

CHEM 1010 – Introductory Chemistry

Syllabus

Instructor: Dr. Shawn M. Miller

Spring Term, 2017

Email: shawn.miller@usu.edu

Office Hours: Tuesday/Thursday 9:00 AM-10:00 AM, Widtsoe 339

Course Lecture Times & Locations:

Section (CRN)	Time	Day	Location
Lecture 002 (13743)	11:30 AM to 12:20 AM	M/W/F	Widtsoe Hall 007

Prerequisite:

No prerequisites

Required Materials:

Text: Suchocki, J. *Conceptual Chemistry*, 5th ed.; Pearson Education, Inc. (ISBN: 978-1-269-21341-7)

Calculator: A non-programmable scientific calculator is recommended for use in Lecture and on Exams. Programmable calculators (TI-80 and above or similar) are not permitted on the Exams. Other electronic devices, including phones, are not permitted during Exams.

SI Information: Ryden Crowther (contact: rdncwr20@gmail.com or Canvas)
Session Times: Monday 6:00 PM – 6:50 PM in Main 304
Thursday 8:30 PM – 9:20 PM in Main 121

UTF Information: Spencer Stanford (contact: spencerstandford15@gmail.com or Canvas)
Office Hours: Monday 8:30 AM – 9:20 AM; Wednesday 1:30 PM – 2:20 PM
Office Hours Location: Widtsoe 226

Course Overview

Chem 1010 is a Lecture course that meets three times a week. There will be a set of Pre-Chapter Problems on Canvas associated with each textbook chapter. Additionally, there will be an online Post-Week Canvas Quiz at the end of each week. There will be three 50-minute in-Lecture Exams in addition to a Final exam.

Course Learning Objectives

CHEM 1010 is a service course designed to reintroduce you to fundamental scientific concepts, such as energy, introduce you to new fundamental chemistry concepts, such as atomic structure and molecular structure, and demonstrate how these concepts apply towards real-life problems, such as environmental issues. By reading the textbook prior to the Lecture period and

completing Pre-Chapter Problem sets, you will obtain a basic understanding of the upcoming Lectures' topics. By attending, taking notes during, and asking questions during Lecture periods, you will expand and refine your understanding of the course material. You will demonstrate proficiency of the course material through weekly online Post-Week Canvas Quizzes and you will demonstrate mastery of the course material through Midterm Exams and a Final Exam.

By the end of this course, you will be able to...

- ...list key fundamental chemistry theories and principles and recall their meaning. For example, students will list Gas Laws and distinguish between them by recalling their definitions, list the different ways we can measure compounds and recall when certain units are useful how to convert between units, and list different acids and bases and recall their respective chemical reactivity.
- ...explain the significance of fundamental chemistry theories and principles for everyday life. For example, how gases affect the global climate, why using the correct units are crucial to chemical reactions, and how acid-base chemistry is involved in acid rain.
- ...use fundamental chemistry theories and principles, such as the periodic table, to explain or predict a result. For example, students will use the Gas Laws to predict how the volume of a gas will be affected by changing the volume, use dimensional analysis to predict the mass of product produced from a chemical reaction using a certain amount of starting material, and explain why elements in the same family on the periodic table have similar chemical properties.
- ...solve quantitative chemistry problems using basic arithmetic skills.

You will prepare for and practice achieving these objectives by...

- ...reading the textbook and completing online Canvas Pre-Chapter Quizzes.
- ...attending and taking notes during Lecture periods.
- ...taking weekly graded online Post-Week Canvas Quizzes.
- ...asking for help via Office Hours, Piazza, or e-mail.

You will be assessed on how you have achieved these objectives using...

- ...one Getting Started online Canvas Quiz.
- ...the aforementioned online Canvas Quizzes.
- ...three Midterm Exams.
- ...one Final Exam.

Course Communication

Piazza is a free online system designed for students to have access to rapid and efficient help from classmates, TAs, and the instructor simultaneously. **Piazza is not to be used to convey personal information.** Email the instructor directly if you need to discuss personal information.

For academic questions, rather than emailing questions about course material to the instructor and hope for a quick response, you are strongly encouraged to post your questions on Piazza. The instructor, TAs, and students can answer the question on Piazza, making it more likely that someone can answer your question quickly. Maybe you'll even get lucky and someone will have already asked the question you were going to ask and got it answered! Students are not to provide complete answers or explanations, but are encouraged to guide their fellow students to complete answers or explanations. You have the option of posting anonymously to each other, but the instructor and TAs will always be able to see your identity. Enroll in the course by following the instructions in Canvas or by creating a Piazza account by going to <https://piazza.com/signup>, searching for "Chem 1010", and enrolling as a student.

You are always welcome to e-mail the instructor with questions. Please include your full name and A-Number in your email. I will attempt to respond to your e-mails in a timely manner, but I have responsibilities outside of the course that may prevent me from doing so, and I ask you to exercise patience after sending e-mail. When contacting the instructor by email, it is recommended that you send the message through Canvas.

The instructor will hold regular office hours as listed in this syllabus as well as by request.

Course announcements will be made using Canvas and the course Piazza page. Do not expect to receive regular mass emails from the instructor. **You are expected to check Canvas and/or Piazza at least once a day and are responsible for any information found in the announcements.** "But I did not know" will not be an acceptable excuse for being unaware of important information located in course announcements.

Getting Started in the course

Read the course syllabus. Once that is done, your first assessment is a "Getting Started" online quiz located on Canvas that will cover course policy as discussed in the syllabus. This Quiz opens at the start of the semester and remains open until 11:00 AM on Monday, January 23. The Getting Started quiz will be graded immediately upon completion and may be attempted an unlimited number of times. Correct answers will not be shown upon completion of the Getting Started Quiz, but you will be able to view your responses. If multiple attempts are made, the **latest** score will be accepted. **If you see no score in your Gradebook, no attempt was submitted.** The Getting Started Quiz score cannot be dropped.

Qualified students with disabilities may be eligible for reasonable accommodations. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444 voice, 797-0740 TTY. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.

Lectures and Quizzes

It is assumed that you read textbook chapters prior to discussing them in Lecture. You are strongly encouraged to take notes while reading the textbook and then supplement those notes with Lecture. Reading the chapter ahead of time will grant you familiarity with the topic, and the Lecture periods will refine that familiarity into understanding and allow you an opportunity to ask questions to clarify concepts and rectify misconceptions. PDF copies of blank Lecture Powerpoint slides will be available on Canvas to be printed ahead of each Lecture. Each Lecture will be recorded and available on Canvas for viewing at your pleasure.

Prior to the beginning of every chapter will be a Pre-Chapter Quiz. The Quiz will open when the previous chapter is first discussed in Lecture and will close at 11:00 AM the day the chapter is first discussed in Lecture. These Quizzes contain 10 questions each worth 0.5 points. The questions are designed to ensure you recognize key ideas in the chapter, even if you do not yet fully understand them. You will have an hour to complete the Pre-Chapter Quiz and may use your textbook and notes, but you must work alone. The Quizzes are designed to require much less than an hour to complete if you properly prepare by reading the chapter ahead of time. You may take each Pre-Chapter Quiz twice to account for any technical difficulties you encounter, such as losing power or logging out accidentally. The correct answers for the Quiz will not be shown until after the due date. After successfully completing the Quiz, you may choose to retake the Quiz to try and maximize your score, but note that only the **last** attempt will be accepted. Therefore, if your second attempt at the Quiz has a lower score than the first attempt, the second attempt's score is still what will be counted as your score for the Quiz. The lowest Pre-Chapter Quiz score will be dropped at the end of the course.

At the end of every week, a Post-Week Quiz will be released. The Quiz will open at 12:30 AM every Friday and will be due the following Monday at 11:00 AM. Post-Week Quizzes will be 30 minutes long, are worth 15 points each, and will contain questions about material covered in the previous week. You may use your textbook and notes when taking the Post-Week Quiz, but you must work alone. You should treat Post-Week Quizzes as practice for the Exams, as both the timed aspect is common with Exams and you should expect some of the questions on Post-Week Quizzes to make an appearance in some form on the Exams. You may take each Post-Week Quiz twice to account for any technical difficulties you encounter, such as losing power or logging out accidentally. After successfully completing the Quiz, you may choose to retake the Quiz to try and maximize your score, but note that only the **last** attempt will be accepted. Therefore, if your second attempt at the Quiz has a lower score than the first attempt, the second attempt's score is still what will be counted as your score for the Quiz. The lowest two Post-Week Quiz scores will be dropped at the end of the course.

Examinations

There will be three in-class 50-minute Exams, worth 100 points each, that will be administered according to the following schedule:

First Exam: Wednesday, February 8
Second Exam: Friday, March 3
Third Exam: Wednesday, April 5

These Exams will consist of 33 multiple choice questions worth 3 points each. The remaining point will be automatically awarded.

Make-up Exams for missed Exams may be granted upon petitioning the instructor only in the following situations: 1) documented and acceptable excuses for illness when verified by a doctor's note; 2) a family emergency when verified by a note from your academic advisor; 3) a regularly scheduled university-sanctioned conflict, such as a sports competition the student is participating in, but only when the instructor is notified well in advance of the conflict and verified with a note from the person in charge of the activity containing the specific reasons for the absence. Absences due to reasons not considered by the university to be excused absences, such as weddings, are not eligible for make-up Exams.

Students arriving late to the Exam will forfeit the lost time. No other materials (including, but not limited to, music playing devices, headphones, cellular phones, textbooks, course notes, calculators, etc.) are permitted.

A Final Examination will be held on Friday, May 5 from 9:30 AM to 11:20 AM.

Academic integrity

All Utah State University academic integrity policies are strictly enforced. All students at Utah State University agree to be bound by the following Honor Pledge "I pledge, on my honor, to conduct myself with the foremost level of academic integrity." See the following for further information: <https://studentconduct.usu.edu/studentcode/article5>. Students found guilty of academic misconduct on any assignment will, **at minimum, be given a zero for the assignment and have the full value of that assignment deducted from their final course grade**. Actions up to and including a failing grade for the course are options available to the instructor.

Grading

The total score for each type of assignment represent totals after appropriate lowest scores have been dropped.

Getting Started Quiz	20	Percentage of Points Earned	Grade
Pre-Test	10	92 – 100	A
Pre-Chapter Quizzes	60	88 – 91	A–
Post-Week Quizzes	165	85 – 87	B+
First Exam	100	81 – 84	B
Second Exam	100	77 – 80	B–
Third Exam	100	73 – 76	C+
Final Exam	200	64 – 72	C
<hr/> Total points	<hr/> 755	60 – 63	C–
		57 – 59	D+
		50 – 56	D

Final course scores will be rounded to the nearest whole number.

Course Assessment

Approximately halfway through the course, the instructor will solicit feedback through an anonymous survey on Canvas. The purpose of the survey will be to determine student opinions of the course up to that point and ask for suggestions on what could be done to improve the course for the rest of the semester and in subsequent semesters. The instructor will know who completed the survey, but will be unable to match survey responses to students. Each student who responds to the survey will be granted 3 extra credit points.

A Pre-test/Post-test approach will be used to measure comprehension and teaching of important concepts. The pre-test will be administered online through Canvas. The Pre-test will be comprised of 20 questions and will have a duration of 30 minutes. The multiple choice questions of the Pre-test will reappear in the Final Exam, in slightly altered form, to assess teaching and learning progress during the semester. If weaknesses are observed in specific subject areas, teaching methods will be reevaluated. All all-or-nothing 10 pt reward will be given for completing the Pre-test. The test opens at the beginning of the course and is due at 11:00 AM on Monday, January 16.

Spring 2017 Schedule

Please look carefully at the following schedule for the correct order of Lectures. Note that this schedule is approximate and may adjust slightly depending on course pace.

Red text denotes the days Exams will be proctored. **Blue text** denotes holidays where Lecture will not be held. Note that President's Day falls on February 20, but class will be held on Tuesday instead. Note that the first Post-Week Quiz (P-Quiz) will be due on Monday, January 16, which is a holiday. The P-Quiz for Week 6 will be due on Tuesday, February 21 instead of Monday, February 20 as that Tuesday is a Monday schedule. P-Quiz 8 will be worth zero points so as to be used as a study tool for the Midterm Exam on Friday, March 3. P-Quiz 16 will be worth zero points so as to be used as a study tool for the Final Exam.

Pre-Chapter Quizzes are due the day the Chapter is first discussed in Lecture, but the exact date may change depending on course pace.

Week	Date	Chapter	Post-Week Quizzes	Week	Date	Chapter	Post-Week Quizzes
1	1/9	Introduction		9	3/6	Spring Break	
	1/11	1			3/8		
	1/13	1			3/10		
2	1/16	MLK Day	Week 1 P-Quiz	10	3/13	7	
	1/18	1			3/15	7	
	1/20	2			3/17	7	
3	1/23	2	Week 2 P-Quiz	11	3/20	9	Week 10 P-Quiz
	1/25	2			3/22	9	
	1/27	3			3/24	9	
4	1/30	3	Week 3 P-Quiz	12	3/27	10	Week 11 P-Quiz
	2/1	3			3/29	10	
	2/3	3			3/31	10	
5	2/6	4	Week 4 P-Quiz	13	4/3	10	Week 12 P-Quiz
	2/8	First Exam			4/5	Third Exam	
	2/10	4			4/7	11	
6	2/13	4	Week 5 P-Quiz	14	4/10	11	Week 13 P-Quiz
	2/15	4			4/12	11	
	2/17	5			4/14	12	
7	2/20	Holiday, Meet Tues. (Ch. 5)	Week 6 P-Quiz	15	4/17	12	Week 14 P-Quiz
	2/22	6			4/19	12	
	2/24	6			4/21	13	
8	2/27	6	Week 7 P-Quiz	16	4/24	13	Week 15 P-Quiz
	3/1	6	"Week 8 P-Quiz"		4/26	13	
	3/3	Second Exam			4/28	13	"Week 16 P-Quiz"
				17	Friday, 5/5	Final Exam, 9:30 AM – 11:20 AM	