

CHEMISTRY 1220 Tentative Schedule – Spring 2022
 (subject to moderate change)
 Classes held on Tuesdays and Thursdays, 5:15 – 7:45 p.m.

Date	Watch This Before Class (video links on Canvas):	In Class We'll Work On:	Other Stuff (done online through Canvas):
1/11	Welcome Video	Syllabus Review & Intro Survey	
1/13	Chapter 13: 1 st half of videos	Pr. Set 13 (Ch. 13) – <i>due by 1/20</i>	
1/18	Chapter 13: 2 nd half of videos	Quiz 13 (on Canvas) Pr. Set 13 (Ch. 13)	
1/20	Chapter 14: 1 st half of videos	Pr. Set 14 (Ch. 14) – <i>due by 1/26</i>	Intro Survey (on Canvas): 1/20 – 2/6
1/25	Chapter 14: 2 nd half of videos	Quiz 14 (on Canvas) Pr. Set 14 (Ch. 14), Exam 1 Review*	Exam 1 (chapters 13-14) 1/26 – 2/3
1/27	Chapter 15: 1 st half of videos	Pr. Set 15 (Ch. 15) – <i>due by 2/2</i>	
2/1	Chapter 15: 2 nd half of videos	Quiz 15 (on Canvas) Pr. Set 15 (Ch. 15)	
2/3	Chapter 16: 1 st half of videos	Pr. Set 16 (Ch. 16) – <i>due by 2/9</i>	Anonymous Survey (on Canvas): 2/2 – 2/26
2/8	Chapter 16: 2 nd half of videos	Quiz 16 (on Canvas) Pr. Set 16 (Ch. 16)	
2/10	Chapter 17: 1 st half of videos	Pr. Set 17 (Ch. 17) – <i>due by 2/18</i>	
2/15	Chapter 17: 2 nd half of videos	Quiz 17 (on Canvas) Pr. Set 17 (Ch. 17)	Exam 2 (chapters 15-17) 2/18 – 2/24
2/17	Chapter 17	Pr. Set 17 (Ch. 17), Exam 2 Review*	
2/22	Chapter 19: 1 st half of videos	Pr. Set 19 (Ch. 19) – <i>due by 2/28</i>	
2/24	Chapter 19: 2 nd half of videos	Quiz 19 (on Canvas) Pr. Set 19 (Ch. 19)	
3/1	Chapter 20: 1 st half of videos	Pr. Set 20 (Ch. 20) – <i>due by 3/16</i>	
3/3	Chapter 20: 2 nd half of videos	Quiz 20 (on Canvas) Pr. Set 20 (Ch. 20)	
3/8	Spring Break		
3/10			
3/15	Chapter 20	Pr. Set 20 (Ch. 20)	
3/17	Chapter 21: 1 st half of videos	Pr. Set 21 (Ch. 21) – <i>due by 3/23</i>	
3/22	Chapter 21: 2 nd half of videos	Quiz 21 (on Canvas) Pr. Set 21 (Ch. 21), Exam 3 Review*	Exam 3 (chapters 19-21) 3/23 – 3/31
3/24	Chapter 24: 1 st half of videos	Pr. Set 24 (Ch. 24) – <i>due by 3/31</i>	
3/29	Chapter 24: 2 nd half of videos	Quiz 24 (on Canvas) Pr. Set 24 (Ch. 24)	
3/31	Special Topics 1 1 st half of videos	Pr. Set ST1 – <i>due by 4/8</i>	
4/5	Special Topics 1 2 nd half of videos	Quiz ST1 (on Canvas) Pr. Set ST1	
4/7	Special Topics 1	Pr. Set ST1, Exam 4 Review*	Exam 4 (chapter 24 and Special Topics 1): 4/8 – 4/15
4/12	Special Topics 2 1 st half of videos	Pr. Set ST2 – <i>due by 4/15</i>	
4/14	Special Topics 2 2 nd half of videos	Quiz ST2 (on Canvas) Pr. Set ST2	
4/19	Special Topics 3 1 st half of videos	Pr. Set ST3 – <i>due by 4/22</i>	No-Test Week: 4/20 – 4/26
4/21	Special Topics 3 2 nd half of videos	Quiz ST3 (on Canvas) Pr. Set ST3, Final Exam Review*	Anonymous Survey (on Canvas): 4/13 – 4/29
4/26	Nothing	Final Exam Review*	
4/28 – 5/4:	Comprehensive Final		

*During Exam reviews, we will go over the Exam Study Guides (available through Canvas) together.

CHEMISTRY 1220 – Spring 2022
Principles of Chemistry II
Tuesdays and Thursdays, 5:15 – 7:45 p.m.

