TEXAS A&M UNIVERSITY COMMERCE

CHEM 1312 General and Quantitative Chemistry II
COURSE SYLLABUS: SPRING 2024

INSTRUCTOR INFORMATION

Instructor: Mrs. Qianying Zhang (Joy)
Office Location: Science 336
Office Hours: MTWR 3:00-4:00 pm
Office Phone: 903-468-8140
University Email Address: Qianying.Zhang@ tamuc.edu

COURSE INFORMATION

Section 02E: MWF 1:00-1:50 pm   Room: STC122

Textbook: Burdge et al.: Chemistry: Atoms First, 4th Ed. (McGraw Hill) - ALEKS 360

Reference book: *General Chemistry*, 9th or 10th Edition, Ebbing, Gammon, Brooks/Cole Cengage learning.

Non-programmable Calculator (bring to class)

COURSE DESCRIPTION

General and Quantitative Chemistry II. 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 laboratory science credits.

This is the second part of a two-course sequence of general chemistry. The course is designed primarily for the students majoring in sciences or in pre-professional programs. By the end of the course you will be familiar with a range of fundamental chemistry topics including chemical reaction rates, chemical equilibrium, acid-base chemistry, solubility, thermodynamics, electrochemistry, nuclear chemistry, organic chemistry, inorganic chemistry and biochemistry. Chemists deal with these subject areas every day, but these concepts are also crucially important to other branches of science and technology.

Prerequisite: The student must have completed Math 1314 or be concurrently enrolled in math 142 or other higher level courses in mathematics. Students who had adequate

high school preparation in mathematics or were exempted from Math 1341 will be allowed to enroll with the instructor's consent. Concurrent enrollment of Math 1341 with CHEM 1312 generally is not encouraged. Students who are currently enrolled in math remediation courses such as PJCM 300, PJCM 306, or Math 131 will not be eligible for enrollment in CHEM 1312.

Student Learning Outcomes

1. Students will be able to analyze, evaluate, or solve problems when given a set of circumstances or data. Such as use LeChatelier's Principle to predict the effects of concentration, pressure and temperature changes on equilibrium mixtures.
2. Student communication will be clear, purposeful, and make appropriate use of evidence, data and technology as applicable. Such as show the detail procedure how to solve the equilibrium problems.
3. Students will be able understand and utilize mathematical functions and empirical principles and processes. Such as use the Henderson-Hasselbalch equation to find the PH for the buffer solution.
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.

COURSE REQUIREMENTS

Student Responsibilities or Tips for Success in the Course

Pointers to Succeed in CHEM 1312:
1. 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 online ALEKS homework to practice the concepts you learned in lecture_. The more problems that you work the better prepared you will be for exams.

3. _Review the class notes after each class._ Write down the questions you have and ask the instructor in her office hour or make an appointment with her. Or you may get help from LAs and tutors in the Jamp room.

GRADING

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

A = 86%-100%
B = 73%-85%

C = 60%-72%

D = 45%-59%

F = 45% or Below

The grade for this course will be derived as follows:

      Four examinations 80 %

      Final Exam   20 %

      ALEKS online homework   20% (You can use it to replace your lowest exam grade or replace final exam)

Late work will not be accepted, and makeup quizzes or exams will not be given. If you miss one exam, for whatever reason, 20% of the missed exam will be distributed to other three exams, which makes the other three exam each 26.7% of course grade instead of 20% of the course grade. If you miss more than two exams, for whatever reason, you will receive F for your grade. 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 ≥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.**

The last drop date for the course please sees the website:
http://www.tamuc.edu/Admissions/registrar/academiccalendars/

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.

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/studentDisabilityResourcesAndServ
ices/

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/rulesProcedur
es/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 in course [Draft 2, May 25, 2023]

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

COURSE OUTLINE / CALENDAR

The lecture will be taught in the order of the chapters in reference book: *General Chemistry*, 9th or 10th Edition, Ebbing, Gammon, Brooks/Cole Cengage learning.

Week Starting	Chapter	Topics
1/10-1/19	Syllabus/Chapter 12	Solutions
1/22-1/26	Chapter 12	Solutions
1/29-2/2	Chapter 13	Rates of Reaction
2/5-2/9	Chapters 13/14	Rates of Reaction/Chemical Equilibrium
2/12-2/16	Chapter 14	Chemical Equilibrium/ **Exam 1 (Charpter12-14)**
2/19-2/23	Chapter 15	Acids and Bases
2/26-3/1	Chapter 16	Acid-Base Equilibria
3/4-3/8	Chapters 16/17	Acid-Base Equilibria/Solubility and Complex-Ion Equilibria
3/11-3/15		**Spring Break-no class**
3/18-3/22	Chapter 17	Solubility and Complex-Ion Equilibria / **Exam 2 (Charpter15-17)**
3/25-3/29	Chapter 18	Thermodynamics and Equilibrium
4/1-4/5	Chapters 18/19	Thermodynamics and Equilibrium/Electrochemistry
4/8-4/12	Chapter 19	Electrochemistry
4/15-4/19	Chapter 20/Exam 3	Nuclear Chemistry / **Exam 3 (Charpter18-19)**
4/22-4/26	Chapter 23	Organic Chemistry
4/29		**Exam 4 (Charpter20-23)**
5/1-5/3	Studying day	

5/6-5/10	**Final ACS Examination**	**Covers chapters 12-23**

Chemistry: Atoms First, 4th Ed. (McGraw Hill)	*General Chemistry*, 9th or 10th Edition, Ebbing, Gammon, Brooks/Cole Cengage learning.
Chapter 13 Physical properties of solutions	Chapter 12 Solution
Chapter 14 Chemical Kinetics	Chapter 13 Rates of Reaction
Chapter 16 Chemical Equilibrium	Chapter 14 Chemical Equilibrium
Chapter 17 Acids, Bases and Salts	Chapter 15 Acids and Bases
Chapter 18 Acid-Base Equilibria and Solubility Equilibria	Chapter 16 Acid-Base Equilibria
Chapter 18 Acid-Base Equilibria and Solubility Equilibria	Chapter 17 Solubility and Complex-Ion Equilibria
Chapter 15 Entropy and Gibbs Energy	Chapter 18 Thermodynamics and Equilibrium
Chapter 19 Electrochemistry	Chapter 19 Electrochemistry
Chapter 23 Organic Chemistry	Chapter 23 Organic Chemistry
Chapter 20 Nuclear Chemistry	Chapter 20 Nuclear Chemistry

Note: The syllabus/schedule are subject to change.