

Introductory Chemistry Syllabus  
Fall 2012

**Course prefix/number/title:** Chem. 115, Introductory Chemistry

**Number of credits:** 4

**Course Description:** The goal of Introductory Chemistry is to provide students with a foundation in chemical concepts and principles. The class consists of three one hour lectures and one two hour lab period. The class is designed for non-science orientated majors and is a requisite or pre-requisite for most nursing programs in North Dakota.

**Pre-/Co-requisites:** none

**Course Objectives:** Introductory Chemistry is designed to provide a firm foundation in chemical concepts and principles so students will develop and appreciation of the vital role that chemistry plays in their everyday lives.

**Instructor:** Angie Bartholomay

**Office/Phone:** Nelson Science Center, Room 111 Phone: 228-5471

**Office Hours:** MWF 9-10:00am & 1-2:00pm

**E-mail:** [angela.bartholomay@dakotacollege.edu](mailto:angela.bartholomay@dakotacollege.edu)

**Lecture/Lab Schedule:** lecture 11:00-11:50 am, MWF lab T 8-9:50am, Th 11-12:50

**Text:** Introductory Chemistry, by Zumdahl, 6<sup>th</sup> edition.

**Course Requirements:**

Grading: Grades will be based on total points using the following percentage system: 100-90, A: 89-80, B; 79-70, C; 69-60, D; <60, F. Exams, research paper, and homework quizzes, and lab reports will be used to determine the final grade. **IMPORTANT!** Any grievances concerning graded material must be addressed within one week from the time the material is returned to the student.

Exams (5)	500pts
Lab Reports (25 pts. Each)	300pts
Final Lab	100pts
Quizzes (10pts. Each)	<u>100pts</u>
	1000pts

**Exams:** There will be five exams during the course of the semester. The last exam will be just the material covered since the prior exam plus a few questions from throughout the semester. Should a situation arise that dictates a change in this schedule, the change will be announced a least one week in advance. Exams may contain short answer/essay, multiple choice, completion and problems. Periodic tables may be used on the exams and will be provided by the instructor. **There will be no makeup exams unless prior arrangements have been made. If you need to be gone for a school related activity or family event, you will be expected make arrangement prior to the event and take the exam before you leave.**

**Homework:** Homework will be assigned throughout the semester and will be discussed in class, these assignments will be graded on a random basis. Homework is designed to prepare you for exams and quizzes. These quizzes will be unannounced throughout the semester. You are expected to read the assigned pages prior to class. Lecture may not cover everything assigned in the reading, but everything assigned is exam material. If you do not understand something in the readings, it is your responsibility to ask questions.

**Laboratory:** The laboratory portion of the course provides an opportunity to integrate lecture concepts with observable activities. You will work in groups of 2-3 students. If your lab partners are not here, you do not move to another group without permission. **Chemical splash safety goggles** and metric ruler are required and may be purchased at the bookstore. Failure to wear to wear goggles will result in a reduction in lab report grades and continued omission will result in removal from lab activities and a loss of all remaining lab points available. Attendance at lab is mandatory. To obtain credit, you

must be actively involved in the laboratory activities. Regular lab reports are due at the beginning of the next lab period. Late lab reports will not be accepted. The labs are to be scored as follows:

10 points for active participation – individual deductions can be made.

15 points for lab write-ups

The final lab will be an application of procedures learned throughout the semester you will be graded on your use of the scientific method, critical thinking skills and the completeness of your data, analysis and conclusions.

Final Lab: A special activity involving application of the principles of scientific method and inquiry will occur the last two lab sessions and are due at the end of the last scheduled lab day. This will be covered initially in the first lab of the semester and once more as you begin the final project.

<b><u>Lecture</u></b>	<b><u>Chapter and Reading Assignment</u></b>	<b><u>Lab Topic</u></b>
Week 1	Ch. 1-2, Pages 1-18	No Lab
	Ch. 2, Pages 18-33	
Week 2	Ch. 2-3, Pages 33-66	measurement, accuracy, density
	Ch. 3, wrap-up and review	
	<b><u>Chapter #1-3 Exam</u></b>	
Week 3	Ch. 4, p. 72-88	percent composition
	Ch. 4, pages 89-104	
Week 4	Ch. 5, Pages 112-126	
	Ch. 5&6, Pages 126-149	physical & chemical change
Week5	Ch. 6&7, Pages 149-175	
	Ch. 7, Pages 175-191	empirical formulas
	Ch. 4-7 wrap up and review	
	<b><u>Ch. 4-7 Exam</u></b>	
Week 6	Ch. 8, Pages 203-218	
	Ch. 8, Pages 218-229	chemical reactions
Week 7	Ch. 9, Pages 239-251	relating moles to coefficients of a chemical equation
	Ch. 9, Pages 251-259	
Week 8	<b><u>Ch. 8-9 Exam</u></b>	mole & mass relationships
	Ch. 10, Pages 271-286	
Week 9	Ch. 10, Pages 287-297	calorimetry
	Ch. 11, Pages 303-316	
Week 10	Ch. 11, Pages 317-332	Flame tests
	Ch. 12, Pages 341-356	
Week 11	Ch. 12, Pages 356-373	molecular geometry and valence electrons
	<b><u>Ch. 10-12 Exam</u></b>	
Week 12	Ch. 14, pages 427-432	
	Ch. 14, Pages 432-444	
Week 13	Ch. 15, Pages 451-462	solubility of a salt
	Ch. 15, Pages 462-473	
Week 14	<b><u>Ch. 13-15 Exam</u></b>	
	Ch. 16, Pages 487-507	properties of acids & Bases
Week 15	Ch. 17, Pages 515-526	
	Ch. 17, Pages 526-541	
Week 16	Ch. 18, Pages 553-566	
	Ch. 18, Pages 566-575	
	<b><u>Ch. 16-18 Exam</u></b>	Final Lab
Dec 10	<b><u>Final Exam Review</u></b>	
Dec 12	<b><u>Final Exam</u></b>	

**General Education Goals/Objectives:** This course meets General Education Goal 1: Explains the interrelationships between chemistry and their environment and the role of science in their lives. Specific objectives include:

- 1) Demonstrates the application of the scientific method of inquiry (Objective #1).
- 2) Demonstrates an awareness of the role of science in everyday life (Objective #3)

**Relationship to Campus Theme:** This course addresses the campus theme by incorporating the role that chemistry plays in our everyday life and the impact it has on our natural world. In addition students will use technology to conduct labs as well as study how technology can be used in chemistry. The course will address the role of chemistry in their everyday life as well as in their future.

**Classroom Policies:**

- Make-up: I will not allow make-up for missed exams unless prior arrangements have been made.  
If you must be absent for a school related or family event, you are expected to make prior arrangements and take the exam prior to the event. .
- Cell phone and related technology are prohibited in the classroom at all times. It is recommended that you do not bring your cell phone into the classroom or, at the very least, turn it off.
- Be respectful of other students, technicians, instructors, and guests.

**Academic Integrity:** All students are expected to adhere to the highest standards of academic integrity. Dishonesty in the classroom or laboratory and with assignments, quizzes and exams is a serious offense and is subject to disciplinary action by the instructor and college administration. For more information, refer to the Student Handbook.

**Disabilities and Special Needs:** If you have a disability for which you need accommodations, you are encouraged to contact your instructor and the Learning Center (228-5479 or 1-888-918-5623) to request disability support services as early as possible during the beginning of the semester