

CHEM 1305.01W Survey of General Chemistry

COURSE SYLLABUS: SPRING 2025

INSTRUCTOR INFORMATION

Instructor: Mrs. Qianying Zhang (Joy)

Office Location: Science 336

Office Hours: Virtual office at D2L every Thursday morning between 9:30 am and 10:30 am or by appointment (The students are strongly encouraged to use this weekly online office hours to ask questions.)

Face-to-face office hour: MTWR 3:00-4:00 pm

Office Phone: 903-468-8140

University Email Address: Qianying.Zhang@tamuc.edu (preferred form of communication). The students are expected to put the class ID and name at the beginning of the subject line of all emails, for example, Chem 1305.01W section when you send the emails to the instructor so the instructor can easily identify your email. The instructor will try to respond the student's email within 48 hours not including the weekend.

Students are strongly encouraged to set up text and email notifications in the settings in Brightspace so you will receive emails and texts about important announcements, due dates of assignments, quizzes, and exams.

Class sections: CHEM 1305.01W

COURSE INFORMATION

Lectures (Web Based Class): Meets 1/13/2024 through 5/9/2024

Textbook: Introduction to General, Organic, and Biochemistry, 11th Edition, Brooks/Cole, Cengage Learning; ISBN-13: 978-1-285-86975-9; by Bettelheim, Brown, Campbell, Farrell, Torres. In addition, a simple calculator that can manipulate exponents and do log function, is also needed.

COURSE DESCRIPTION

Survey of General Chemistry 3 Semester Hours (lecture only).

This is one-semester course, which covers the fundamentals of chemistry, including basic physical principles and descriptive chemistry of the metal and non-metals, with application to related fields. The course is designed to develop and improve the student's ability to think critically and solve problems. Thus, a letter grade earned in this class not only reflects the student's knowledge of basic general chemistry, but also reflects the student's ability to solve scientific problems based on available information, and to become a better scientist.

This course is designed for students majoring in Agricultural Science, Wildlife and Conservation science, the Environmental Sciences, Nursing and non-majors seeking an understanding of chemistry and its applications in human health, agriculture and the environment. Students are introduced to the scientific method, the basic structure of the atom, microscopic and macroscopic properties of the solutions, solids, liquids and gasses and the utilization of basic mathematics manipulations to determine solution concentrations, reaction stoichiometry, etc. The course will prepare students for the survey of organic and biochemistry course.

Prerequisite: The student must completed MATH 1314 or MATH 1324 or MATH 179.

Student Learning Outcomes

(1) Exam questions will be developed to evaluate a student critical thinking skills. The students in the course will be required to analyze, evaluate, or solve problems when given a set of circumstances or data.

(2) Exam questions will be developed to evaluate a student's ability to understand and utilize mathematical functions and empirical principles and processes.

(3) Student communication in the class will be clear, purposeful, and make appropriate use of evidence, data and technology as applicable. Students will be able to engage with peers in a way that demonstrates their understanding of relevant course theories and concepts.

(4) At the completion of the course, students will understand the scientific method, the basic structure of the atom, microscopic and macroscopic properties of solutions, solids, liquids and gases, basic nuclear chemistry and the utilization of basic mathematic manipulations to determine solution concentrations, reaction stoichiometry, etc.

COURSE REQUIREMENTS

Student Responsibilities or Tips for Success in the Course

Minimal Technical Skills Needed:

It is expected that students will have a basic knowledge of the internet and how to interface with D2L Brightspace, our learning management system (LMS). In addition, students must have the ability to scan written work and convert it to a pdf format to upload to D2L. There are free applications, such as CamScanner, that are available that can be downloaded to smart phones, which will allow students to scan a document and convert it to a pdf format.

Instructional Methods:

There will not be scheduled online lectures, but I will post lecture videos and lecture notes on D2L. You will be responsible to watch them in a timely manner as you study along in the textbook. These videos will be usually about 30-50 minutes in length and will be posted in a timely manner to match the topics to be covered as outlined in the tentative topics section of this syllabus. Through the course, there is homework for each chapter. Exams, including the final exam will be times and students will take the exams using D2L Brightspace LMS. The format of the exams will be a combination of multiple-choice questions and written responses.

Student Responsibilities or Tips for Success in the Course: This is an online class therefore attendance is flexible! You are required to access D2L while you participate various activities. Your regular participation activities, login times, visit time spent will be checked regularly. You are strongly encouraged to log into the course several times a unit. Excessive "absence" in online activities may result in loss of points (including in your overall performance points).

It is assumed that the good student will be able to work all the problems in the textbook for each chapter. It is not a good idea to try to memorize solutions to problem, since identical problems will not be used again. You should always critically analyze your work to ensure that you have applied reasonable steps to deduce your solution. Also, ask yourself how a problem might be rearranged as a possible test item. Be precise with your answers. You will find this helpful in preparing for exams, since there is typically more than one possible solution to a problem. On the exams, you will be graded on what you write, not what you meant to write, or thought you wrote.

Pointers to Succeed in CHEM 1305:

1. The lectures in this course will cover Chapters 1-8 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. *Use your homework to practice the concepts you learned in lecture.* Working the problems will help you succeed in the course. The more problems that you work the better prepared you will be for exams.
3. *Review the lecture notes after each chapter.* Write down the questions you have and ask the instructor during online office hour or by email or make an appointment with the instructor.

GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 89%-80%

C = 79%-70%

D = 69%-60%

F = 59% or Below

The grade for this course will be derived as follows:

Four examinations	80%
Homework	10%
Final Comprehensive Exam	10%

Late work will not be accepted, and makeup homework or exams will not be given. Students are strongly encouraged to set up text and email notifications in the settings in Brightspace so you will receive emails and texts about important announcements, due dates of assignments, and exams. Also make sure to check the email from the instructor.

If you miss an examination, you will be assigned a zero for that assignment. The final exam will be comprehensive over all material covered in the class and cover material from Chapters 1-8.

The last drop date for the course please see the website:

<http://www.tamuc.edu/Admissions/registrar/academiccalendars/>

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.

Communication: If the instructor needs to contact an individual student, it will be via the student's e-mail account. Students should check e-mail frequently. Email is the best, easiest and fastest way to communicate with me.

COURSE OUTLINE / CALENDAR

Tentative Class Schedule

Week	Topics	Reading assignments
01/13-01/17	Chapter 1. Matter, Energy and Measurement	Page 1-12
01/21-01/24	Chapter 1. Matter, Energy and Measurement Chapter 2. Atoms	Page 12-23 Page 27-39
Homework for Chapter 1 is due by 01/24 at 11:59 pm.		
01/27-01/31	Chapter 2. Atoms	Page 39-51
02/3-02/7	Chapter 2. Atoms Chapter 3. Chemical Bonds	Page 51-56 Page 58-64
Homework for Chapter 2 is due by 02/7 at 11:59 pm.		

02/10	Exam 1: (Chapters 1-2)	
02/11-02/14	Chapter 3. Chemical Bonds	Page 65-77
02/17-02/21	Chapter 3. Chemical Bonds Chapter 4. Chemical Reactions	Page 77-89 Page 91-99
Homework for Chapter 3 is due by 02/21 at 11:59 pm.		
02/24-02/28	Chapter 4. Chemical Reactions	Page 99-116
03/3-03/7	Chapter 4. Chemical Reactions	Page 99-116
Homework for Chapter 4 is due by 03/7 at 11:59 pm.		
03/10-03/14	Spring break	
03/17	Exam 2: (Chapters 3-4)	
03/18-03/21	Chapter 5. Gases, Liquids, and Solids	Page 117-123
03/24-03/28	Chapter 5. Gases, Liquids, and Solids Chapter 6. Solutions and Colloids	Page 123-145 Page 147-164
Homework for Chapter 5 is due by 03/28 at 11:59 pm.		
03/31-04/4	Chapter 6. Solutions and Colloids	Page 164-173
Homework for Chapter 6 is due by 04/4 at 11:59 pm.		
04/7-04/11	Chapter 7. Reaction Rates and Chemical Equilibrium	Page 175-185
04/14	Exam 3: (Chapters 5-6)	
04/15-04/18	Chapter 7. Reaction Rates and Chemical Equilibrium	Page 175-185
04/21-04/25	Chapter 7. Reaction Rates and Chemical Equilibrium Chapter 8. Acids and Bases	Page 185-198 Page 200-211
Homework for Chapter 7 is due by 04/25 at 11:59 pm.		
04/28-05/1	Chapter 8. Acids and Bases	Page 212-230
Homework for Chapter 8 is due by 05/1 at 11:59 pm.		
05/2	Exam 4: (Chapters 7-8)	
05/5	Final comprehensive exam (Chapters 1-8)	

If you want to make a good grade for this class, you can use the following problems, which are in the back of each chapter, to practice. The more problems that you work, the better prepared you will be for exams.

Chapter 1:	16, 17, 18, 25, 26, 27, 28, 29, 32, 36, 37, 38, 39, 43, 53, 55, 56, 58, 60, 74.
Chapter 2:	10, 15, 16, 18, 22, 24, 25, 26, 28, 29, 30, 35, 46, 48, 51, 52 53, 54, 64, 66.
Chapter 3:	18, 21, 23, 24, 28, 32, 34, 35, 38, 39, 42, 50, 52, 53, 75.
Chapter 4:	18, 21, 22, 24, 29, 30, 31, 38, 39, 42, 43, 45, 46, 55, 56, 59, 70, 71.
Chapter 5:	18, 20, 23, 32, 37, 38, 39, 46, 58, 62, 64, 96.
Chapter 6:	17, 18, 24, 25, 28, 35, 37, 40, 44, 48, 51, 52, 59, 60, 67, 69, 75,76.
Chapter 7:	10, 16, 19, 25,26,27,28, 30, 31, 37, 38.
Chapter 8:	14, 16, 19, 20, 22, 26, 30, 33, 37, 56.

Note: The syllabus/schedule are subject to change.

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements.

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Zoom Requirements:

<https://support.zoom.us/hc/en-us/articles/201362023-Zoom-system-requirements-Windows-macOS-Linux>

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These

methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here: <https://community.brightspace.com/support/s/contactsupport>

Interaction with Instructor Statement

Communication: If the instructor needs to contact an individual student, it will be via the student's Texas A&M –Commerce email account.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Attendance Policy: All students are expected to attend classes 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 the **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 class. **Excessive absence is defined as missing more than 10% of the class 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.R0.001, 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 document, an excusable reason allowed by the TAMU-Commerce Procedure **13.99.99.R0.001**. Good class attendance will be necessary in order to pass this course.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#) .

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:

<https://www.britannica.com/topic/netiquette>

TAMUC Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

[Undergraduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

[Graduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf>

<http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf>

Students with Disabilities— ADA Statement

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

Velma K. Waters Library Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Nondiscrimination Notice

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 Statement

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 the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

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.

A&M-Commerce Supports Students' Mental Health

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

AI Use Policy

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty

13.99.99.R0.10 Graduate Student Academic Dishonesty