General Chemistry I

CHEM 1411.001 and CHEM 1411.002
Course Syllabus: Fall 2017

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

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	Monday	Tuesday	Wednesday	Thursday	Friday	Online
Office Hours	8:00 – 9:30 11:00 – 12:30	8:00 – 9:30	8:00 – 9:30 11:00 – 12:30	8:00 – 9:30	by appointment	via NTCC email

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:
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.

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

Prerequisite: MATH 1314, equivalent, or above.

Required Textbooks & Materials:
Choose Either the Printed Version or Digital Version

General Chemistry: Atoms First (w/ Mastering Chemistry) – Printed Version
McMurry and Fay; 2nd Edition – (ISBN # 032180483X) – Pearson

General Chemistry: Atoms First (w/ Mastering Chemistry) – Digital Version
McMurry and Fay; 2nd Edition – (ISBN # 0321813286) – Pearson

Lab Manual for CHEM 1411 – Experiments in General Chemistry I
NTCC Printing, only available in NTCC College Store

Lab Safety Glasses/Goggles:
Approved safety glasses are available in the college store, and many safety glasses and safety goggles are also available from online retailers. ***Always check with your instructor before purchasing eye protection from somewhere other than the college store.***

Safety glasses may be rented from the instructor for the cost of five (5) points deducted from the experiment grade. ***After September 19, students arriving to lab without proper safety glasses will not be allowed to participate in the experiment and will receive a grade of zero for that experiment.***

Scientific Calculator:
A scientific calculator is required for this course. A model TI-30Xa is recommended. You will NOT be allowed to use a graphing calculator, programmable calculator, or cell-phone calculator during any exam in this course.

Student Learning Outcomes: Upon completion of this course, students will…
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 and 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:
We will cover nearly all of the material in Chapters 0-9 and part of Chapter 10 in the text.

Week 1	Units & Measurement
Week 2	Elements
Week 3	Atomic Structure
Week 4	Quantum Mechanics
Week 5	Ionic Compounds
Week 6	Periodic Trends
Week 7	Covalent Compounds
Week 8	Molecular Structure
Week 9	Molecular Orbital Theory
Week 10	Stoichiometry
Week 11	Chemical Calculations
Week 12	Chemical Reactions
Week 13	Thermochemistry
Week 14	Gases
Week 15	Course Review

More detail can be found by examining the Table of Contents in the text and the "Topical Course Outline" provided as a handout and posted on Blackboard. *You should bring a reliable scientific calculator to class every day.*

Evaluation/Grading Policy:

Regular Exams	40%
Laboratory	30%
Final Exam	16%
Mastering Chemistry	7%
Attendance & Assignments*	7%
Total	100%

* Assignments include anything assigned by me including, but not limited to quizzes and problem sets.

Grading Scale
A = 100 – 90%
B = 89 – 80%
C = 79 – 70%
D = 69 – 60%
F = <59%

Final course grades are rounded to the nearest whole number percent, and letter grades assigned using the above scale.

Grades will be posted to Blackboard throughout the course. Blackboard provides an approximate course grade, which is typically within 2-4% of the actual course grade. The instructor's gradebook is the last word in grades and is what decides the final grades for the course. At any time during the term, students can request to view their grades in the instructor's gradebook or can request a pdf copy of their grades.

Questions about what score on the Final Exam is required to earn a particular grade in the course will not be answered. Please do not ask.

Exams:
Five regular exams will be given during the term on the following dates:

	CHEM 1411.001	CHEM 1411.002
Exam 1	Wednesday, September 13	Thursday, September 14
Exam 2	Wednesday, October 4	Thursday, October 5
Exam 3	Wednesday, October 25	Thursday, October 26
Exam 4*	1pm Thurs, November 9 through 5pm Thurs, November 16*	
Exam 5	Monday, December 4	Tuesday, December 5

* Exam 4 will be administered in the Testing Center, located in the Student Services Building. More detail will be given in class.

Exam dates are subject to change, if circumstances dictate it. Ample notice will be given verbally during class, in such instances. Under some rare circumstances students may take exams in advance; this will be decided on a case-by-case basis in advance of the exam date. *There will be no make-up exams for missed exams without authorization **before** the exam date.*

There will be a **comprehensive Final Exam** held according to the announced final exam schedule:

CHEM 1411.001 Wednesday, December 13: 930 – 1150am
CHEM 1411.002 Tuesday, December 12: 1100am – 1250pm

You will need a reliable scientific calculator for all exams. Programmable calculators, graphing calculators, and cell-phone calculators are not allowed. Sharing calculators will not be permitted.

