

Summer 5W1 2013
General Chemistry for Science Majors
(Prerequisite: MATH 1100 or equivalent)
Lecture: CHEM 1410.001: MTWR, 8:00-9:50 AM, Chemistry 109
Recitation CHEM 1410.211: M, 2:00 – 3:50 PM, Chemistry 109

Professor: Mr. Timothy Stephens
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Office hours: Tuesdays and Wednesdays 10:00 am – 11:00 am

Suggested: Moore, Stanitski, and Jurs: Principles of Chemistry: The Molecular Science
Web page: <https://learn.unt.edu/>

REQUIRED: Internet access and Blackboard Learn access are required for this course.
Non-graphing scientific calculator (Does not include cell phones, smartphones, iPods, iPads, Kindles, Nooks, laptops, etc.)

<u>Exam Dates:</u>	Exam 1	June 7 (Friday)
	Exam 2	June 13 (Thursday)
	Exam 3	June 20 (Thursday)
	Exam 4	June 27 (Thursday)
	Final Exam	July 5 (Friday): 7–10 AM

No exam grades are dropped! If you miss an exam, the grade on your final exam will be scaled to replace the missing exam grade!

Catalog Description

Fundamental concepts, states of matter, periodic table, structure and bonding, stoichiometry, oxidation and reduction, solutions, and compounds of representative elements.

Grade Allocation

KEEP ALL RETURNED ASSIGNMENTS IN CASE THERE IS ANY DISCREPANCY REGARDING YOUR COURSE GRADE! Your final grade is based on the number of points you receive out of the total possible points. Possible points will be obtained from your homework and exams. There will be no dropped homework or exam grades.

Your letter grade in this course will be based on the following scale:

A = 90-100%; B = 80 – 89%; C = 70 – 79%; D = 60 –69%; F < 60%.

Failure to turn in completed assignments by the due date and time will result in a zero for the missing grade.

Important University Dates

June 3	Last day to add a class (4:30 pm deadline and \$50 late fee)
June 6	Census Day/12th Class Day
	Last day to drop a 5W1 course and not show on UNT transcript.
June 13	Last Day for Auto W (written approval by instructor)
	Last day to change pass/no pass status
June 26	Last day to drop with either W or WF (written approval by instructor)
	Last day to withdraw from the university (5 PM deadline)
June 27	Can Begin to Request Incomplete
July 4	Independence Day (University Closed)

Course Objectives

- (1) Upon successful completion of Chem I, students should be able to adhere to the rules of significant digits and express answers in both decimal and scientific notations.
- (2) Upon successful completion of Chem I, students should understand the underlying concepts associated with the early and modern atomic theories and their applications to the periodic table and basic chemical reactions along with how elements combine to form different structures.
- (3) Upon successful completion of Chem I, students should be able to name elements and compounds, understand the connections between a balanced chemical equation and mass/molar quantities, and the importance of chemistry as the central science.
- (4) Upon successful completion of Chem I, students should be able to solve problems related to the concepts of density, heat, stoichiometric relationships, gas laws, and solubility.

Student Learning Objectives: General Chemistry (based on topics listed by the ACS Exams Institute)

1. Students will be able to apply measurements, scientific notation and significant figure rules to all algorithmic-based problems.
2. Students will be able to perform all types of elementary conversions.
3. Students will be able to identify and describe matter and subatomic particles of isotopes.
4. Students will be able to write and be able to determine chemical/empirical formulas for most inorganic compounds and select groups of organic compounds.
5. Students will be able to name most inorganic compounds and select groups of organic compounds.
6. Students will be able to balance chemical equations and identify the major types of chemical reactions.
7. Students will be able to solve basic stoichiometry problems.
8. Students will be able to identify oxidation numbers of all atoms in common compounds.
9. Students will be able to identify the components contributing to the chemistry (solubility, acids/bases, etc.) of most compounds.
10. Students will be able to determine concentrations of various solutions considering molarity and molality with stoichiometric relationships.
11. Students will be able to solve thermochemical equations.
12. Students will be able to write electron configurations and understand basic quantum number rules.
13. Students will be able to differentiate between ionic and covalent bonding and know the identifying factors of each.
14. Students will be able to explain the periodic trends including, but not limited to, atomic radius, ionization energy, electron affinity, and electronegativity
15. Students will be able to draw Lewis structures, including isomers, resonance, and determine formal charges.
16. Students will be able to apply VSEPR theory to determine the electronic and molecular topology of simple compounds.
17. Student will be able to solve gas laws and gas stoichiometry problems.
18. Student will be able to describe common physical and chemical properties of solids, liquids, and gases.
19. Students will assess the concepts of intermolecular forces and how these forces affect structure and function of molecules.

