



# Chem1411 - General Chemistry I

Course Syllabus: Summer 2020

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

**NORTHEAST TEXAS**  
COMMUNITY COLLEGE

**Bryan Trickey**

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Online Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	9 AM -1:30 PM Online Lecture	9 AM -1:30 PM Online Lecture	9 AM -1:30 PM Online Lecture	9 AM -1:30 PM Online Lecture		Email me to arrange web or phone conference.

*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.*

## Catalog Course Description (include prerequisites):

Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering. Topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and introductions to thermodynamics, quantum mechanics, and descriptive chemistry. 3 hours lecture and 3 hours laboratory each week.

**Prerequisite(s):** MATH 1314, equivalent, or above.

Successful completion (final grade of C or better) of CHEM 1411 will allow the student to continue on to CHEM 1412.

## Required Textbooks & Materials:

**Inclusive Access:** We have negotiated with the Publisher to obtain a discounted price for your lecture course materials. Your eBook and Mastering Chemistry Access Code are included with your tuition and will be available through Blackboard on the first class day. The materials are required for your class and essential in your success. If you also determine that you would like a print copy of your text in addition to your exclusive access loose-leaf copies will be available in the College Store at a discounted price. You may opt out of purchasing your materials from the College Store through the Census Date for the course. If you choose to opt out you will be responsible for purchasing your Mastering Chemistry Access Code from another vendor. You will receive a refund for the Inclusive Access if you opt out.

**Textbook:** Chemistry Structure and Properties, 2nd Edition, Tro.

**Publisher:** Pearson

**ISBN number:** 9780134528229 Copyright 18 (inclusive access)

## Other Required Materials:

**General Chemistry Abbreviated Term Version 4: Kit #4604 from eScience Labs**

**Scientific Calculator:**

A scientific calculator is required for this course. You will be able to use graphing calculators but you will be required to clear the memory before exams. You will not be allowed to use a cell-phone calculator during any exam in this course.

**Computer with Internet Service and Web Cam:**

This course is a web based course which requires a computer with internet service to receive instruction, complete assignments and take exams. A web cam is needed to monitor students as they take exams. If a student does not have a web cam there are apps that allow both Android and iPhones to be used as a web cam. Technical information concerning these apps can be found in Blackboard.

**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

CT1. 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

CS1. Students will effectively develop, interpret and express ideas through written communication.

Empirical and Quantitative Skills

EQS1. Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form.

EQS2. 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.

**Course Student Learning Outcomes:** Students will...

1. Define the fundamental properties of matter; and classify matter, compounds, and chemical reactions.
2. Determine the basic nuclear and electronic structure of atoms, with a basic understanding of quantum mechanics.
3. Identify trends in chemical and physical properties of the elements using the Periodic Table.
4. Describe the bonding in and the shape of simple molecules and ions.
5. Convert units of measure and demonstrate dimensional analysis skills, and solve stoichiometric problems.
6. Write chemical formulas, and use the rules of nomenclature to name chemical compounds.
7. Define the types and characteristics of chemical reactions, write and balance equations.
8. Use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems.
9. Determine the role of energy in physical changes and chemical reactions.
10. Use basic apparatus, apply experimental methodologies used in the chemistry laboratory, and demonstrate safe and proper handling of laboratory equipment and chemicals.

11. Make careful and accurate experimental observations, relate physical observations and measurements to theoretical principles, and record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
12. Conduct basic laboratory experiments with proper laboratory techniques.
13. Design fundamental experiments involving principles of chemistry, and interpret laboratory results and experimental data, and reach logical conclusions.

**Evaluation/Grading Policy:**

Assignments	15%
Regular Exams	40%
Labs	30%
Final Exam	15%
	<hr/>
	100%

A final grade for the course will be based on the following scale:

<u>Grade</u>	<u>% of Total Points</u>
A	90 to 100
B	80 to 89
C	70 to 79
D	60 to 69
F	0 to 59

**Course Structure and Overview:**

**Lecture:** Originally this course was scheduled to be a traditional face-to-face course. Due to the ongoing pandemic this had to be changed to a web based course. Due to this change students will fit into one of the two following categories. Either students believed this was to be similar to a traditional class with lectures and exams being delivered online using Zoom (internet conferencing) during specific class times or students saw this as an online course with instruction being delivered in an on-demand basis with no set meeting times. In order to meet both these expectations instruction will be provided by:

- **Online Lecture:** A traditional lecture will be held from 9:00AM to 1:30 PM from Monday through Thursday of each week. There will be breaks during these times and in many cases will probably dismiss early to allow students to use some of that time for assignments or lab work. Lecture will be presented using Zoom, an online conferencing app, using a link provided within Blackboard. During class topics will be discussed and practice questions presented. Students will be able to ask questions and request additional examples. Students are **NOT** required to attend these scheduled lecture times.
- **Web based instruction:** Slides from the traditional lecture period will be provided as will links and notes for each chapter.

