



# General Chemistry I

Chemistry 1110 - 001

Dr. Harris

Fall 2019 Course Syllabus

M,W,F: 9:30 – 10:20 am: Widtsoe 007

Tuesday: 4 – 4:50 pm: ESLC 130

4 credits

Dates		MON	TUES	WED	FRI
August	26 <sup>th</sup> – 30 <sup>th</sup>	<b>Introduction</b>	1	1	2
September	2 <sup>nd</sup> – 6 <sup>th</sup>	<b>Holiday</b>	2	2	2
September	9 <sup>th</sup> – 13 <sup>th</sup>	3	3	3	3
September	16 <sup>th</sup> – 20 <sup>th</sup>	3	<b>Exam 1 4 p.m. ESLC 130</b>	4	4
September	23 <sup>rd</sup> – 27 <sup>th</sup>	4	4	4	5
September/October	30 <sup>th</sup> and 2 <sup>nd</sup> – 4 <sup>th</sup>	5	5	6	6
October	7 <sup>th</sup> – 11 <sup>th</sup>	6	6	6	6 and <b>Extra Credit Information</b>
October	14 <sup>h</sup> – 18 <sup>th</sup>	<b>Exam 2 9:30 a.m. Widtsoe 007</b>	7	7	<b>Friday – Fall Break</b>
October	21 <sup>std</sup> – 25 <sup>th</sup>	7	7	8	8
October/November	28 <sup>th</sup> – 30 <sup>th</sup> and 1 <sup>st</sup>	8	8	9	9
November	4 <sup>th</sup> – 8 <sup>th</sup>	9	9	9	9
November	11 <sup>th</sup> – 15 <sup>th</sup>	<b>Exam 3 9:30 a.m. Widtsoe 007</b>	10	10	10
November	18 <sup>th</sup> – 22 <sup>nd</sup>	11	11	11	11
November	25 <sup>th</sup> – 29 <sup>th</sup>	11	<b>Make Up Exam by Appointment Only 4 p.m. ESLC 130</b>	<b>Holiday</b>	<b>Holiday</b>
December	2 <sup>nd</sup> – 6 <sup>th</sup>	12	12	12	12
December	11 <sup>th</sup>			<b>Final Exam 9:30 a.m. Widtsoe 007</b>	

Exam Number	Date	Chapters Included
1	Tuesday, 17 <sup>th</sup> of September	1 – 3
2	Monday, 14 <sup>th</sup> of October	4 – 6
3	Monday, 11 <sup>th</sup> of November	7 – 9
Make Up Exam	Tuesday, 26 <sup>th</sup> of November by appointment only for excused absences only	1 – 9
Final	Wednesday, 11 <sup>th</sup> of December	10 through 12 – 25 questions 1 through 9 – 25 questions

Dr. Doug Harris

Office: Maeser Chemistry Lab 157, (435) 797-1609

E-mail: [doug.harris@usu.edu](mailto:doug.harris@usu.edu)

Office Hours: 3:30 – 4:30 pm MW or by appointment

## Materials

Karen Timberlake, *General, Organic, and Biological Chemistry: Structures of Life*, Custom Text, Pearson.

Scientific Calculator (no networking-capable calculators)

<b>Coursework</b>	Examinations, 3 @ 100.....	300
	Final Exam, mandatory @ 200.....	200
	TOTAL.....	500

### Grades

100% - 92%	A
91% - 88%	A-
87% - 85%	B+
84% - 81%	B
80% - 77%	B-
76% - 73%	C+
72% - 64%	C
63% - 60%	C-
59% - 57%	D+
56% - 50%	D

Note: Scores rounded to nearest one's place (91.4% = 91% and 91.5% = 92%).  
The instructor reserves the right to lower these cutoff scores.

