



Navajo Technical University
PO Box 849, Crownpoint, NM 87313

<http://www.navajotech.edu>

Tel: (505) 387-7401

Course Title: General Chemistry-I
Course #: CHEM-1217C-6A

Credit Hours: 4
Semester: Spring 2022
Cap: 10

Faculty: Dr. Nabanita Saikia

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Office: Room 217

Office Phone: 928.882.3158 (Ext: 3025)

Office Hours (face-to-face or online):

Preferred Communication (email and/or text; will respond within 24 hours): Email

Modality (face-to-face, hybrid, or online): Face-to-face

Class Location and Meeting Times (if face-to-face):

Building F, Room: 216 (Thursday: 10:00 AM – 12:30 PM)

Lab: Thursday 3:00 PM to 5:00 PM

Meeting Hours and Online Hours (if hybrid): Monday through Friday (Flexible in any day)

Required Materials:

Textbooks: Chemistry, Tenth Edition by Zumdhal, Decoste ISBN: 9781305957404

Chemistry Experimental Chemistry, 10e Lab Manual ISBN: 9781305957459

Tools: Pencil, Calculator, Flash Drive, Laptop with good internet connection

Laptop and Internet Access: Every student is required to own a laptop and have internet access.

Lab Fee (if applicable): \$125

Mission, Vision, and Philosophy

Mission: Navajo Technical University honors Diné culture and language, while educating for the future.

Vision: Navajo Technical University provides an excellent educational experience in a supportive, culturally diverse environment, enabling all community members to grow intellectually, culturally, and economically.

Philosophy: Through the teachings of Nitsáhákees (thinking), Nahátá (planning), Íina (implementing), and Siihasin (reflection), students acquire quality education in diverse fields, while preserving cultural values and gaining economic opportunities.

Course Description

This course teaches fundamental concepts in chemistry, including the electronic structure of atoms, chemical periodicity, nature of chemical bonds, molecular structure, the three phases of matter, etc. In addition, the application of these concepts to various chemical sub-disciplines, such as organic chemistry, biochemistry, and materials chemistry. Designed for majors in chemical sciences and engineering, it is assumed that the students are familiar with college algebra, chemical nomenclature, stoichiometry, and scientific measurements.

Lab introduces students to chemistry measurements, atomic structure, chemical reactions, stoichiometry, thermochemistry, quantum chemistry, periodic properties, atomic and electronic structures of atoms, and bonding.

Prerequisite: MATH-1220, CHEM-1120C.

Laboratory is included.

Students will be able to:

Gain knowledge on both theoretical, and descriptive chemistry. As a supplement, there are various activities that students will engage. Lectures and labs are an integral part of the course; lectures discussion and the experimental learning are expected in order to assist students in the development of problem-solving skills and basic chemical concepts.

Face-to-Face activities are included.

Laboratory Classes

Laboratory is a central part of the chemistry course. Experiments are conducted during this period. Students are expected to read the laboratory experiments information well and submit pre-lab quiz before the start of the lab period. After the performance of a particular experiment, data sheet and answer to questions will be submitted and due before another experiment is performed again. The completion of the pre-lab quiz will be before the actual experiment.

COURSE OUTCOMES	COURSE MEASUREMENTS
A strong understanding in basic chemistry	Complete reading, class room assignments, homework assignments including moodle tasks, exams, lab experiments, and quizzes.
Solve chemistry problems scientifically	
A strong understanding in communicating science information	
Apply quantitative analysis to scientific problems	
An ability to think about real world problems	
A strong knowledge in chemistry	
An ability to communicate about general chemistry problems	

Connections to Program Assessment (Course-Embedded Measures)

Course Activities

Week	Date	Class Topics/Reading Due	Assignments Due	Assessments
1		Introduction		
		Last day to add/drop		
2		Chapter 1		
3		Chapter 1&2		
4		Chapter 2		
5		Chapter 2& 3		
		Graduation Petition due		
			Midterm	
		Midterm grades due		
6		Chapter 3		

7		Chapter 3		
		Last day to withdraw with “W”		
8		Chapter 4		
9		Chapter 4 & 5		
10		Chapter 5		
11		Chapter 5		
12		Chapter 5 & 6		
13		Chapter 6		
14		Chapter 6		
15		Review		
16		Project Presentation		
17			Finals	
		Grades due to the Registrar		
		Graduation		

Grading Plan

Homework & Assignment:	10 %
Class Participation:	5%
Project(s):	5 %
Quizzes:	5 %
Mid-term:	25 %
Final Exam:	25 %
Lab:	25 %

Portfolio:

- A = 100-90%
- B = 89-80%
- C = 79-70%
- D = 69-60%
- F = 59% or less

Grading Policy

Students must do their own work. Cheating and plagiarism are strictly forbidden. Cheating includes (but is not limited to) plagiarism, submission of work that is not one's own, submission or use of falsified data, unauthorized access to exams or assignments, use of unauthorized material during an exam, or supplying or communicating unauthorized information for assignments or exams.

