



# General Chemistry I

Chemistry 1110 - 001 • Dr. Harris

Spring 2008 Course Schedule

8:30 a.m. – 9:20 p.m., MWF

ESLC 046

3:30 – 4:20 p.m., T

Widtsoe 007

4 credits

Dates		MON	TUES	WED	FRI
January	7 <sup>th</sup> – 11 <sup>th</sup>	Introduction	1	1	1
January	14 <sup>th</sup> – 18 <sup>th</sup>	1	2	2	2
January	21 <sup>st</sup> – 25 <sup>th</sup>	Holiday	2	2	3
January 28 <sup>th</sup> and 30 <sup>th</sup>	February 1 <sup>st</sup>	3	3	[E1] 8:30 a.m. ESLC 046	4
February	4 <sup>th</sup> – 8 <sup>th</sup>	4	4	4	4
February	11 <sup>th</sup> – 15 <sup>th</sup>	Extra Credit Information	5	5	5
February	18 <sup>th</sup> – 22 <sup>nd</sup>	Holiday	5 Attend Monday Schedule	5	6
February	25 <sup>th</sup> – 29 <sup>th</sup>	6	6	[E2] 8:30 a.m. ESLC 046	7
March	3 <sup>rd</sup> – 7 <sup>th</sup>	7	7	8	8
March	10 <sup>th</sup> – 14 <sup>th</sup>	Spring Break	Spring Break	Spring Break	Spring Break
March	17 <sup>th</sup> – 21 <sup>st</sup>	8	9	9	9
March	24 <sup>th</sup> – 28 <sup>th</sup>	[E3] 8:30 a.m. ESLC 046	10	10	10
March 31 <sup>st</sup>	April 2 <sup>nd</sup> and 4 <sup>th</sup>	10	10	11	11
April	7 <sup>th</sup> – 11 <sup>th</sup>	11	11	12	12
April	14 <sup>th</sup> – 18 <sup>th</sup>	12	12	12	[E4] 8:30 a.m. ESLC 046
April	21 <sup>st</sup> – 25 <sup>th</sup>	Chapters 1-3 Help Session	Chapters 4-6 Help Session	Chapters 7-9 Help Session	Chapters 10-12 Help Session
April	28 <sup>th</sup>	[Final] 7:30 a.m. ESLC 046			

Exam Number	Date	Chapters Included
1	Wednesday, 30 <sup>th</sup> of January	1 – 3
2	Wednesday, 27 <sup>th</sup> of February	4 – 6
3	Monday, 24 <sup>th</sup> of March	7 – 9
4	Friday, 18 <sup>th</sup> of April	10 – 12
Final	Monday, 28 <sup>th</sup> of April	1 - 12

Dr. Doug Harris

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Office Hours: 10:30 – 11:15 a.m. MW

## Materials

Karen Timberlake, *General, Organic, and Biological Chemistry: Structures of Life*, 2<sup>nd</sup> edition, Pearson, 2007.

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 Spring 2008 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, exams will not be rescheduled. All exam rescheduling requests for non school-excused absences will be directly referred to this policy without any 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 further discussion.
9. 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.
10. 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 8:30 a.m. Monday, March 24<sup>th</sup> when we meet to take the third exam. Further information will be given in class on Monday, February 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.
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.