### Policies and Procedures

1. The administration of Chemistry 1110 will adhere strictly to the policies (including the issuing of incompletes) outlined in the USU 2019 – 2020 General Catalog.
2. 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, or toll free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.
3. There will be three 50-minute exams and one 110-minute mandatory final exam. Students will be permitted to use a calculator (no networking-capable calculators) for each exam. Exams will not be rescheduled to another date and time.
4. Missed Exam Policy: Missed exams which have excused absences will be made up with a make-up exam. Excused absences include: (1) school excused absences outlined in the general catalog, (2) illness, and (3) a family emergency. Planned family trips, vacations, outings, and weddings are not excused absences. Students should notify the instructor in advance, if possible, prior to missing any exam. Students missing an exam (excluding the mandatory final exam) will have one week to notify the instructor that they have an excused absence. Missed exams that are not made up will be scored as zero. Only one missed exam can be made up. The make-up exam is by appointment only and will be held on the date published in the class schedule at the beginning of this syllabus. The make-up exam will not be rescheduled to another date and time.
5. Keep in mind that the practice exam serves as an assessment of your understanding of concepts presented in lecture. Hopefully you will be diligent about following the suggested study plan outlined at the beginning of the course. Exam questions may be the same or similar to the practice exam problems but may also be completely different.
6. Scantrons will be provided by the instructor.
7. When taking the exams, be sure to answer the problem and immediately fill out the corresponding scantron bubble. Avoid waiting to fill out your scantron sheet when finished with your exam. Keep in mind that the exams are multiple-choice and each marked answer is either correct or incorrect. Credit will not be granted for problems that are accidentally marked incorrectly (no answer indicated, two answers provided for one problem, indicated scantron answers are one question number off, indicated scantron answer does not match personal exam copy answer, etc.).
8. Double check your scantron sheet before turning it in. Make sure that all of your answers have been entered the way you want them to appear on your scantron. Once a scantron is submitted, it may not be retrieved in order to make additions and/or changes.
9. Please arrive early to take each exam. Scantron sheets will not be handed out after the first completed exam scantron sheet has been submitted. All requests for an exam and scantron sheet after the first completed exam scantron sheet has been submitted will be directly referred to this policy without further discussion.
10. Please set up your preferred e-mail account with IT services so that you will be able to receive your e-mailed exam results. Make a print out of each exam results so that you may track your progress in the course.

11. Although class attendance will not be officially taken, it will be absolutely essential that every effort is made in attending each lecture. All students will be held responsible for lecture material, worked problems, and/or course announcements that are presented in lecture.
12. If you choose to complete an optional extra-credit molecular modeling exercise, one percentage point (1%) will be added to your final grade percentage. This is helpful to those students who end up with a final borderline grade percentage. The extra-credit submission deadline will be at 9:30 a.m. Monday, November 11<sup>th</sup> when we meet to take the third exam. Further information will be given in class on Friday, October 11<sup>th</sup> regarding the specific details in producing the extra-credit assignment.

### **Main Course Objectives and Assessment**

1. Prepare students for careers in health-related professions, environmental, and agricultural science.
2. "To make the study of chemistry an engaging and positive experience by relating the structure and behavior of matter to its role in health and the environment" (see text preface).
3. Lecture learning checks will be used as a means of assessing student comprehension. These student-centered learning strategies have previously proven successful in this chemistry course.

### **Some Learning Objectives:**

- Understand and apply the basic structure and methodology of the scientific enterprise.
- Review math and learn to do calculations while working everyday examples of problems in health and medicine using metric units.
- Understand the relationship of isotopes to the atomic mass of an element on the periodic table.
- Understand the relationship between electron arrangement, group number, and periodic law.
- Understand different types of radiation, radiation protection, balancing of nuclear equations, and the fusion and fission processes.
- Learn the relationship between group numbers, valence electrons, and the formation of ionic and covalent compounds.
- Write ionic formulas and names of compounds with polyatomic ions.
- Use VSEPR theory to determine the shape, bond angles, and polarity of a molecule.
- Classify an equation as a combination, decomposition, replacement, combustion, and/or oxidation-reduction.
- For a given mass of a substance in a reaction, use the appropriate mole factors and molar masses to calculate the mass of a reactant, product/percent yield.
- Determine the energy lost or gained during a change of state/temperature.
- Use the ideal gas law to calculate an unknown pressure, volume, moles, and/or temperature of a gas.
- Understand solubility and determine whether a salt will dissolve in water.
- Calculate the percent concentrations and molarity of a solution.
- Describe the behavior of a red blood cell in hypotonic, isotonic, and hypertonic solutions.
- Understand and write the equilibrium constant for an equation.
- Describe the characteristics of acids and bases.
- Classify bases/acids as strong or weak.
- Predict whether a salt will form an acidic, basic, or neutral solution.
- Describe the function of a buffer.
- Describe the properties and functional groups found in organic compounds.
- Describe the physical properties and write the IUPAC names of alkanes and cycloalkanes.
- Describe the properties, reactions, and IUPAC names of alkenes and alkynes.