General Chemistry I
Chemistry 1110 - 001
Dr. Harris
Spring 2013 Course Syllabus
10:30 – 11:20 a.m., MWF
3 – 3:50 p.m., T
Widtsoe 007
4 credits

Dates MON TUES WED FRI
January 7th – 11th Introduction 1 1 1 1
January 14th – 18th 1 2 2 2
January 21st – 25th Holiday 3 3 3 3
January 28th – 30th February 1st 3 3 Exam 1
February 4th – 8th 4 4 5 5
February 11th – 15th 5 5 5 5 5 and Extra Credit
February 18th – 22nd Holiday 6 Attend Monday Schedule 6 6
February 25th – 27th March 1st 6 6 6 Exam 2
March 4th – 8th 7 7 7 7
March 11th – 15th Spring Break Spring Break Spring Break Spring Break
March 18th – 22nd 8 8 8 8
March 25th – 29th 9 9 9 9 Exam 3
April 1st – 5th 10 10 10 10
April 8th – 12th 11 11 11 11
April 15th – 19th 12 12 12 12
April 22nd – 26th 1 – 3 Help Session 4 – 6 Help Session 7 – 9 Help Session 10 – 12 Help Session
May 1st 1st Final Exam

Exam Number Date Chapters Included
1 Wednesday, 30th of January 1 – 3
2 Friday, 1st of March 4 – 6
3 Friday, 29th of March 7 – 9
4 Friday, 19th of April 10 – 12
Final Wednesday, 1st of May 1 - 12

Dr. Doug Harris
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E-mail: doug.harris@usu.edu
Office Hours: 8:30 – 9:15 a.m. MW

Materials
Scientific Calculator (no cell phone calculators)
Course web site: http://ion.chem.usu.edu/~harrisd/
### Coursework

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

<table>
<thead>
<tr>
<th>Grades</th>
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<tbody>
<tr>
<td>100% - 92%</td>
<td>A</td>
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<tr>
<td>91% - 88%</td>
<td>A-</td>
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<tr>
<td>87% - 85%</td>
<td>B+</td>
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<tr>
<td>84% - 81%</td>
<td>B</td>
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<tr>
<td>80% - 77%</td>
<td>B-</td>
</tr>
<tr>
<td>76% - 73%</td>
<td>C+</td>
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<tr>
<td>72% - 64%</td>
<td>C</td>
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<tr>
<td>63% - 60%</td>
<td>C-</td>
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<tr>
<td>59% - 57%</td>
<td>D+</td>
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<tr>
<td>56% - 50%</td>
<td>D</td>
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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 2012 – 2013 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 four 50-minute exams and one 110-minute comprehensive final exam. Each  
exam (including the final) is worth 100 points. Each student may drop the lowest of their  
five exam grades. Students who only take four exams will have all four grades count.  
Students missing more than one exam will receive a grade of 0 on any missed in excess  
of 1. Exams will not be rescheduled to an earlier date and time. Make up exams will not  
be given. Students will be permitted to bring a calculator (no cell phone calculators) to the  
exam.
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.
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. 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.).
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 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 provide student grades upon request with photo ID  
before class begins.
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 10:30 a.m. Friday, March 29th when we meet to take the third exam. Further information will be given in class on Friday, February 15th 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:
• 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.