DAKOTA COLLEGE AT BOTTINEAU

COURSE SYLLABUS

Course Prefix/Number/Title: Chem 121 General Chemistry I

Number of Credits: 4 semester

Course Description: Topics covered include matter, measurement, atoms, ions, molecules, reactions, chemical calculations, thermochemistry, bonding, molecular geometry, periodicity, and gases.

Pre-/Co-requisites: Math 103 or appropriate Math Placement Score

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

1. Students will gain a fundamental understanding of the nature of atoms, ions, and molecules.
2. Students will gain a detailed understanding of the quantitative relationships governing chemical reactions, including the ability to perform a variety of stoichiometry calculations.
3. Students will gain a fundamental understanding of Scientific methods and its applications to chemistry.
4. Students will gain an understanding of elementary thermochemistry
5. Students will gain an elementary understanding of electronic structure of atoms.
6. Students will gain an understanding of chemical bonding, including knowledge of different types of bonding, predictions of molecular geometry from VSEPR theory, and hybridization.
7. Students will be able to identify fundamental reaction types, especially acid base, precipitation, and oxidation reduction, as well as descriptive chemistry of simple inorganic ions and molecules.

Instructor: Angie Bartholomay

Office:NSC 111

Office Hours: MW 9:00am-10:00am, MF 1:00-2:00pm

Phone: 701-228-5471

Email: angela.bartholomay@dakotacollege.edu

Lecture/Lab Schedule: Lecture MWF 10:00-10:50am NSC 103
Lab T 10:00-10:50am or Th 8:00-9:50am NSC 121

Textbook(s): Chemistry 10th Edition by Raymond Chang

Course Requirements: Exams, quizzes, lab reports, and research paper will be used to determine the final grade. Any grievances about graded materials must be addressed within one week from the time the material is returned to the student.
Exams: There will be five regular exams. Exams may contain short answer, multiple choice, completion and problems. Periodic tables and calculators may be used on the test.
Homework: Throughout the semester problems will be assigned in order for you to better comprehend the concepts and math involved. This homework will not be graded, however you will be able to use these assignments on quizzes.

Quizzes: will be used to check for understanding, there will be no make-up quizzes.
Laboratory: The laboratory portion of the course provides an opportunity to integrate lecture concepts with observable activities and is critical to understanding chemical concepts. Attendance in lab is mandatory and the instructor will validate that you actually assisted in the collection of data. Borrowed results are not acceptable and all parties involved will receive a grade deduction. Lab reports are due at the end of the lab period. Failure to wear safety goggles, not following instructions or using unsafe procedures is unacceptable and may result in your dismissal from further labs.
Grades will be based on total points using the following grading scale:

A= 90-100%	Exams (5)	100 points each	500 points
B= 80-89.5%	Lab reports (15)	15 points each	225 points
C= 70-79.5%	Final Lab Project	100 points	100 points
D=60-69.5%	Quizzes(10)	10 points each	100 points
F= <59.5%	Final Exam	100 points	100 points
	Total points		1025 points

Tentative Course Outline:		Topic	Lab
Week 1	Chapter #1	Intro to chemistry & scientific method	No lab
Week 2	Chapter #2	atoms, molecules & ions	lab safety & Graphing Lab
Week 3	Chapter #2	nomenclature	Measurement & Density
	Exam #1- Chapters #1-2		
Week 4	Chapter #3	mass relationships	Empirical formulas
Week 5	Chapter #4	aqueous solution reactions	Types of chemical reactions
Week 6	Chapter #4	acid base titrations	acid/base titration
Week 7	Exam #2- Chapters #3-4		
	Chapter #5	gases	gas laws
Week 8	Chapter #5 & 6	thermochemistry	calorimeter
Week 9	Chapter #6	thermochemistry	specific heat
	Exam #3 Chapter rates of reactions #5-6		
Week 10	Chapter #7	Quantum Theory	qualitative analysis
Week 11	Chapter #7 & 8		
Week 12	Chapter #8	periodic relationships	rates of reaction
Week 13	Exam #4 -Chapter #7-8		
Week 14	Chapter #9	Chemical Bonding	VSPER Model
Week 15	Chapter #10	molecular geometry	
Week 16	Chapter #11	Intermolecular forces	
	Final Review		
	Final Exam		

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s): #1 Identifies the interrelationships between humans and their environment.
Learning outcomes #1: Applies scientific methods of inquiry

Relationship to Campus Focus: This course addresses the campus them by incorporating role 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 the future.

Classroom Policies:

1.The use of Cell phones and electronic devices using headphones are prohibited in the classroom at all times. Cell phones need to be on silent and placed on the table in front of you.

2.**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. If permission is granted for a make-up you will be given 48 hours to take the exam.**

3. Be respectful of other students, instructors and guests

4. 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:

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.

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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.