

Faculty contact:

Dr. Stephen Starnes
Email: Stephen.Starnes@tamuc.edu

Office: Science 339
Phone: 903-886-5389

Office Hours: MWF: 1:00 – 2:00 pm or by appointment, TR: 11:30 am – 12:30

Introduction: *General and Quantitative Chemistry I.* 3 Semester Hours: 2 hours and 30 minutes lecture per week. This course is part of the University Studies core courses and will meet criteria for science credits. This is the first part of a two-course sequence of general chemistry. This course is designed primarily for the students majoring in sciences or in pre-professional programs. Topics covered include the scientific method, characteristics and transformations of matter, atomic theory, chemical reactions, the behavior of gases, an introduction to energy, bonding and shapes of molecules, and intermolecular forces. Chemists deal with these topics every day, but these concepts are also crucially important to other branches of science.

Course Materials:

Lecture textbook: *General Chemistry*, 10th Edition, Ebbing, Gammon, Brooks/Cole Cengage Learning, Belmont, CA. ISBN: 978-1285051376. The 8th, 9th or 11th edition of the lecture textbook is also fine for you to use. The 11th edition is the newest addition (and the most expensive edition).

Classroom: Lecture Section 001: MWF 12:00 -12:50 am in STC127
 Section 002: TR 12:30-1:45 pm in STC127

** If you cannot attend your regularly scheduled lecture one day, you can attend the other section's lecture.

Prerequisite: The student must have completed Math 1314 or be concurrently enrolled in math 142. Students who had adequate high school preparation in mathematics or were exempted from Math 1314 will be allowed to enroll with the instructor's consent. Concurrent enrollment of Math 1314 with CHEM 1311 generally is not encouraged. Students who are currently enrolled in math remediation courses such as Math 131 will not be eligible for enrollment in CHEM 1311.

Grading/Evaluation

Your course grade will be based on 1000 points total, broken down as follows: four examinations (200 points each, 20% each, 80% total), and a comprehensive final examination (200 points, 20%).

Late work will not be accepted, and makeup exams will not be given. If you miss an exam, for whatever reason, the points for that exam will be placed on the final exam making the final exam count a greater proportion of your final class grade. The final exam will be comprehensive over all material covered in the class. The last drop date for the course is **April 2, 2018**. Grading will be based on a standard percentage scale: 100-90 = A; 89-80 = B; 79-70 = C; 69-60 = D; 59-below = F. Dishonest scholarship will earn an automatic zero (0) and initiate prosecution to the fullest extent. Incomplete grades may be given only if the student has a current average $\geq 70\%$ and is precluded from completion of the course by a documented illness or family crisis. **If you miss 5 or more class periods and do not have a passing grade in the class, you may be administratively dropped from the class.**

Attendance Policy: All students are expected to attend class on a regular basis. The Department of Chemistry adheres to the attendance policy set by the University as stated in the most current Undergraduate Catalog. The attendance record is taken from a daily sign-in sheet. A student who is

late by more than 5 minutes or fails to sign the sign-in sheet will be counted as missing a lecture. Excessive absence is defined as missing more than 10% of the lectures without excusable reasons. Excessive absence will be reported to the Dean of the College and the Dean of Students. In addition, **according to the TAMU-Commerce Procedure 13.99.99.R0.01, if a student has excessive absences, the instructor may drop the student from the course.** The instructor will only excuse an absence if the student provides, with appropriate documentation, an excusable reason allowed by the TAMU-Commerce Procedure 13.99.99.R0.01. Good class attendance will be necessary in order to pass this course. *If you miss more than 3 lectures prior to the first exam, I reserve the right to drop you from the course. If you miss more than 5 lectures throughout the course of the semester, I reserve the right to drop you from the course.*

Student Conduct Policy: All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment (see Student's Guidebook, Policies and Procedures, Conduct, TAMU-Commerce Procedure 13.02.99.R0.06). Any student engaging in disruptive behavior will be dismissed from class on the first offence. A second offence may constitute dismissal from the course with a failing grade.

Cheating and other Breaches of Academic Conduct: Academic cheating, plagiarism, and other forms of academic misconduct may result in removal of the student from class with a failing grade or may in extreme cases result in suspension or expulsion from the University as described in the Code of Student Conduct section of the Student's Guidebook A&M-Commerce Procedure 13.99.99.R0.10.

Students with Disabilities: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. 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 have a disability requiring an accommodation, please contact: Office of Student Disability Resources and Services, Texas A&M University-Commerce, Gee Library, Room 162, Phone (903) 886-5150 or (903) 886-5835, Fax (903) 468-8148, StudentDisabilityServices@tamuc.edu

Nondiscrimination Statement: Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry: Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M- Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to (<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>) and/or consult your event organizer). Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

Lecture Learning Outcomes / Course Objectives

Upon completion of the course, I intend for my students to have realized a number of objectives.

1. Students will be able to analyze, evaluate, or solve problems when given a set of circumstances, data, text or art. Be able to critically analyze a chemical problem and deduce a solution to the problem utilizing step-wise processes.
2. Students will be able to interpret, test and demonstrate principles revealed in empirical data and/or observable facts. General chemistry requires good algebra skills. By the end of this course, you should be able to utilize algebraic skills to solve chemical problems.
3. In written, oral, and/or visual communication, A&M-Commerce students will communicate in a manner appropriate to audience and occasion, with an evident message and organizational structure.
4. Students will be able to work together toward a shared purpose relevant to the course or discipline with a sense of shared responsibility for meeting that purpose.

