

Course Prefix/Number/Title: CHEM 115- Introductory Chemistry

Number of Credits: 4

Course Description: Introduction to basic chemical concepts including measurements, ionic and covalent compounds, chemical calculations, states of matter, energy, solutions, reactions and chemical bonding.

The course is designed for non-science majors.

Pre-/Co-requisites: ASC 93

Course Objectives:

- **Atoms, Molecules, and Chemical Bonds:** Understand the structure and properties of atoms and molecules, including chemical bonds (ionic, covalent, metallic) and how they influence compound formation and properties.
- **Chemical Reactions and Stoichiometry:** Learn to identify and balance chemical reactions, perform stoichiometric calculations, and predict reactant and product quantities in reactions.
- **Phases of Matter:** Explore the properties of solids, liquids, gases, and plasmas, phase transitions, and the impact of temperature and pressure on these states.
- **Scientific Methods:** Gain proficiency in the scientific method, including hypothesis formulation, experimental design, data analysis, and effective communication of results.
- **Acids and Bases:** Understand the properties and theories of acids and bases, pH and pOH, and their role in chemical reactions and everyday applications.

Instructor: Dr. Neysha Tirado-Class

Office: NSC 112

Office Hours: MWF – 9am-10am and Teams meetings can be scheduled via email.

Phone: (813)-340-1929

Email: neysha.tirado@dakotacollege.edu

Lecture/Lab Schedule: MWF – 8am-8:50am Lecture / Tue 11am-12:50am Lab

Textbook(s): Introductory Chemistry, by Zumdahl, 6th 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, assignments, 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.

Grading Outline: (1000pts Total)

Exams (100pts each)	400pts
Final Exam	100pts
Lab Final Exam	100pts
Lab Reports (20 pts each)	260pts
Quizzes (10pts each)	40pts
Assignments (50pts each)	100pts

Exams: There will be four exams during the course of the semester. Exams may contain short answer/essay, multiple choice, completion and problems. 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. Athletes must provide a copy of their schedules season games if they align with any scheduled exam by the 3rd week of classes.

Assignments: There will be two assignments during the semester. These will be discussed in class and detailed instructions and grading rubric are available on Blackboard assignment modules. Assignments are due **BEFORE** the scheduled class time of the due date.

Laboratory: The laboratory portion of the course provides an opportunity to integrate lecture concepts with observable activities. Attendance at lab is mandatory! Failure to wear proper PPE 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. To obtain credit, you must be actively involved in the laboratory activities. Labs will be due on the scheduled lab date via Blackboard Lab modules **BEFORE** the start of Lab. **Early Warning Attendance Policy will be followed.**

Tentative Course Outline:

Week	Book	Topic	Lab
Week 1	Ch. 1-2	Scientific Method, Measurements & Calculations	No Lab
Week 2	Ch. 3-4	Matter and Chemical Foundations	Accuracy and Precision in Measure
Week 3	Ch. 4	Chemical Foundations + Exam 1 (Ch.1-4)	Density
Week 4	Ch. 5-6	Nomenclature and Intro to Chemical Reactions	Physical vs Chemical Changes + Quiz 1
Week 5	Ch. 6-7	Reactions in Aqueous Solutions	Aqueous Reactions
Week 6	Ch. 8	Exam 2 (Ch. 5-7) + Chemical Compositions	Percent Composition of a Hydrate + Quiz 2
Week 7	Ch. 9	Chemical Quantities	Relating moles to Coefficients
Week 8	Ch. 8-9	Review and Exam 3 (Ch. 8-9)	Mass & mole Relations + Quiz 3
Week 9	Ch. 10	Energy	Calorimetry
Week 10	Ch. 11-12	Atom and Chemical Bonding	Flame Tests
Week 11	Ch. 12	Molecular Geometry and Exam 4 (Ch. 10-12)	Molecular Geometry
Week 12	Ch. 13-14	Gases, Liquids and Solids	Phases of Matter + Quiz 4
Week 13	Ch. 15	Solutions	Solubility of a Salt
Week 14	Ch. 16	Acids and Bases	Properties of Acids and Bases
Week 15		Lecture and Lab Reviews	Lab Final
Week 16		Final Exam (Ch. 12-16)	

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s):

- General Education Competency 1: Identifies the interrelationships between humans and their environment
- Learning Outcomes #1- Applies scientific method on inquiry

Relationship to Campus Focus: This course aligns with the campus theme by examining how chemistry influences both our daily lives and the environment. Students will explore the practical applications of chemistry in everyday scenarios, from household products to environmental issues, and understand its broader impact on the world around us. By the end of the course, students will appreciate the significance of chemistry in both their current experiences and future career paths, equipping them with knowledge applicable to real-world challenges and opportunities.

Classroom Policies:

- Make-up exams should be scheduled in advance, no make-up exams will be allowed in the event of an unexcused absence.
- 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.
- Electronics policy: Laptops and Tablets are allowed during the class for notetaking and access to resources. Cellphones are not allowed during the class period. Student will be asked once to put the phone away, if asked again you will be asked to leave the class.
- Be respectful of other students, instructors, and guests.

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:

According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred.

Disabilities or Special Needs:

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services.

Title IX:

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.