Quizzes and Assignments:
A quiz will be given during nearly all lectures. Students who are absent from class will earn a zero on the quiz, and makeup quizzes will not be given. Assignments throughout this course include anything assigned by the instructor and collected for a grade, excluding exams and laboratory work. This includes, but is not limited to, problems from the text, Mastering Chemistry online homework, and handouts from class. ***Students should expect to be working on assignments outside of class on their own time throughout the entire duration of this course.***

This course will be using the Mastering Chemistry online homework system. Details about registering in Mastering Chemistry will be discussed on the first day of class. Assignments and due dates will be listed in the Mastering Chemistry system. Access to a computer with the internet is required for this course.

Laboratory Experiments:
There will be 12 experiments performed during the laboratory periods over the course of the term. Any experiments not completed and turned in will receive a grade of zero. A total of 9 experiments must be completed and receive a non-zero grade in order to pass this course. A schedule of experiments will be provided as a separate handout. In addition, a Lab Practical, including a written report, is required as part of the laboratory portion of the course. More detail about the laboratory portion of the course can be found in the laboratory syllabus.

Other Course Requirements:
Purchase of a simple, scientific calculator is required. You must bring a calculator with you to every class period. Use of graphing calculators, programmable calculators, calculators with extensive memories, and cell phone calculators are not allowed during exams. Sharing calculators is not permitted.

Student Responsibilities/Expectations:
You are expected to attend all classes. Chemistry is too hard to learn on your own. Some lecture material not found in the text may be presented during the semester and will show up on exams.

Use of cell phones is prohibited during class time. Students using phones during class will lose his/her attendance points for the day and will have his/her phone confiscated or be asked to leave class.

This course covers a lot of material and moves rapidly, so do not fall behind.

For each hour that you spend in class, plan to spend at least three hours outside of class studying, reading the book, and working on homework problems. This means you should be working a minimum of 18 hours per week outside of class on your chemistry work. You should always have chemistry work to be doing outside of class during the entire course.

The only way to learn chemistry is through practice. You must be willing to spend time working problems from the textbook to be successful. If you are having problems with a particular topic, it may even be necessary to work problems from the textbook that are not assigned. Additional study materials for this course are available within the Mastering Chemistry online system.

At the first sign of trouble you should seek help immediately. I am happy to help you with any of your chemistry coursework. However, if you wait too long to seek help, there is a point where there is nothing I can do to help you.

Work with a classmate on the homework, but do not just copy answers that you do not understand. Your classmate will not be able to help you on the exam.

Do not fall behind in the class. If you do not understand the introductory material, you will not understand later material either, because the material for this course is cumulative.

Do not wait until the night before a test to study. Almost everything we cover will come up again later in the class. If you learn the material only long enough to take an exam, you will not recognize it when we encounter it again. This will cause you to struggle through the entire course.

Questions and/or observations are encouraged during the class period. Courteous and attentive behavior is always expected. Students who consistently misbehave can expect to have their grade lowered.

Tuesday, November 21 is the last day to withdraw from the course with a grade of "**W**". Students who withdraw from the lecture must also withdraw from the lab. If you stop attending class and fail to officially withdraw, expect to earn a grade of "**F**" in the course.

Like all colleges, Northeast Texas Community College strives to be a "community of scholars." Please remember that you and all of the students in this class are pursuing very important goals in your lives. As human beings and as scholars, I expect every student to be courteous and considerate toward other students throughout the lecture and laboratory portions of this course.

As your instructor, I will attend all classes on time and prepared to teach what you are expected to learn each day. I will make a conscientious effort each class period to teach to the best of my ability and to provide you with clear, well-organized explanations of class material. I care deeply about your learning experience and your success in this course. However, that ultimate success does depend largely on you. Your success can be maximized and your potential achieved by making a commitment to meet the following classroom expectations:

a) Attend ALL classes – physically and mentally. Wherever you are, be all there.
b) Be on time for class. Attitude is not everything but it is very important. Remain in class for the entire instructional period.
c) Be an active learner – participate in class. Be attentive, answer questions, and ask questions. Smile, be interested, and act as if you care. (OK, I'll admit that occasionally things get a little boring; work through that boredom by participating!)
d) Read ahead. This will help make the next lecture much more effective.
e) A good student acts like a good student, which includes not sleeping in class, not talking in class, and not reading unrelated material or doing other work in class. All cellular phones must be turned off during class time.
f) Realize that I do not GIVE grades. You EARN grades based upon your performance. That performance includes turning all assignments in on time. You shouldn't expect less of me because of my other commitments. I don't expect less of you because of your other commitments.
g) Be respectful of yourself, your classmates, and your instructors.
h) Learning is hard work but it is also invigorating and fun. Work hard and have fun doing so.

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 Shannin Garrett, Academic Advisor/Coordinator of Special Populations located in the College Connection. She can be reached at 903-434-8218. For more information and to obtain a copy of the Request for Accommodations, please refer to the NTCC website - Special Populations.

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.