General Content Knowledge Students Should Obtain

1. Know the nature of the bonding in compounds.
2. Relate the structure found in a given molecule to its physical and properties.
3. All students must know the basics of IUPAC nomenclature of compounds.
4. Know the importance of chemistry and its relationship to other disciplines and our daily lives.
5. Understand the basic structures of atoms, ions, and molecules, and ways to quantitatively describe the properties of atoms and molecules in the various phases of pure matter and in mixtures.
6. Understand the reactivity of atoms, ions, and molecules, and the various qualitative and quantitative methods for describing or depicting chemical reactions.
7. Understand the concept of chemical equilibrium, and the energies that drive chemical reactions: an introduction to the field of thermodynamics.
8. Understand the relationship between the electronic configurations of atoms and molecules and their chemical properties: an introduction to the field of quantum mechanics.
9. Understand the basic properties of gases with respect to temperature, pressure, volume and amount of gas.

Pointers to Succeed in CHEM 1311:

1. The lectures in this course will cover Chapters 1 through 11 of the assigned textbook. This material will be covered at the rate indicated by the *Tentative Class Schedule*. *Be sure to read the textbook before coming to the lectures.* The lectures will focus on important chemistry concepts but will not serve as a substitute for reading the textbook. The textbook is a more detailed presentation with a more extensive set of example problems. Chemistry is a physical science and it is imperative to master calculations to pass the course.
2. *Finish your homework promptly.* Working the problems will help you succeed in the course. The more problems that you work the better prepared you will be for exams.

Recommended HW problems and examples: I recommend working as many chapter end problems in the textbook as you can. The answers to the odd numbered problems can be found in the appendix of your textbook. If you can answer the odd numbered questions correctly, this will be a good indication that you understand the material and that you should be able to find success in the course.

Exam 1:	Thursday or Friday	February 15th or 16th	Chapters 1, 2, 3
Exam 2:	Thursday or Friday	March 8th or 9th	Chapters 7, 8
Exam 3:	Monday or Tuesday	April 9th or 10th	Chapters 9, 10, 11
Exam 4	Thursday or Friday	May 3rd or 4th	Chapters 4, 5, 6
Final Exam:	Thursday or Friday	December 10th or 11th	Cumulative (Chapters 1-11)

	Monday	Tuesday	Wednesday	Thursday	Friday
<u>January</u>	15th Holiday	16th Chapter 1	17th Chapter 1	18th Chapter 1	19th Chapter 1
<u>January</u>	22nd Chapter 1	23rd Chapter 2	24th Chapter 2	25th Chapter 2	26th Chapter 2
<u>January-Feb</u>	29th Chapter 2	30th Chapter 2	31st Chapter 2	1st Chapter 3	2nd Chapter 3
<u>February</u>	5th Chapter 3	6th Chapter 3	7th Chapter 3	8th Chapter 3	9th Chapter 3
<u>February</u>	12th Chapter 7	13th Chapter 7	14th Chapter 7	15th <i>Exam 1, (Chap. 1, 2, 3)</i>	16th <i>Exam 1, (Chap. 1, 2, 3)</i>
<u>February</u>	19th Chapter 7	20th Chapter 7	21st Chapter 7	22nd Chap. 7 / 8	23rd Chapter 8
<u>February-March</u>	26th Chapter 8	27th Chapter 8	28th Chapter 8	1st Chap. 8 / 9	2nd Chapter 9
<u>March</u>	5th Chapter 9	6th Chapter 9	7th Chapter 9	8th <i>Exam 2 (Chap. 7, 8)</i>	9th <i>Exam 2 (Chap. 7, 8)</i>
<u>March</u>	12th <i>Spring Break</i>	13th <i>Spring Break</i>	14th <i>Spring Break</i>	15th <i>Spring Break</i>	16th <i>Spring Break</i>
<u>March</u>	19th Chap. 9 / 10	20th Chap. 9 / 10	21st Chapter 10	22nd Chapter 10	23rd Chapter 10
<u>March</u>	26th Chapter 10	27th Finish Chap. 10	28th Chapter 11	29th Chapter 11	30th Chapter 11
					<i>Last day to drop</i>
<u>April</u>	2nd Chapter 11	3rd Chapter 11	4th Chapter 11	5th Chapter 4	6th Chapter 4
<u>April</u>	9th <i>Exam 3 (Chap. 9, 10, 11)</i>	10th <i>Exam 3 (Chap. 9, 10, 11)</i>	11th Chapter 4	12th Chapter 4	13th Chapter 4
<u>April</u>	16th Chapter 4	17th Chapter 4	18th Chapter 5	19th Chapter 5	20th Chapter 5
<u>April</u>	23rd Chapter 5	24th Chapter 5	25th Chap. 5 / 6	26th Chapter 6	27th Chapter 6
<u>April-May</u>	30th Chapter 6	1st Chapter 6	2nd Chapter 6	3rd <i>Exam 4 (Chap. 4, 5, 6)</i>	4th <i>Exam 4 (Chap. 4, 5, 6)</i>
<u>May</u>	7th	8th	9th	10th <i>Final Exam 10:30 – 12:00 (002 section)</i>	11th <i>Final Exam 8:00 – 10:00 (001 section)</i>

**** Students in the MWF course (001 section) will take their exams on M, W or F, students in the TR course (002 section) will take their exams on Tuesday or Thursday.**