

**Syllabus:** Chemistry 1412-General Chemistry II

**Course Number:** Chem 1412

**Instructor Information**

Instructor
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**Textbook Information**

The Chemistry 1412 textbook is Chemistry, 4<sup>th</sup> edition by McMurry and Fay. The ISBN is 0-13-140208-0. This book can be acquired at a reasonable price from the Texarkana College Book Store or online. A website with no shipping charges is <http://www.betterworldbooks.com/>. An older or newer version of the text book is acceptable. The Chemistry 1412 Laboratory Manual is available in the Texarkana College Book Store or may be downloaded directly from the Chemistry 1412 Moodle Page. All problem assignments and lecture material may be obtained from the Chemistry 1412 Moodle Page.

**Student Learning Outcomes for the Course**

Upon successful completion of this course, students will:

1. State the characteristics of liquids and solids, including phase diagrams and spectrometry.
2. Articulate the importance of intermolecular interactions and predict trends in physical properties.
3. Identify the characteristics of acids, bases, and salts, and solve problems based on their quantitative relationships.
4. Identify and balance oxidation-reduction equations, and solve redox titration problems.
5. Determine the rate of a reaction and its dependence on concentration, time, and temperature.
6. Apply the principles of equilibrium to aqueous systems using LeChatelier's Principle to predict the effects of concentration, pressure, and temperature changes on equilibrium mixtures.
7. Analyze and perform calculations with the thermodynamic functions, enthalpy, entropy, and free energy.
8. Discuss the construction and operation of galvanic and electrolytic electrochemical cells, and determine standard and non-standard cell potentials.
9. Define nuclear decay processes.
10. Describe basic principles of organic chemistry and descriptive inorganic chemistry

Learning objectives specific to the laboratory are:

1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
2. Demonstrate safe and proper handling of laboratory equipment and chemicals.
3. Conduct basic laboratory experiments with proper laboratory techniques.
4. Make careful and accurate experimental observations.
5. Relate physical observations and measurements to theoretical principles.
6. Interpret laboratory results and experimental data, and reach logical conclusions.

7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
8. Design fundamental experiments involving principles of chemistry and chemical instrumentation.
9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

**Prerequisites:** Students should have completed Chemistry 1411 with a minimum grade of “C” or have consent of the professor.

### **Student Requirements for Completion of the Course including grade calculation**

**Lecture:** Chemistry 1412 lecture is scheduled for one meeting a week for two hours and forty five minutes. The class lasts for fourteen weeks and has an extended period for a final examination during the fifteenth week. The format involves typical lecture presentations supported by electronic displays and numerous live chemical demonstrations that support the topics under discussion. The lecture electronic material is available on the campus Moodle Page along with other activities that support many concepts. The grade for the lecture portion of the course is determined from a combination of scores on weekly written examinations and the final examination. The weekly examinations will be available in the testing center from Tuesday through Friday of each week. The final examination is a standardized multiple choice test written by the American Chemical Society. The lecture component of the course accounts for seventy percent of the overall course grade (60% for the weekly examinations and 10% for the final examination). Old sectional examinations from past years are available on the course Moodle Page. A “grade minder” detailing the grades to be recorded and the calculation of the final grades is included on the final page of this syllabus.

**Laboratory:** Chemistry 1412 laboratory consists of fourteen three hour laboratory periods that introduce the student to basic chemistry laboratory concepts, techniques, and calculations. Safety practices are covered during the first laboratory, and the theme is continued throughout the semester. Students are required to wear safety glasses at all times, wear pants that cover the legs, and have closed toed shoes. The completion of a pre-laboratory assignment is required before a student can take part in the laboratory activities for a given session. The pre-laboratory assignments detail the relevant theory and problems solving skills necessary to complete the laboratory assignment.

### **Absentee Policy:**

Texarkana College’s absentee policy allows instructors to withdraw a student from a course due to excessive absences. If a student leaves and returns during class or leaves the class before the class is over, he/she may be considered absent. Three tardies constitute one absence. It is the student’s responsibility to check the syllabus for each instructor’s tardy policy.

Faculty members are not obligated to provide opportunities for students to make-up missed assignments and tests as a result of a student’s absence from class. The institution is not required to take attendance with the exception of workforce/vocational areas, where certification requirements require taking attendance. However, experience demonstrates that regular attendance enhances academic success. As such, students are expected to attend each meeting of their registered courses. A student should not stop attending a class without formally withdrawing from the course by the institutions published Last Day for Students to Drop. If a student stops attending class after the

published Last Day for Students to Drop, the student may receive a grade of “F” in the class. The instructor will submit the last date of attendance for students receiving a grade of “F” or “W”. Withdrawal from a course(s) may affect a student’s current or future financial aid eligibility. Students should consult the Financial Aid Office to learn both short and long term consequences of a withdrawal.