Participation

Students are expected to attend and participate in all class activities. Points will be given to students who actively participate in class activities including guest speakers, field trips, laboratories, and all other classroom events.

Cell phone and headphone use

Please turn cell phones off **before** coming to class. Cell phone courtesy is essential to quality classroom learning. Headphones must be removed before coming to class.

Attendance Policy

Students are expected to attend all class sessions. If more than ten minutes late, students will be counted as absent. A percentage of the student's grade will be based on class attendance and participation.

Absence from class, regardless of the reason, does not relieve the student of responsibility to complete all course work by required deadlines. Furthermore, it is the student's responsibility to obtain notes, handouts, and any other information covered when absent from class and to arrange to make up any in-class assignments or tests if permitted by the instructor. Incomplete or missing assignments will necessarily affect the student's grades. Instructors will report excessive and/or unexplained absences to the Counseling Department for investigation and potential intervention. **Instructors may drop students from the class after three (3) absences unless prior arrangements are made with the instructor to make up work and the instructor deems any excuse acceptable.**

Study Time Outside of Class for Face-to-Face Courses

For every credit hour in class, a student is expected to spend two hours outside of class studying course materials.

Study Time for Hybrid or Blended Courses

For a hybrid or blended course of one credit hour, a student is expected to spend three hours per week studying course materials.

Study Time for Online Courses

For an online course of one credit hour, a student is expected to spend four hours per week studying course materials.

Academic Integrity

Integrity (honesty) is expected of every student in all academic work. The guiding principle of academic integrity is that a student's submitted work must be the student's own. Students who engage in academic dishonesty diminish their education and bring discredit to the University community. Avoid situations likely to compromise academic integrity such as: cheating, facilitating academic dishonesty, and plagiarism; modifying academic work to obtain additional credit in the same class unless approved in advance by the instructor, failure to observe rules of academic integrity established by the instructor. **The use of another person's ideas or work claimed as your own without acknowledging the original source is known as plagiarism and is prohibited.**

Diné Philosophy of Education

The Diné Philosophy of Education (DPE) is incorporated into every class for students to become aware of and to understand the significance of the four Diné philosophical elements, including its affiliation with the four directions, four sacred mountains, the four set of thought processes and so forth: Nitsáhákees, Nahát'á, Íína and Siih Hasin which are essential and relevant to self-identity, respect and wisdom to achieve career goals successfully.

At NTU's Zuni Campus, the A:shiwí Philosophy of Education offers essential elements for helping students develop Indigenous and Western understandings. Yam de bena: dap haydoshna: akkya hon detsemak a:wannikwa da: hon de:tsemak a:ts'umme. *Our language and ceremonies allow our people to maintain strength and knowledge.* A:shiwí core values of hon i:yyułashik'yanna:wa (respect), hon delank'oha:willa:wa (kindness and empathy), hon i:yyayumola:wa (honesty and trustworthiness), and hon kohoł lewuna:wediyahnan, wan hon kela i:tsemanna (think critically) are central to attaining strength and knowledge. They help learners develop positive self-identity, respect, kindness, and critical thinking skills to achieve life goals successfully.

Students with Disabilities

Navajo Technical University is committed to serving all students in a non-discriminatory and accommodating manner. Any student who feels that she or he may need special accommodations should contact the Accommodations Office (<http://www.navajotech.edu/student-services#accomodations->

[services](http://www.navajotech.edu/images/about/policiesDocs/Disability_Exhibit-A_6-26-2018.pdf)) in accordance with the university's Disability Accommodations Policy (see http://www.navajotech.edu/images/about/policiesDocs/Disability_Exhibit-A_6-26-2018.pdf).

Email Address

Students are required to use NTU's email address for all communications with faculty and staff.

Final Exam Date: