# CHEM 1010 Introduction to Chemistry

**Instructor:** Douglas Harris
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**Office Help:** MW 10:30 – 11:15 AM or by appointment

**Course Duration:** 29th of August through the 16th of December, 2005.

**Course Description:** There are no prerequisite courses for Chemistry 1010. This course is designed for students that are non-chemistry majors and will be taught with a life science basis. The course will "present chemistry c*onceptually*, focusing on the concepts of chemistry with little emphasis on calculations". This presentation will hopefully improve each student's learning skills and assist in developing better thinking abilities (text page xvii).

**Some Course Learning Objectives:**

- Become familiar with the basic physical quantities including mass, volume, energy, temperature, and density.
- Understand the fundamental concepts and language of chemistry including physical properties, chemical properties, elements, mixtures, compounds, and atomic structure.
- Understand how elements are organized in the periodic table.
- Understand radioactivity, three major radioactive products, and half-life of a radioactive isotope.
- Explore two types (ionic and covalent) of chemical bonds.
- Given a covalent molecular formula, predict the molecular structure.
- Describe the various types of intermolecular interactions.
- Gain an understanding of the macroscopic concsequences of water's molecular structure.
- Gain an understanding of the basics of chemical reactions.
- Explore acids and bases and the chemical reactions they undergo.
- Gain a basic understanding of organic compounds.
- Gain a basic understanding of biomolecules.
- Explore the major categories of drugs and the methods used in developing new drugs.

**Course Grading Policies:** Your grade will be based on your performance with the following: four regular exams and the final exam (100 points each/drop the lowest exam score), and a 2 page drug report worth 50 points for a total of 450 possible points. The drug report will be due at 11:30 AM Friday, December 16th when we meet to take the final exam. Further information will be given in class regarding the specific details in producing the 2 page drug report. **Exams will not be rescheduled.**

**Grade Percentage:**

| | |
|---|---|
| 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 |

Percentages rounded to the one's place (91.4% = 91% and 91.5% = 92%).

**Course Management**: All supplemental materials for the class, syllabus, notes, sample exams, and related material will be available through the course web site at http://www.chem.usu.edu/~harrisd/.

The administration of Chemistry 1010 will adhere strictly to the regulations outlined in the Fall Semester 2005 Schedule of Classes, pp. 4, 10, and 102-109.

**Class Meeting Time:** MWF 11:30 AM – 12:20 PM, BNR 102

**Required Text:** "*Conceptual Chemistry*", 2nd edition by John Suchocki (Publisher: Benjamin Cummins)
**Required Supplies:** Scientific Calculator (no cell phone calculators)
**Course Credit Hours:** 3.0

Chemistry 1010 Class Schedule:

| Day | Date | Lecture | Sections |
|---|---|---|---|
| M | 29 August | 1 | Introduction/1.1 |
| W | 31 August | 2 | 1.2-1.4 |
| F | 2 September | 3 | 1.5.-1.6 |
| **M** | **5 September** | **Labor Day** | **No Class** |
| W | 7 September | 4 | 1.7-2.1 |
| F | 9 September | 5 | 2.2-2.3 |
| M | 12 September | 6 | 2.4-2.6 |
| W | 14 September | 7 | 3.4-3.5 |
| F | 16 September | 8 | 3.6 |
| **M** | **19 September** | **Exam 1** | **Lectures 1 – 8** |
| W | 21 September | 9 | 4.1-4.3 |
| F | 23 September | 10 | 4.4-4.5 |
| M | 26 September | 11 | 4.6-4.8 |
| W | 28 September | 12 | 4.9-4.10 |
| F | 30 September | 13 | 5.1-5.3 |
| M | 3 October | 14 | 5.4-5.5 |
| W | 5 October | 15 | 5.7-5.8 |
| F | 7 October | 16 | 6.1-6.3 |
| M | 10 October | 17 | 6.4-6.5 |
| W | 12 October | 18 | 6.6-6.7 |
| **F** | **14 October** | **Exam 2** | **Lectures 9 – 18** |
| M | 17 October | 19 | 7.1-7.3 |
| W | 19 October | 20 | 7.4-8.1 |
| F | 21 October | 21 | 8.2-8.4 |
| M | 24 October | 22 | 8.5-8.6 |
| W | 26 October | 23 | 9.1-9.3 |
| F | 28 October | 24 | 9.4-9.5 |
| M | 31 October | 25 | 9.6 |
| **W** | **2 November** | **Exam 3** | **Lectures 19 – 25** |
| F | 4 November | 26 | 10.1-10.2 |
| M | 7 November | 27 | 10.3-10.4 |
| W | 9 November | 28 | 10.5-11.1 |
| F | 11 November | 29 | 11.2-11.3 |
| M | 14 November | 30 | 11.4-12.1 |
| W | 16 November | 31 | 12.2-12.3 |
| F | 18 November | 32 | 12.4 |
| **M** | **21 November** | **Exam 4** | **Lectures 26 - 32** |
| W | 23 November | Thanksgiving | No Class |
| F | 25 November | Thanksgiving | No Class |
| M | 28 November | 33 | 13.1-13.3 |
| W | 30 November | 34 | 13.4-13.5 |
| F | 2 December | 35 | 13.6-13.8 |
| **M** | **5 December** | **36** | **Drug Report Information** |
| W | 7 December | 37 | 14.1-14.2 |
| F | 9 December | 38 | 14.3 |
| **F** | **16 December** | **Final Exam 9:30 – 11:20 AM** | **13 questions – Lectures 33 - 38 12 questions - Lectures 1 - 32** |