**EXCUSED ABSENCES**

Student’s absences due to school trips and/or school business will not be counted against a student’s allowable number of absences. Military duty and absences for Holy Days (FBD LEGAL) are covered in a separate section of the catalog and the student handbook. These are the only excused absences that are considered by Texarkana College. Responsibility for work missed for any absence is placed on the student. Instructors are required to allow students to make up work missed if the absence is due to military duty or religious holy days when students follow the correct notification procedures. Instructors are not required to allow students to make up work for absences due to other reasons. Make-up policies are listed in each individual instructor’s syllabus. If a student is taking a hybrid course, and it does not meet during the first week of class, the student must also complete an Enrollment Verification activity within the first week of class; otherwise the student may be dropped for not having attended.

**MAXIMUM ALLOWABLE ABSENCES**

After official registration, the following number of unexcused absences will be the maximum allowable before a student may be dropped from the class. Mandated program certification requirements detailed for certain programs regarding the maximum allowable unexcused absences takes precedence over the following information.

**Academic Classes**

A COURSE THAT MEETS FOR THE FULL 16 WEEK SEMESTER	
Class or Lab Meets:	An instructor may withdraw a student from a course if absences exceed:
Once a week (Night classes or Friday classes)	2
Twice a week (MW or TR classes)	4
Three times a week (MWF or TRF classes)	6
Four times a week (MTWR classes)	8
	Three tardies count as one absence

**Make-up Policy**

Examinations and laboratories can be made up in cases where the student can show illness, family distress, or military duty. In general the instructors want the student to complete the required work. Students need to make the instructor aware of problems they are having, and, where possible, make plans before they are going to be absent. Students who do miss work regularly without acceptable

reasons or planning will not be allowed to complete the work and receive a grade of zero for the work missed.

### Academic Dishonesty Policy

Scholastic dishonesty, involving but not limited to cheating on a test, plagiarism, collusion, or falsification of records will make the student liable for disciplinary action after being investigated by the Dean of Students. Proven violations of this nature will result in the student being dropped from the class with an "F".

This policy applies campus wide, including TC Testing Center, as well as off-campus classroom or lab sites, including dual credit campuses. This information can be found in the Student Handbook at <https://texarkanacollege.edu/PDFFiles/CurrentStudents/studenthandbook.pdf>.

### Disability Act Statement:

Texarkana College complies with all provisions of the Americans with Disabilities Act and makes reasonable accommodations upon request. Please contact Larry Andrews at 903.823.3283, or go by the Recruitment, Advisement, and Retention Department located in the Administration building for personal assistance.

If you have an accommodation letter from their office indicating that you have a disability which requires academic accommodations, please present it to me so we can discuss the accommodations that you might need for this class. *It is best to request these changes at the beginning if not before the start of class* so there is ample time to make the accommodations..

### Financial Aid:

**Attention!** Dropping this class may affect your funding in a negative way! You could owe money to the college and/or federal government. Please check with the Financial Aid office before making a decision.

## Grade Minder

<u>Weekly Exams</u>	<u>Laboratory Grades</u>
1. _____	Lab 1. _____
2. _____	Lab 2. _____
3. _____	Lab 3. _____
4. _____	Lab 4. _____
5. _____	Lab 5. _____
6. _____	Lab 6. _____
7. _____	Lab 7. _____
8. _____	Lab 8. _____
9. _____	Lab 9. _____
10. _____	Lab 10. _____
11. _____	Lab 11. _____
12. _____	Lab 12. _____
13. _____	Lab 13. _____
14. _____	Lab 14. _____

If you want to calculate your grade at any time follow this procedure:

Find your chapter examination average x 0.6 \_\_\_\_\_

Find your laboratory write-up average x 0.3 \_\_\_\_\_

Estimate your final exam grade x 0.1 \_\_\_\_\_

Tutorial extra Credit (Maximum 5 points) \_\_\_\_\_

Moodle page Examinations extra credit (Maximum 5 points) \_\_\_\_\_

Find the sum of previous six to determine your numerical score  
for General Chemistry \_\_\_\_\_

A numerical score of 90 or above equates with an "A", 80 or above but less than 90 with a "B", 70 or above but less than 80 with a "C", 60 or above but less than 70 with a "D", and grades below 60 equate with a grade of "F".