



CHEM 1405 Introduction to Chemistry I

Course Syllabus: Fall 2019

"Northeast Texas Community College exists to provide responsible, exemplary learning opportunities."

NORTHEAST TEXAS
COMMUNITY COLLEGE

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	7:30-8:00 am and 3:20 to 4:00 pm	7:30-8:00 am and 3:20 to 4:00 pm	7:30-8:00 am and 3:20 to 4:00 pm	7:30-8:00 am and 3:20 to 4:00 pm	7:30 to 8:00 am	N/A

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Course Description: 4 credit hours.

Lecture/Lab/Clinical: Three hours of lecture and three hours of lab each week.

Prerequisite(s): TSI complete.

A general course for the non-science major. An introduction to the discipline of chemistry including scientific measurements, atomic structure, bonding, stoichiometry, physical and chemical properties, energy, and chemical notation is presented. Relationship of chemistry to our daily lives is emphasized. Successful completion of CHEM 1405 with a C or better allows the student to continue on to [CHEM 1407](#). May be taken to prepare for [CHEM 1411](#) but cannot be substituted for CHEM 1411. Offered as dual-credit only.

Required Textbook(s):

Publisher: Pearson

ISBN Number: <https://www.pearson.com/us/higher-education/program/Brown-Chemistry-The-Central-Science-Plus-Mastering-Chemistry-with-Pearson-e-Text-Access-Card-Package-14th-Edition/PGM332639.html>

https://www.chegg.com/textbooks/laboratory-experiments-for-chemistry-13th-edition-9780321949912-0321949919?c_id=sem&utm_source=google&utm_medium=cpc&utm_campaign=tb--long_tail-googleshopping&qclid=CjwKCAjw-8nbBRBnEiwAqWt1zbnkJCle-PjwBVh2WBmPKYJe61Y7upwLEvYZsuOsdAzrUExFpMftRkxoCC9lQAvD_BwE

Recommended Reading(s): Chapters 1-11 in textbook

Student Learning Outcomes:

1. be able to define the fundamental properties of matter; to classify matter, compounds, and chemical reactions; and to identify trends in chemical and physical properties of the elements using the periodic table;
2. be able to write chemical formulas, to write and balance equations, to use the rules of nomenclature to name chemical compounds, and to define the types and characteristics of chemical reactions;
3. demonstrate the ability to solve stoichiometric problems, to convert units of measure, and to demonstrate dimensional analysis skills;
4. obtain an introductory understanding of quantum mechanics, be able to apply the octet rule, draw resonance structures, and use VSEPR, valence bond, and molecular orbital theories;
5. use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems, determine the role of energy in chemical reactions, and solve thermochemistry problems; and
6. working in groups, demonstrate competence in the laboratory including the ability to carry out experiments in a safe and efficient manner. Laboratory reports will be used to test the ability of students to work in teams and to interpret and to express chemical concepts in writing.

Lectures & Discussions: (Modify as needed)

Chapter 1: Introduction: Matter and Measurements

Chapter 2: Atoms, Molecules, and Ions

Chapter 3: Stoichiometry: Calculations with Chemical Formulas and Equations

Chapter 4: Aqueous Reactions and Solution Stoichiometry

Chapter 5: Thermochemistry

Chapter 6: Electronic Structure of Atoms

Chapter 7: Periodic Properties of the Elements

Chapter 8: Basic Concepts of Chemical Bonding

Chapter 9: Molecular Geometry and Bonding Theories

Chapter 10: Gases

Chapter 11: Modern Atomic Theory

Evaluation/Grading Policy:**Grading Scale**

Regular Exams	50%	A=100 to 90%
Laboratory	25%	B= 89-80%
Assignments, Attendance	<u>25%</u>	C=79-70%
Pre-Exam Total	100%	D=69-60%
		F=<59%

Final Exam is 20% of your total grade

Tests/Exams:

5 Regular exams will be given during the semester dates and time will be announced, but should be given around these dates

Exam 1 Week of September 8

Exam 2 Week of September 22

Exam 3 Week of October 13

Exam 4 Week of November 3

Exam 5 Week of December 1

Final Exam Week of December 9

Assignments:

Assignments will be given accordingly

Student Responsibilities/Expectations:

Attend all classes- physically and mentally

Be on time

Be an active learner

Read ahead

No cell phones during class or laboratory

Be respectful to yourself and others.

Work hard and have fun learning

NTCC Academic Honesty Statement:

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Academic Ethics

The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

ADA Statement:

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the NTCC Catalog or Student Handbook.

Family Educational Rights And Privacy Act (FERPA):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Core Curriculum Purpose and Objectives:

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning.

Courses in the foundation area of **life and physical sciences** focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

College Student Learning Outcomes:

Critical Thinking Skills

CT.1

Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

Communication Skills

CS.1

Students will effectively develop, interpret and express ideas through written communication.

Empirical and Quantitative Skills

EQS.1

Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form.

EQS.2

Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

Team Work

TW2. Students will work with others to support and accomplish a shared goal.