Section	Location	Room
BB2	Brigham City Campus	Classroom and Student Services
MB2	Logan	Biology/Natural Resources 314
UB2	Vernal	BEERC B133
	Roosevelt	TBD

General Information

Instructor: Dr. Mike Christiansen (please just call me Mike)

Email: m.christiansen@usu.edu (please do NOT message me through Canvas; I don't check it)

Office: 221G Bingham Building

Phone: **Office:** 435-722-1761 **Cell:** 435-828-0140

Office hours: Tuesdays and Thursdays, 4–5 p.m.

Optional (but strongly recommended):

Chemistry: the Central Science, 12th edition, by Brown, Lemay, Bursten, Murphy, and Woodward,
ISBN-10: 0321696727 | ISBN-13: 978-0321696724

Also Optional (but up to you):

Solutions to Exercises for Chemistry: The Central Science, 12th Edition, by Brown, Wilson, & Bursten, ISBN-10: 0321705009 | ISBN-13: 9780321705006

Prerequisites: One of the following: Math ACT score of at least 25 or equivalent SAT Math score, AP Calculus AB score of 3 or higher, ALEKS Math score of 76 or higher, MATH 1050 or higher, or co-requisite of MATH 1050; high school chemistry recommended

Course Description: This course is the second of our two-semester sequence (CHEM 1210 and 1220) covering the basic principles of general chemistry, which include: principles of solubility, kinetics, equilibrium, acids and bases, environmental chemistry, thermodynamics, electrochemistry, nuclear chemistry, and introductory organic and biochemistries. Designed for science and engineering students.

Course Objectives:

By the end of the semester you should:

1. Understand the basic principles of general chemistry, as described above under **Course Description**.*
2. Be able to explain basic, everyday chemical phenomena and apply this knowledge to solving real-world problems.*, †
3. Be able to explain why chemistry is important and how it applies to everyday life. ‡

*IDEA objectives 1 and 3

†IDEA objective 4

‡IDEA objective 7

(For more on using the IDEA course evaluation system, I've posted a document about the IDEA evaluations on Canvas.)

Course Structure: This course is not an online class. However, in response to the global pandemic (see <https://www.usu.edu/covid-19/index> and <https://www.usu.edu/policies/20-t4/>), various structural changes have been made.

To begin, this class does NOT follow a traditional-lecture format. Instead, lecture videos are pre-recorded and posted on Canvas. **Your assignment is to watch each chapter's lecture video before class**, according to the schedule on Page 1 of this document. We will spend in-class time doing problem sets, either individually or in groups (see **Problem Sets** below). This type of course structure, where you watch lecture videos online outside of class and then do "homework" in class, is called **flipped learning**. I flip my classes for the following reasons:

- Once students get used to it, most strongly prefer it to traditional lecture.
- It generally produces higher grades than traditional lecture.
- I get to know my students better, which means (when applicable) I can write better letters of recommendation for you later on.
- You can re-watch my videos as many times as you want, which can better help you prepare for our exams and (if applicable) entrance exams to professional schools later on.
- Because you do your problem sets in class, with me present, I am here to help answer your questions, right when you need me most.

To take the greatest advantage of the **flipped learning** videos outside of class, you must:

- Watch the videos BEFORE class.
- Take notes and write down questions while you watch the videos.
- Do NOT do other activities (browse social media, listen to music, do your dishes) while watching the videos.
- Come to class. (Don't skip, except in unavoidable emergencies.)

Peer Grades: For those who choose to work in groups (see **Problem Sets** below), in order to encourage participation and to discourage freeloading, at the end of the semester, I will have you anonymously assign a peer grade to each member of your group (including yourself), based on how much each person contributed to your group problem sets. Your individual problem set score will then be readjusted to reflect the combined-average grade you receive from you and your fellow group members, according to the following equation:

Individual Problem Set Grade = (Group's Total Problem Set Grade) × (Y)
(Y) = the numerical average of Peer Grades, by the following conversion:

F	D-	D	D+	C-	C	C+	B-	B	B+	A-	A
0.5	0.575	0.65	0.6833	0.7167	0.75	0.7833	0.8166	0.85	0.8833	0.9167	1

<https://www.youtube.com/watch?v=nivbOZPeIO4>

Attendance: Attendance is not mandatory, but in-class problem sets are integral to the course, and we will work on problem sets during class. Thus, your grade will correlate strongly with your attendance. Additionally, if you ask me for letters of recommendation later on, I will take your attendance into serious consideration.

Canvas: Beyond videos, I will also post problem sets, lecture slides, overhead notes, answer keys, study guides, announcements, grades, and schedule changes on Canvas. Please check Canvas regularly.

Zoom: In-class proceedings will be recorded using Zoom. You can access our Zoom recordings through our Canvas homepage by clicking MEDIA GALLERY on the left panel, which will let you to re-watch anything you miss in class. Please do NOT use this as an excuse to regularly skip class.

Time Expectations: Your primary homework is to watch the video lectures before class, to study for exams, and to prepare for in-class problem sets. If you want more practice, I've also posted (on Canvas) a list of **Suggested Chapter Problems** from our text, which are recommended but not required. Please note that chemistry is a subject that requires a large time commitment to master.

Problem Sets: Problem sets are posted on Canvas in advance. Most take multiple class periods to finish. The due date is shown at the top of each problem set and on our course schedule. Everyone in your group receives the same score (later adjusted by your **Peer Grade**, described above), so it's in your best interest to contribute. Your lowest problem set score gets dropped. As a group, you may use any resource you want on problems sets: notes, the text, the internet, me, and each other. However, I warn you against mindlessly copying answers, because it will disadvantage you and lower your exam performance. Problem set answer keys are posted the morning after each one is due.

Quizzes: For each new chapter, there will be a five-point in-class quiz, based on the material covered in the assigned sections from that chapter before class. These quizzes are given to encourage you to watch or read the assigned chapter sections before class. Your lowest quiz score will be dropped. No makeup quizzes will be given.

Exams: Most of your grade comes from exams (four midterms and one comprehensive final), which are based largely on problem sets. Exams will be taken in your testing centers and are NOT done in groups. Exams will cover information from our video lectures and/or class and will include modified problems from the text or problem sets. The comprehensive final will have questions from old exams and quizzes, as well as new questions. Exams will be given on the days indicated on the class schedule. If you know ahead of time that you will miss an exam, and if the reason is valid (determined at my discretion), arrangements will be made. No after-the-fact excuses/absences will be considered!

Grade Breakdown:

Your course grade will be calculated, based on the following point amounts:

Intro Survey		5 points (0.83%)
12 quizzes	(5 points each – lowest score dropped)	55 points (9.17%)
12 problem sets	(10 points each – lowest score dropped)	110 points (18.33%)
4 Midterm Exams	(100 points each – lowest score dropped)	300 points (50.0%)
Comprehensive Final	(100 points, MANDATORY)	100 points (16.67%)
Total		570 points

Of the four midterm exams, **only three will be counted** toward your final grade. If you take all four midterms, your lowest score will be dropped. The comprehensive final is mandatory and will not be dropped. Your final course grade will be based on the following scale:

A: 100-93% A-: 92-90% B+: 89-87% B: 86-83% B-: 82-80%
C+: 79-77% C: 76-73% C-: 72-70% D: 69-60% F: 59% and below

Statewide Mentoring Program

For students at any of our statewide campuses (not available in Logan yet, so sorry!), I encourage you to consider signing up for our USU Statewide Faculty-to-Student Mentoring Program. The purpose of this program is to help students to: (1) successfully adjust to university life; (2) realize they are valued members of the university; (3) have a clear sense of purpose; and (4) achieve their educational goals. If you sign up, then you will be assigned a faculty member, who will help provide academic support, career guidance, and psychosocial support. If you sign up, you will also have the opportunity to participate in a voluntary research study, whose purpose is to evaluate if the program's effectiveness. The total time commitment is between 2 and 5 hours per semester for as long as you are enrolled in the program. To learn more, please visit <https://statewide.usu.edu/mentor>. To sign up, please go to https://usu.co1.qualtrics.com/jfe/form/SV_eQdWbzozv34udr7.

University Policies

COVID-19 Classroom Safety Protocols: While not mandated, USU encourages and welcomes the wearing of masks in all university building, especially within 6 feet of others. Furthermore, it is strongly encouraged to take measures to mitigate risk as recommended by federal and state public health officials. These measures include getting fully vaccinated, staying home if you are sick (even with mild symptoms), and maintaining good hygiene including frequent hand washing. Testing will be provided, without charge, throughout the semester and the USU COVID Webpage will provide up-to-date information. Please remember; COVID can have significant impact on the health and safety of those around you so remain vigilant and respectful.

Academic Freedom and Professional Responsibilities: Academic freedom is the right to teach, study, discuss, investigate, discover, create, and publish freely. Academic freedom protects the rights of faculty members in teaching and of students in learning. Freedom in research is fundamental to the advancement of truth. Faculty members are entitled to full freedom in teaching, research, and creative activities, subject to the limitations imposed by professional responsibility. USU Policy 403 (<http://www.usu.edu/hr/files/uploads/Policies/403.pdf>) further defines academic freedom and professional responsibilities.

Academic Integrity – the “Honor System”: The University expects that students and faculty alike maintain the highest standards of academic honesty. The Code of Policies and Procedures for Students at Utah State University (Student Conduct) addresses academic integrity and honesty and notes the following:

Academic Integrity: Students have a responsibility to promote academic integrity at the University by not participating in or facilitating others' participation in any act of academic dishonesty and by reporting all violations or suspected violations of the Academic Integrity Standard to their instructors.

The Honor Pledge: To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity". Violations of the Academic Integrity Standard (academic violations) include, but are not limited to cheating, falsification, and plagiarism.

Plagiarism: Plagiarism includes knowingly "representing by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials." The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling.

Discrimination and Sexual Misconduct: USU strives to provide an environment for students and employees that is free from discrimination and sexual misconduct. If you experience sexual misconduct or discrimination at any point during the semester inside or outside of class, you are encouraged to contact the USU Title IX Coordinator via Old Main room 161 in Logan, 435-797-1266, titleix@usu.edu, or at equity.usu.edu/report. You can learn more about the USU resources available for individuals who have experienced sexual misconduct at sexualrespect.usu.edu. Resources for individuals who have experienced discrimination are listed at equity.usu.edu.

Required Reporting of Sexual Misconduct: The instructor is designated by USU as a "reporting employee." This means that if you share information about sexual misconduct (sexual harassment, sexual assault, relationship violence, or sex-based stalking) with the instructor, they will report that information to the USU Title IX Coordinator. The instructor is also required to tell you about designated confidential resources, supportive measures, and how you can file a report with the USU Title IX Coordinator.

Students with Disabilities: USU welcomes students with disabilities. If you have, or suspect you may have, a physical, mental health, or learning disability that may require accommodations in this course, please contact the Disability Resource Center (DRC) as early in the semester as possible (University Inn # 101, 435-797-2444, drc@usu.edu). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.

Withdrawal Policy and "I" Grade Policy: If a student does not attend a class during the first week of the term or by the second class meeting, whichever comes first, the instructor may submit a request to have the student dropped from the course. (This does not remove responsibility from the student to drop courses which they do not plan to attend.) Students who are dropped from courses will be notified by the Registrar's Office through their preferred e-mail account.

Students may drop courses without notation on the permanent record through the first 20 percent of the class. If a student drops a course following the first 20 percent of the class, a W will be permanently affixed to the student's record (check General Catalog for exact dates).

Students with extenuating circumstances should refer to the policy regarding Complete Withdrawal from the University and the Incomplete (I) Grade policy in the General Catalog.

No-Test Days Policy: For classes that meet for a full semester, a five-day period designated as "no-test" days precedes final examinations. During this time, no major examinations, including final examinations will be given in order that students may concentrate on classwork, the completion of special assignments, writing projects, and other preparation for duly scheduled final examinations. Approved exceptions include final papers, weekly chapter quizzes, quizzes, projects, and examinations associated with a lab that does not meet during final examinations. This policy does not apply to classes that meet only during the second 7-week session of the semester or to classes offered during the summer term. Complete information related to Final Examination Policies (<https://catalog.usu.edu/content.php?catoid=12&navoid=3311>) can be reviewed in the General Catalog.

Assumption of Risk: All classes, programs, and extracurricular activities within the University involve some risk, and some involve travel. The University provides opportunities to participate in these programs on a voluntary basis. Therefore, students should not participate in them if they do not care to assume the risks. Students can ask the respective program leaders/sponsors about the possible risks a program may generate, and if students are not willing to assume the risks, they should not select that program. By voluntarily participating in classes, programs, and extracurricular activities, students do so at their own risk. General information about University Risk Management policies, insurance coverage, vehicle use policies, and risk management forms can be found at <http://www.usu.edu/riskmgt/>.

Mental Health: Mental health is critically important for the success of USU students. As a student, you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. Utah State University provides free services for students to assist them with addressing these and other concerns. You can learn more about the broad range of confidential mental health services available on campus at Counseling and Psychological Services (CAPS, <https://counseling.usu.edu/>).

Students are also encouraged to download the “SafeUT App” (<https://healthcare.utah.edu/uni/programs/safe-ut-smartphone-app>) to their smartphones. The SafeUT application is a 24/7 statewide crisis text and tip service that provides real-time crisis intervention to students through texting and a confidential tip program that can help anyone with emotional crises, bullying, relationship problems, mental health, or suicide related issues.

I have read and understood the course syllabus.

Printed Name

Signature

Date