



CHEMISTRY 1220 - General Chemistry II

Fall Semester 2020

MWF 2:00-2:50 PM; Canvas/Zoom

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Office Hours: TBA
Office Location: 3611 TBBC

My preferred method of communication is via email or canvas messaging. Questions about exams or questions that require detailed responses will not be answered via email, instead come to office hours.

Required Materials

- 1) Mastering Chemistry (eText Tro, 2nd Edition)
- 2) A scientific calculator capable of log/exponential functions and scientific notation. PROGRAMMABLE CALCULATORS OR OTHER ELECTRONIC DEVICES CAPABLE OF STORING ALPHANUMERIC DATA ARE NOT ALLOWED FOR USE ON EXAMS. TI-30 calculators which sell for ~ \$12 are appropriate and available in the University Bookstore.

Course Description

Chemistry 1220 is a four-credit course. Given the global pandemic, it has been modified this year to accommodate asynchronous learning and has the flexibility of allowing for a return to in-person, hybrid learning. Chemistry 1225 is the companion one-credit lab course. Chemistry 1225 meets one three-hour period per week. CHEM 1220/1225 are general chemistry courses that are comparable to any science majors' sequence taught at major state universities in the United States. As a student, you are expected to perform at a level that is commensurate with students from other institutions such as Pennsylvania State University, University of Arizona, University of Wisconsin-Madison, and University of California-Berkeley. We expect excellence from you as well as from ourselves.

Course Outcomes

By the end of the course, students will gain an understanding of:

- the basic (colligative) properties of solutions
- the fundamentals of acid/base equilibria, including pH calculations, buffer behavior, acid/base titrations, and their relationship to electrophiles and nucleophiles
- the thermodynamic and kinetic forces involved in chemical reactions which determine how much and how soon products are formed
- the basics of electrochemistry, and the relationship of electrical parameters to thermodynamic and stoichiometric parameters
- current bonding models for simple inorganic and organic molecules in order to predict structures and important bonding parameters

- general periodicity patterns of (organic/inorganic) molecules, and the ability to design synthetic approaches to such species.
- general chemical equilibria
- solubility and complex ion equilibria
- basic aspects of nuclear chemistry

Teaching and Learning Methods

We have historically run this class using a flipped model. The pandemic has blurred the line between “discussion” and “lecture”. To accommodate this reality, I will be hosting Zoom discussions on MWF wherein explore complex problems in small group formats (breakout rooms). Videos are assigned for outside of class which correlate to sections of the textbook, which is the “lecture” component of the class. Recap sessions will be taped and posted by the TAs to reinforce lecture topics, and ample on-line office hours will be available predominantly hosted by the TAs. I will be available as needed for office hours by appointment.

Course Policies

CHEM 1220 and 1225 should be taken concurrently. CHEM 1225 is an independent and separate course from CHEM 1220. Your grade in CHEM 1220 is not averaged with your CHEM 1225 grade nor vice versa. CHEM 1225 is required for most majors that require CHEM 1220.

The following topics will be investigated in our efforts to master concepts, apply calculations and reach a personal, working definition of *sustainability* and vision for our *future*;

- Review Unit (Unit 8) – Solids, Liquids, Phase Changes – *a brief review*
- Unit 10 – Properties of Solutions
- Unit 11 – Chemical Kinetics
- Unit 12 – (General) Equilibrium
- Unit 13 – Acids, Bases and Acid-Base Equilibria
- Unit 14 – Solubility and Complex Ion Equilibria (one day only)
- Unit 15 – Thermodynamics
- Unit 16 – Redox and Electrochemistry
- Unit 17 – The Nucleus: A Chemist’s View

It is a good idea to work numerous problems in the back of the chapters. This will improve your familiarity with the material.

Attendance

- While attendance on the Zoom meetings is highly encouraged, we will be taping and posting the sessions to build in partial asynchronicity to accommodate students with challenging schedules.
- **You are responsible for announcements made in Zoom meetings. Absence from class does not relieve you of this responsibility.**

Discussion Sessions

CHEM 1220 students must be registered in a Discussion Section.