Class Policies

1. You should enroll in both lecture (with recitation) and a lab (with lecture). CHEM 1430.50x (Lab) are separate courses from CHEM 1410.001 + CHEM 1410.211. Students receive separate grades for the lecture and lab courses. Dropping either course does NOT automatically drop a student from the other course.
2. Calculators are permitted for use in class and on exams. Calculators may never be shared during an exam. Your cell phone or other device that can access the internet may NOT be used in place of a calculator!
3. By University regulations, a grade of "T" cannot be given as a substitute for a failing grade in a course.
4. There are no "extra credit" assignments given to an individual that are not available to the entire class.
5. Attend class—lectures and recitations, labs and lecture for labs. You are responsible for all information presented in class regardless of your attendance. Some of the information discussed in class is not in your textbook and you are still very much responsible for this information! No make-up work is provided. If you fail to attend an exam (regardless of excuse), the same percentage as your final exam grade will be calculated in its place.

Study Groups

You are strongly encouraged to form study groups. Practicing the language of chemistry by "talking" chemistry with others is a very easy and painless way to help you understand the concepts covered in this course.

POLICY STATEMENTS

ADA COMPLIANCE: In cooperation with the Office of Disability Accommodation (ODA) reasonable accommodations for qualified students with registered disabilities will be made. If applicable, please present your request, with written verification from the ODA, prior to the first exam. See: <http://policy.unt.edu/policy/18-1-14>

- o "The University of North Texas is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 92-112 - The Rehabilitation Act of 1973 as amended. With the passage of new federal legislation entitled Americans with Disabilities Act (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens."
- o The University of North Texas complies with Section 504 of the 1973 Rehabilitation Act and with the Americans with Disabilities Act of 1990. The University of North Texas provides academic adjustments and auxiliary aids to individuals with disabilities, as defined under the law. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please see the instructor and/or contact the Office of Disability Accommodation at 940-565-4323 during the first week of class.

SCHOLASTIC DISHONESTY: The University expects every student to maintain a high standard of individual integrity for work done. Scholastic dishonesty is a serious offense, which includes, but is not limited to, cheating on a test or other class work, plagiarism (the appropriation of another's work and the unauthorized incorporation of that work in one's own work), and collusion (the unauthorized collaboration with another person in preparing college work offered of credit). In cases of scholastic dishonesty, the faculty member responsible for the class may initiate disciplinary proceedings against the student. In this class all UNT procedures will be followed and the necessary paperwork will be filed with the Academic Integrity Office. In the case of an infraction, a penalty will be recommended by the professor of this course to the Academic Integrity Officer, who may impose an additional university penalty. (See: <http://www.vpaa.unt.edu/academic-integrity.htm>)

DISCLAIMER: The professor of this course reserves the right to alter at any time any of the information presented on this syllabus at his discretion. If you are not in class, you may miss important information that directly affects your grade in this course!

Grades are not wages. They are not intended to reflect how hard you worked or how good your intentions were. They are intended to reflect your mastery of the material relative to this class, other classes (elsewhere and else-when), and to reflect what I believe you ought to have achieved to attain a particular grade.

Schedule of Events for Chemistry 1410.001 (Stephens)

Summer 5W1 2013

<u>Activity</u>	<u>Date</u>	<u>Chpts</u>	<u>Topics</u>	<u>Graded Assignments</u>
L1	6/3	1	The Nature of Chemistry	
R1	6/3			
L2	6/4	7	Electron Configurations and the Periodic Table	
L3	6/5			
L4	6/6			HW1 Due before 8:00 am
E1	6/7	1, 7		Exam 1
L5	6/10	2, 3	Atoms and Elements, Chemical Compounds	
R2	6/10	8	Covalent Bonding	
L6	6/11	9	Molecular Structures	
L7	6/12			HW2 Due before 8:00 am
	6/12 at 5:00:00 PM Last chance to challenge grades for HW1 and E2			
E2	6/13	2, 3, 8, 9		Exam 2
L8	6/17	4	Quantities of Reactants and Products	
R3	6/17	5	Chemical Reactions	
L9	6/18			
L10	6/19			HW3 Due before 8:00 am
	6/19 at 5:00:00 PM Last chance to challenge grades for HW2 and E2			
E3	6/20	4, 5		Exam 3
L11	6/24	10	Gases and the Atmosphere	
R4	6/24	11	Liquids, Solids, and Materials	
L12	6/25			
L13	6/26			HW4 Due before 8:00 am
	6/26 at 5:00:00 PM Last chance to challenge grades for HW3 and E3			
E4	6/27	10, 11		Exam 4
L14	7/1	6	Energy and Chemical Reactions	
R5	7/1			
L15	7/2	Review	Review for Final Exam	
L16	7/3			HW5 Due before 8:00 am
	7/4 at 5:00:00 PM Last chance to challenge grades for HW4 and E4			
E5	7/5			Final Exam