



# Introductory Chemistry

Chemistry 1010 - 001

Dr. Doug Harris

Spring 2017

Course Syllabus

MWF, 9:30 – 10:20 am,

Widtsoe 007

3 credits

| Dates            |   | MON   | WED                             | FRI   |
|------------------|---|---|---------------------------------|---|
| January          | 9 <sup>th</sup> – 13 <sup>th</sup>                      | Introduction  | 1                               | 1   |
| January          | 16 <sup>th</sup> – 20 <sup>th</sup>                     | Holiday   | 1                               | 2   |
| January          | 23 <sup>rd</sup> – 27 <sup>th</sup>                     | 2   | 2                               | 3   |
| January/February | 30 <sup>th</sup><br>1 <sup>st</sup> and 3 <sup>rd</sup> | 3   | 3                               | 3   |
| February         | 6 <sup>rd</sup> – 10 <sup>th</sup>                      | Exam 1 9:30 a.m.<br>Widtsoe 007                     | 4                               | 4   |
| February         | 13 <sup>th</sup> – 17 <sup>th</sup>                     | 4   | 5                               | 5   |
| February         | 20 <sup>th</sup> – 24 <sup>th</sup>                     | 20 <sup>th</sup> – Holiday<br>21 <sup>st</sup> - 6  | 6                               | 6   |
| February/March   | 27 <sup>th</sup><br>1 <sup>st</sup> and 3 <sup>rd</sup> | 6<br>Extra Credit<br>Information                    | Exam 2 9:30 a.m.<br>Widtsoe 007 | 7   |
| March            | 6 <sup>rd</sup> – 10 <sup>th</sup>                      | Spring Break  | Spring Break                    | Spring Break  |
| March            | 13 <sup>th</sup> – 17 <sup>th</sup>                     | 7   | 7                               | 9   |
| March            | 20 <sup>st</sup> – 24 <sup>th</sup>                     | 9   | 9                               | 10  |
| March            | 27 <sup>th</sup> – 31 <sup>st</sup>                     | 10  | 10                              | 10  |
| April            | 3 <sup>rd</sup> – 7 <sup>th</sup>                       | Exam 3 9:30 a.m.<br>Widtsoe 007<br>Extra Credit due | 11                              | 11  |
| April            | 10 <sup>th</sup> – 14 <sup>th</sup>                     | 12  | 12                              | 12  |
| April            | 17 <sup>th</sup> – 21 <sup>st</sup>                     | 12  | 13                              | Make Up Exam by<br>Appointment Only<br>9:30 a.m.<br>Widtsoe 007 |
| April            | 24 <sup>th</sup> – 28 <sup>th</sup>                     | 13  | 13                              | 13  |
| May              | 1 <sup>st</sup>   | Final Exam<br>9:30 a.m.<br>Widtsoe 007              |                                 |   |

| Exam Number              | Date   | Chapters Included  |
|--------------------------|--|--|
| 1                        | Monday, 6 <sup>th</sup> of February  | 1 – 3  |
| 2                        | Wednesday, 1 <sup>st</sup> of March  | 4 – 6  |
| 3                        | Monday, 3 <sup>rd</sup> of April   | 7, 9, and 10   |
| Comprehensive<br>Make Up | Friday, 21 <sup>st</sup> of April<br>by appointment<br>for excused absences only | 1 – 7, 9, and 10   |
| Final                    | Monday, 1 <sup>st</sup> of May   | 11, 12, and 13 – 33 questions<br>1 – 7, 9, and 10 – 33 questions |

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Office Hours: 8:30 – 9:15 am MW

## Materials

John Suchocki, *Conceptual Chemistry*, 5<sup>th</sup> edition (custom-published text), Benjamin Cummings, 2014.

Scientific Calculator (no networking capable calculators)

## Coursework

|                                  |     |
|----------------------------------|-----|
| 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 1010 will adhere strictly to the policies (including the issuing of incompletes) outlined in the USU 2016 – 2017 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 comprehensive 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 a valid excuse. Missed exams that are not made up will be scored as zero. Only one missed exam can be made up. The comprehensive 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 comprehensive make-up exam will not be rescheduled to another date and time.
5. Keep in mind that the practice exams serve 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. 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.
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, April 3<sup>rd</sup> when we meet to take the third exam. Further information will be given in class on Monday, February 27<sup>th</sup> regarding the specific details in producing the extra-credit assignment.

## Course Objective and Assessment

1. The course will present chemistry *conceptually*, 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.
2. 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:

- 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 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.