- Learning to solve problems in general chemistry is the focus of the discussions, which are led by the instructor. Discussions are not meant to be repetitions of the class lectures,

and in some cases will present material that your lecturer does not cover in class. You will get far more out of discussion if you discuss and solve these problems with fellow students during the session. The problems solved during discussion sections are designed to help you improve your problem solving skills.

Tutoring Room

- The Chemistry Department has historically run a tutoring room on campus. Unfortunately, this will not be available to us this semester. Instead, we encourage you to use the FREE tutoring provided by the University this semester, and we will have a significant number of TA hosted office hours to drop in and work additional problems as needed.

Homework

- Homework problem sets are assigned at least 24 hours prior to each class, and are to be completed online in the Mastering Chemistry system. Completing these assignments is an important part of ensuring your success in the course. Experience with prior classes shows that if you score at least 80% on the Mastering Chemistry assignments you will have a very high probability of passing the course.
- In addition to the Mastering Chemistry system assignments, you may be occasionally asked to participate in answering a few questions on Canvas pertaining to our lecture and demonstrations.
- Instructions for registering yourself into the Mastering Chemistry system are posted on Canvas.
- **Late homework submissions will not be counted.**

Exams

- The material covered on each examination will include everything in the assigned chapters except material that is explicitly excluded. An announcement of the point at which each exam will "stop" will be made in class and posted on the Canvas site before each exam.
- To be fair to all, questions about what will be covered on exams will be answered in the Zoom meeting ONLY. No such questions will be answered by telephone or e-mail.
- The only legitimate excuses for missing your testing period are extenuating circumstances that are beyond your control. Examples of these circumstances are illness, death in the family, or car accidents on the way to take the test. Forgetting when to come take your exam or sleeping through your exam period are not legitimate excuses. Excuses must be accompanied with proper documentation. **Students that miss an exam due to illness must bring documentation from a physician stating that they were seen in the physician's office and that they were too ill to attend classes on that date.** Legitimate excuses must be documented within two days of the missed exam period. If you miss your exam period because of extenuating circumstances, it is your responsibility to inform your instructor in a timely fashion. Your instructor will then discuss with you appropriate measures to remedy the situation.
- Any questions regarding credit on an exam question must be submitted in writing within two days after the grades have been posted on Canvas. Any questions regarding exam credit will not be considered after two days.
- Exams will be given on the following dates:

Practice Exam Tuesday, Sept 1st Canvas

Exam 1	Tuesday, Sept 15th	Canvas
Exam 2	Tuesday, Sept 29th	Canvas
Exam 3	Tuesday, Oct 13th	Canvas
Exam 4	Tuesday, Oct 27th	Canvas
Exam 5	Tuesday, Nov 11th	Canvas
Exam 6	Tuesday, Nov 24th	Canvas
Final Exam	Week of Dec 7th	TBA

Final Exam

- **The Final Exam will be given to ALL CHEM 1220 students at the same date and time. That date and time will be announced approximately two weeks after classes start.**
- The only students who will be allowed to take the exam at an alternate time, are those with an exam conflict or three (3) exams in a single day. No other exceptions will be made. Students with exam conflicts or three (3) exams on the same day must look at this website [Final Exam Schedule Conflicts](#) and click on "Final Exam Schedule Conflicts". The procedure for documenting this problem is outlined on the website.
- We will administer an American Chemical Society final exam covering the 2nd semester topics with 70 multiple-choice questions. You will have 110 minutes to complete the exam. Your final exam grade will be the higher of the percentage correct or the percentile score.
- The key for the Final Exam will not be posted because we are not allowed to post keys for ACS Exams.
- NOTE – this is our current plan for the final exam. This depends on the state of the pandemic locally, and is subject to change.

Requests to miss the final exam, take it early, etc. because of vacation or other personal plans will be denied.

Grading Policy

Final grades in CHEM 1220 will be calculated on the following basis:

Assignment	% per Assignment	Total % of Final Grade
Exams	10%	60%
Final Exam	20%	20%
Homework	# correct / total number	20%
Total		100%

Final grades will be assigned on the following basis:

	B+= 89.99 to 87.00%	C+= 79.99 to 77.00%	D = 69.99 to 60.00%
A = 100 to 93.00%	B = 86.99 to 83.00%	C = 76.99 to 73.00%	
A- = 92.99 to 90.00%	B - = 82.99 to 80.00%	C - = 72.99 to 70.00%	E = < 59.99

FINAL GRADES IN CHEM 1220 WILL NOT BE CURVED AT THE END OF THE SEMESTER.

