

## Dakota College at Bottineau Course Syllabus

**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:**

1. Students will gain an understanding of the nature of atoms, molecules, elements, compounds, etc.
2. Students will gain a basic understanding of the changes that take place in chemical reactions. Ability to perform simple stoichiometry calculations.
3. Students will gain an understanding of the phases of matter.
4. Students will gain an elementary understanding of chemical bonds.
5. Students will gain an elementary understanding of the nature of acids and bases.

**Instructor:** Angie Bartholomay

**Office/Phone:** Nelson Science Center, Room 111

Phone: 228-5471

**Office Hours:** MW 9-10:00am

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

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

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

**Course Requirements:**

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..

Exams (5)	500pts
Lab Reports (25 pts. Each)	300pts
Quizzes (10pts. Each)	<u>100pts</u>
	900pts

**Exams:** There will be five exams during the course of the semester. 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** will be assigned during the semester to practice the skills we are working on, these will not be graded however they can be used on quizzes done in class.

**Laboratory:** The laboratory portion of the course provides an opportunity to integrate lecture concepts with observable activities. **Attendance at lab is mandatory! The use of chemical splash safety goggles is required for all labs.** To obtain full credit for the lab 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 and dry labs will not be accepted.

<u>Lecture</u>	<u>Chapter and Reading Assignment</u>	<u>Lab Topic</u>
Week 1	Ch. 1-2, Pages 1-18 scientific method	No Lab
Week 2	Ch. 2, Pages 18-33 measurements & calculations Ch. 2-3, Pages 33-66 matter	measurement, accuracy, density
	Ch. 3, wrap-up and review	
	<b><u>Chapter #1-3 Exam</u></b>	
Week 3	Ch. 4, p. 72-88 Elements, atoms, ions	percent composition
	Ch. 4, pages 89-104	
Week 4	Ch. 5, Pages 112-126 nomenclature	
Week 5	Ch. 5&6, Pages 126-149 Chemical reactions	physical & chemical change
	Ch. 6&7, Pages 149-175	
	Ch. 7, Pages 175-191 aqueous reactions	empirical formulas
	Ch. 4-7 wrap up and review	
	<b><u>Ch. 4-7 Exam</u></b>	
Week 6	Ch. 8, Pages 203-218 Chemical composition	
	Ch. 8, Pages 218-229	chemical reactions
Week 7	Ch. 9, Pages 239-251 Chemical quantities	relating moles to coefficients in equations
	Ch. 9, Pages 251-259	
Week 8	Review & <b><u>Ch. 8-9 Exam</u></b>	mole & mass relationships
Week 9	Ch. 10, Pages 271-286 Energy	
	Ch. 10, Pages 287-297	calorimetry
Week 10	Ch. 11, Pages 303-316	
	Ch. 11, Pages 317-332	Flame tests
Week 11	Ch. 12, Pages 341-356 chemical bonding	
	Ch. 12, Pages 356-373	molecular geometry
Week 12	Review & <b><u>Ch. 10-12 Exam</u></b>	
Week 13	Ch. 14, pages 427-432 phases of matter	
	Ch. 14, Pages 432-444	
Week 14	Ch. 15, Pages 451-462 solutions	solubility of a salt
	Ch. 15, Pages 462-473	
Week 15	Ch. 16, Pages 487-507 acids & bases	properties of acids & Bases
Week 16	<b><u>Ch. 13-16 Exam</u></b>	

**General Education Goals/Objectives:** This course meets General Education Goals:  
Goal 1: Describes the interrelationships between humans and their environment and the role of science in their lives

Objective 1: Demonstrates the application of the scientific method of inquiry

Objective 2: Demonstrates understanding of the natural environment

Objective 3: Demonstrates an awareness of how science influences everyday life

**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:** for missed exams will not be allowed 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. If you are given permission to take a late exam you will have 48 hours to make it up.

**Electronic Devices:** No electronic devices will be allowed. Cell phones must be turned off at all times in class! You will be asked once to put the phone away, if asked again you will be asked to leave. **Headphones will not be allowed!**

**Be respectful of other students, technicians, instructors, and guests!**

**Early Warning Attendance Policy will be followed**

**Student Email Policy:**

Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

**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;

Jacalyn Migler 228-5672 [jacalyn.migler@dakotacollege.edu](mailto:jacalyn.migler@dakotacollege.edu)  
to request disability support services as early as possible during the beginning of the semester