such a situation, and **this Exam score may not be dropped.** An inexpensive, simple calculator (including logs) should either be purchased or borrowed (roommate, etc.), and the student familiarized with its operation prior to the exam. TI-30 calculators are ideal for this class. If you are unsure about your calculator’s suitability, you need to check with Dr. Ernst **prior** to the given exam date. Dictionaries, electronic or hardcopy, are also not allowed, and their use will be dealt with as would the use of programmable calculators. Any notes in pockets or otherwise accessible locations will also be regarded as an attempt to cheat. Baseball caps must be worn backwards at exams, no listening or texting devices are allowed, and students must not use other desks for their work. Requests for regrading must be made to RDE within one week of the date the exams were returned. The rationale for receiving more credit must be given in writing. Examinations not picked up within two weeks of the date they were given are subject to disposal. Any exam problems must show the work involved in all steps of the solution for credit to be given. Students must keep their exams until final grades are posted.

COURSE DESCRIPTION:	Fundamentals of chemistry emphasizing descriptive and modern applied chemistry for science and engineering majors. Topics include atomic theory, molecular bonding, and reaction chemistry.	
CONTENT OVERVIEW:	In this class the first goal will be to provide students with an understanding of the makings and properties of atoms and molecules. Subsequently, this material will allow for an understanding of the bonding in molecules, after which attention will be turned to the systematics of chemical reactions, and finally to the properties of gases. Supplementary materials such as previous exams will be available on canvas.	
MISSED EXAMS:	Except for official University activities, or serious and unforeseeable circumstances, no make-up exams will be given, but one exam grade will be dropped or may be missed for sickness, outside activities, or personal reasons . Special consideration can not be given to anyone making travel arrangements for personal purposes, should there be a conflict with an exam. However, if you should miss an exam for some reason, that may be taken into account. You will need to alert Prof. Ernst of any such situation. In the event of an unavoidable problem for a second missed exam, a written excuse with documentation (doctor's letter, obituary announcement, etc.) is necessary to try to avoid an exam grade of 0. If at all possible notification must be made prior to the time of the exam, as otherwise a grade of 0 will be assigned. Students are expected to be aware of any announcements made in class, and are responsible for any information sent via campus e-mail. For this reason, and due to unannounced in-class quizzes, daily attendance in class is required. As a matter of fairness, questions about material to be covered on exams will only be answered in class. Except in some unforeseen circumstances, a decision to travel home early can not be the basis for taking an exam, including the final, early or late.	
ACADEMIC DISHONESTY:	Any incident of academic dishonesty could result in a grade of E. By submitting an assignment, you are representing that it is your own work and that you have followed the rules associated with the assignment. Incidents of academic misconduct (such as cheating, plagiarizing, misrepresenting one's work, and/or inappropriately collaborating on an assignment) will be dealt with severely, in accordance with the Student Code (http://www.admin.utah.edu/ppmanual/8/8-10.html). A single instance of academic misconduct may result in a failing grade for the course. Multiple instances of academic misconduct may result in probation, suspension or dismissal from a program, suspension or dismissal from the University, and/or revocation of a degree or certificate.	
GRADING:	Best 2 of 3 Exams	150 points (75 points each)
	Final Exam	100 points
	Homework and Pop Quizzes	100 points (possibly)
	Discussion	50 points
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	Total	400 points (← 1 Midterm Exam score dropped)
	Due to a change in textbook and electronic learning systems, the above may be modified to some extent. This issue will be discussed in class. As the difficulty of exams will vary, there is not a set grading scheme. At a minimum, however, a 90% performance will lead to at least an A-, 80% to a B-, 70% to a C-, and 60% to a D-.	

DISCUSSION: Students **must** attend the discussion section for which they are registered in order to receive credit for any discussion grades.

INCOMPLETES: These may only be given for work not completed due to circumstances beyond a student's control, providing the student is currently passing the class and needs to complete no more than 20% of the course requirements. Unexcused absences do not qualify for consideration. Due dates will be provided for online assignments when they are accessed. Students should check canvas daily for such assignments (or check with other students).

CAVEATS: Due to unforeseen circumstances (including but not limited to weather), and/or class preference, some of the information given herein may be modified. Should that become the case, the change will be announced (and ideally discussed) in class, with additional notification made by email and/or canvas. Students **must** be able to send, receive, and check emails via their official UID accounts. The official UID account should be checked daily for any notifications.

TUTORING: See the Chemistry department website Undergraduate Link and choose Academic Resources for tutoring information. You may also check the tutoring center 1-5153 and learning enhancement 1-8746.

MATHEMATICAL OPERATIONS: You will need to be able to deal with the terms \ln , \log , e^x , and 10^x . The important conversion factor of ca. 2.303 comes from $\ln(10)$. Thus,

$$\ln(x) = 2.303 \log(x) \quad \text{and} \quad 10^x = e^{2.303(x)}$$

(Test these by putting in $x = 10$ in the first equation, or $x = 1$ in the second.)

Be sure you can convert the following to standard notation, with the correct number of significant figures, using a nonprogrammable calculator.

$$\frac{e^{547.2}}{e^{113.1}} \quad \log(e^{100.1}) \quad 10^{\ln(54.2)} \quad 10^{115.27}$$

In case it is not already clear, keep in mind the following:

$$10^{x+y} = (10^x)(10^y) \quad [e^{x+y} = (e^x)(e^y)] \quad \log(xy) = \log(x) + \log(y) \quad [\ln(xy) = \ln(x) + \ln(y)]$$

Be sure you can obtain roots using \ln s or \log s. As an example, determine $\sqrt[10]{10}$

EQUAL OPPORTUNITY: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

VETERANS CENTER:

For our student veterans, the U has a Support Center in the Olpin Union, room 161. To check out their resources and current events, go to <http://veteranscenter.utah.edu>.

STUDENT WELLNESS:

For students having any psychological or personal concerns, the U's Center for Student Wellness can be accessed at www.wellness.utah.edu, or 581-7776. Any students having difficulties that interfere with their performance should also advise me of their situations so that we may try to address any issues sooner rather than later.

SAFETY AND HARASSMENT:

All students have the right to be in an environment that respects their safety and well-being. Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. Cases of harassment or assault may be reported to the title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Bldg., 581-8365, or the Dean of Students Office in room 270 of the Student Union, 581-7066. To file a report with the police, or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). The Student Wellness Center (see above) may be consulted for support and guidance. Important emergency alerts and safety messages regarding campus safety are sent via text message. For more information regarding safety and to view available training resources, including videos, see safeu.utah.edu. The University Student Code can be found at <http://regulations.utah.edu/academics/6-400.php>, while <http://regulations.utah.edu/academics/6-316.php> covers faculty rights and responsibilities.

ADA:

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UNDOCUMENTED STUDENT SUPPORT:

Immigration is a complex phenomenon with broad impact—those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA) as well as students from mixed-status families. To learn more, please contact the Dream Center at 801-213-3697 or visit dream.utah.edu.