All assignments, labs, and exams will be taken outside the online lecture time. This lecture time is reserved for delivery of instruction. The lecture period will not be used as come-as-you-will forum for tutorial purposes. In other words, students cannot pop into a lecture and expect the instructor to address questions that are not part of the current lesson. If a student has questions or needs additional tutoring they should contact the instructor to determine a convenient time.

**Laboratory:** Experimental work is an important component of a chemistry class. You will complete labs using the lab kit that you purchased from the book store.

### Laboratory Evaluation

Regular Experiments	75%
<u>Lab Practical</u>	<u>25%</u>
Total	100%

Lab assignments will be identified in Blackboard with due dates. Students will be required to provide a picture of them during the experimental process to prove that they own the lab kit and completed the assigned experiments. Labs that are submitted without this required picture will not be graded. Any labs not turned in by the due date will receive a grade of zero.

Questions in the lab manual that require written explanations must be answered in complete, thoughtful sentences. Failure to do so will result in loss of points. Lab reports that are illegible will not be graded.

Calculations in the lab report must show all the steps necessary to generate the answers provided, including proper use of units and significant figures. Failure to do so will result in loss of points.

Lab reports that appear to have answers copied from other students or from an internet source will earn a grade of zero.

### **Assignments:**

Assignments will be considered anything assigned by the instructor and can include quizzes and Mastering Chemistry homework. Homework will be completed using the online resource Mastering Chemistry which is included with your inclusive eBook purchase. All assignments will be announced in Blackboard and sent each students NTCC email account. Each Mastering Chemistry assignment will be found in Blackboard with due dates.

### **Exams:**

- **Regular Exams:** Exams are assessments of a student's mastery of topics covered in specific chapters. Students should use these exams as feedback for progress in the course and readiness for the final exam. Students will have 90 minutes to take an exam and they must complete the exam in one sitting. Students will be allowed to use a calculator and scratch paper when taking an exam. Reference information will be provided within an exam.
- **Final Exam:** The final exam is a comprehensive exam covering all the topics. The final exam will be similar to regular exams except that students will be allowed 2 hour to take an exam but they must still complete the exam in one sitting.
- Exams must be monitored. The following are options on how this can be accomplished:

#### **Using a test center**

NTCC's test center is closed but you may know of another institutions test center that is open. If you choose to use a test center they must have an computer with internet service. It will be the students responsibility to provide the instructor with the name of the test center and contact information. This must be done within the first week of class.

#### **Respondus Monitor**

Respondus monitor uses a web cam to monitor students as they take an exam. A one time fee of \$10 allows you to be monitored at home while you are taking an exam. More

information is available in Blackboard concerning this service. There are apps that allow smart phones to function as web cams should a student not have a web cam.

### **During Zoom Lecture**

I will announce and schedule a time during the lecture period when students can take an exam under my supervision. This will still require a web cam so I can observe students as they take the exam

### **Communication:**

- NTCC email is the official form of communication used by the college. Email communications from non-NTCC email addresses run the risk of being marked as spam and may not be answered.
- Course announcements that occur outside of lecture and lab sessions will be announced via Blackboard's announcement feature. These will be cc'd to students via NTCC email.
- Students are expected to check Blackboard and their NTCC email accounts regularly.
- All grading policies and due dates for online homework assignments are listed in the online homework system.

### **Responsibilities/Expectations/Deadlines:**

This course allows you the flexibility of completing assignments at a pace and location of your choosing. If you manage your time, work hard, utilize all available resources and ask questions in a timely manner you will be successful. This will not be the case if you procrastinate or try to fit a weeks worth of assignments into the final two hours before they are due. Due dates for each assignment, lab, exam will be posted within Blackboard. Due dates are necessary to ensure students to work on the course in a timely manner and to give the instructor time to review student work. You are choosing to take this online course which requires a computer and a dependable broadband internet connection however, things happen. If you should have difficulty meeting a due date because of technical issues contact me about an extension. These technical difficulties should be rare. Numerous requests for extensions may not be honored. Assignments not completed by their due dates may result in a grade of zero for that assignment.

The last day to drop the course with a grade of W is **Wednesday, July 1, 2020**. If circumstances require you to withdraw from this course, you must do so by that date. It is the **student's responsibility** to initiate the withdrawal with the registrar's office. **Failure to officially withdraw will result in your receiving a grade of F.**

### **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 request accommodations. An appointment can be made with the Academic Advisor/Coordinator of Special Populations located in Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to the special populations page on the NTCC website.

**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.

**Other Course Policies:**

NA