



# General Chemistry I

Chemistry 1110 • Dr. Harris  
 Fall 2009 Interactive Broadcast  
**Course Syllabus**  
 3:15 – 5 p.m., WF  
 4 credits

Dates		WEDNESDAY	FRIDAY
August	26 <sup>th</sup> and 28 <sup>th</sup>	Intro and 1	1 and 2
September	2 <sup>nd</sup> and 4 <sup>th</sup>	2	2 and 3
September	9 <sup>th</sup> and 11 <sup>th</sup>	3	3
September	16 <sup>th</sup> and 18 <sup>th</sup>	3 and 4	<b>Exam 1</b> and Chapter 5
September	23 <sup>rd</sup> and 25 <sup>th</sup>	5	5
September 30 <sup>th</sup>	October 2 <sup>nd</sup>	5, <b>Extra Credit Information</b> , and 6	6
October	7 <sup>th</sup> and 9 <sup>th</sup>	6	6 and 7
October	14 <sup>th</sup> , 15 <sup>th</sup> and 16 <sup>th</sup>	<b>Exam 2</b> and Chapter 7	<b>Thursday – Attend Friday Classes – 7 and 8 Friday - Fall Break</b>
October	21 <sup>st</sup> and 23 <sup>rd</sup>	8	8
October	28 <sup>th</sup> and 30 <sup>th</sup>	8 and 9	9 and 10
November	4 <sup>th</sup> and 6 <sup>th</sup>	<b>Exam 3</b> and Chapter 10	10
November	11 <sup>th</sup> and 13 <sup>th</sup>	10 and 11	11 and 12
November	18 <sup>th</sup> and 20 <sup>th</sup>	12	12 and <b>Exam 4</b>
November	25 <sup>th</sup> and 27 <sup>th</sup>	<b>Thanksgiving</b>	<b>Thanksgiving</b>
December	2 <sup>nd</sup> and 4 <sup>th</sup>	1 – 6 Help Session	7 – 12 Help Session
December	9 <sup>th</sup>	<b>Final Exam : 3:15 – 5:05 pm</b>	

Exams 1 – 3 are held during the first 50 minutes (3:15 – 4:05 p.m.) of class. Exam 4 will be given at the conclusion of the chapter 12 lecture information and will also last 50 minutes.

Exam Number	Date	Chapters Included
1	Friday, 18 <sup>th</sup> of September	1 – 3
2	Wednesday, 14 <sup>th</sup> of October	4 – 6
3	Wednesday, 4 <sup>th</sup> of November	7 – 9
4	Friday, 20 <sup>th</sup> of November	10 – 12
Final	Wednesday, 9 <sup>th</sup> of December	1 - 12

Dr. Doug Harris

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Office Hours: 10:30 – 11:15 a.m. MW

48 hour response time to e-mail or voice mail, excluding weekends

## Materials

Karen Timberlake, *General, Organic, and Biological Chemistry: Structures of Life*, 3<sup>rd</sup> edition, custom published text – volume 1, Benjamin Cummings, 2010.  
 Scientific Calculator (no cell phone calculators)  
 Course web site: <http://www.chem.usu.edu/~harris/>

## Coursework

Examinations, 4 @ 100..... 400  
 Final Exam, comprehensive @ 100..... 100  
 TOTAL (drop lowest exam score)..... 400

### 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 outlined in the USU Fall 2009 Semester Schedule of Classes.
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. Except for school-excused absences and excessive finals (three or more) on one day, exams will not be rescheduled. The following procedure will be used to reschedule an exam due to a school-excused absence:
  - a. Obtain a letter from the respective academic advisor/director/supervisor excusing the student from the exam due to the school excused absence.
  - b. Before class begins, hand deliver letter to Dr. Harris 2 weeks **before** the scheduled exam time outlined in the syllabus.
  - c. Send an e-mail message to Dr. Harris 2 weeks **before** the scheduled exam time outlined in the syllabus listing the days and times that the student is available to complete the exam. The rescheduled exam must be completed **before** the scheduled exam time outlined in the syllabus.

The following procedure will be used to reschedule an exam due to excessive finals on one day:

- a. Obtain a copy of the official registration that is dated no more than 7 days prior to December 7<sup>th</sup>.
- b. Before class begins during no test week (November 30<sup>th</sup> – December 4<sup>th</sup>), hand deliver the official registration to Dr. Harris.
- c. Send an e-mail message to Dr. Harris 2 weeks **before** the scheduled final exam time outlined in the syllabus listing the days and times that the student is available to complete the final exam. The rescheduled final exam must be completed **before** the scheduled final exam time outlined in the syllabus.

All exam rescheduling requests for absences that are not school-excused or have not followed the procedures described above will be directly referred to this policy without further discussion.

4. 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. Although exam questions may be completely different from the practice exam problems, all exam questions will focus on the concepts discussed in lecture.
5. Scantrons will be provided by the instructor.
6. When taking the exam, 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.
7. 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 an exam scantron is submitted, it may not be retrieved in order to make additions and/or changes.
8. Please arrive early to take the exam. Exams and 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 any further discussion.
9. Please set up your preferred e-mail account with IT services so that you will be able to receive your e-mailed exam results. It is also a good idea to make a print out of each exam's results so that you may track your progress in the course. Due to the confidential nature of grades, Dr. Harris will only send student grades by e-mail to a student's preferred e-mail account.
10. 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.

11. 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 3:15 p.m. Wednesday, November 4<sup>th</sup> when we meet to take the third exam. Further information will be given in class on Wednesday, September 30<sup>th</sup> regarding the specific details in producing the extra-credit assignment.

### Course Objectives and Assessment

1. Prepare students for careers in health-related professions.
2. "Relate the structure and behavior of matter to its functions in health and life" (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:

- 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.