Final grades are not posted to Canvas nor will your instructor provide you with that information. All students can access their grades via the Campus Information System (CIS) once they are posted and released by the Registrars Office.

University Policies

1. ***The Americans with Disabilities Act.*** 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 this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.
2. ***University Safety Statement.*** The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.
3. ***Addressing Sexual Misconduct.*** 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. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).
4. ***Undocumented Student Support Statement.*** 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.
5. ***Drop/Withdrawal.***
 - Subject to changes in the official University of Utah Calendar, students may drop (delete) any class without penalty during the first week of the term. The **last day to drop** a class without tuition penalties is **Friday, September 4th**. It is possible to

withdraw from the course up to [Wednesday, Oct 16th](#), but you will still have to pay tuition for the course and a “W” will appear on your transcript. You do NOT need the instructor's signature to withdraw. After [Oct 16th](#), a student must petition for withdrawal to the Dean's office of their academic college. University policy states that withdrawals after this date should only be granted for "non-academic reasons beyond the student's control." "I want to avoid a bad grade" or similar does not qualify. Students must decide on or before [Oct 16th](#) if they wish to withdraw from CHEM 1220.

- With respect to the course content, it is the student's obligation to determine, before the last day to drop courses without penalty, when course requirements conflict with the student's sincerely-held core beliefs. If there is such a conflict, the student should consider dropping the class. A student who finds this solution impracticable may request a content accommodation from the instructor. Though the University provides, through this policy, a process by which a student may make such a request, the policy does not oblige the instructor to grant the request, except in those cases when a denial would be arbitrary and capricious or illegal. This request must be made to the instructor in writing, and the student must deliver a copy of the request to the office of the department Chair or to the office of the Dean of the College of Science. The student's request must articulate the burden the requirement would place on the student's beliefs.

6. **Academic Dishonesty.** 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 (e.g. cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating on an assignment) will be dealt with severely in accordance with the Student Code (<http://www.regulations.utah.edu/academics/6-400.html>). Bringing more than one clicker to lecture or discussion is considered an act of cheating. Speaking to a fellow student about an exam question before the last testing session for that midterm exam has closed is also considered an act of cheating. A single instance of academic misconduct may result in a failing grade for the course; however, multiple instances of misconduct may result in probation, suspension or dismissal from a program, suspension or dismissal from the University, or revocation of a degree or certificate. Incidents of academic dishonesty will be dealt with severely. Anyone caught cheating on an exam will be referred to the Dean for immediate disciplinary action and should expect to receive an 'E' in the course. Additionally, a letter detailing the cheating incident will be put in the student's permanent academic file.
7. **Wellness Statement.** Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.
8. **Veterans Center.** If you are a student veteran, the U of Utah has a Veterans Support Center located in Room 161 in the Olpin Union Building. Hours: M-F 8-5pm. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: <http://veteranscenter.utah.edu/>. Please also let me know if you need any additional support in this class for any reason.

9. ***Diversity Statement.*** It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.
10. ***Names/Pronouns.*** Class rosters are provided to the instructor with the student's legal name as well as "Preferred first name" (if previously entered by you in the Student Profile section of your CIS account, which can be managed at any time). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class or on assignments. Please advise me of any name or pronoun changes so I can help create a learning environment in which you, your name, and your pronoun are respected. If you need any assistance or support, please reach out to the LGBT Resource Center.
https://lgbt.utah.edu/campus/faculty_resources.php
11. ***English Language Learners.*** If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include: the Writing Center (<http://writingcenter.utah.edu/>); the Writing Program (<http://writing-program.utah.edu/>); the English Language Institute (<http://continue.utah.edu/eli/>). Please let me know if there is any additional support you would like to discuss for this class.

Course Schedule

Please see the file entitled "Fall 2020 1220 Schedule" on Canvas for a detailed list of topics and dates.

Disclaimer

This syllabus is meant to serve as an outline and guide for our course. Please note that I may modify it with reasonable notice to you. I may also modify the Course Schedule to accommodate the needs of our class. Any changes will be announced in class and posted on Canvas.