



TEXAS A&M UNIVERSITY  
**COMMERCE**

**CHEM 1305 Survey of General Chemistry**  
COURSE SYLLABUS: SPRING 2024

**INSTRUCTOR INFORMATION**

**Instructor:** Olga Savina

**Office Location:** Science 344

**Office Hours:** TBA later

**Office Phone:** 903-468-8765

**University Email Address:** [Olga.Savina@tamuc.edu](mailto:Olga.Savina@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 1305.01E** section, when they send the emails to the instructor so the instructor can easily identify your email.

The instructor will try to respond to the student's email within 24 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.

**COURSE INFORMATION**

Section 01E meets 1/10/2024 through 5/10/2024

Tue, Thurs 3:30-4:45 pm Room: STC123

**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**

This is a one-semester course that covers the fundamentals of chemistry, including basic physical principles and descriptive chemistry of metals 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, the microscopic and macroscopic properties of solutions, solids, liquids, and gases, 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 courses.

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

### **Student Learning Outcomes**

- Exam questions will be developed to evaluate a student's critical thinking skills. The students in the course will be required to analyze, evaluate, or solve problems when given a set of circumstances or
- Exam questions will be developed to evaluate a student's ability to understand and utilize mathematical functions and empirical principles.
- Student communication in the class will be clear, purposeful, and make appropriate use of evidence, data, and technology. Students will be able to engage with peers in a way that demonstrates their understanding of relevant course theories and concepts.
- At the completion of the course, students will understand the scientific method, the basic structure of the atom, the microscopic and macroscopic properties of solutions, solids, liquids, and gases, basic nuclear chemistry, and the utilization of basic mathematical 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).

#### **Instructional Method:**

The course is mainly lecture-oriented and 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. **You are expected to read chapters from the textbook and allot adequate time to study the material on your own. If you miss a lecture, you are still responsible for that day's material. Read the chapter, get notes from someone in class, and see the instructor for any clarification. If you have difficulty with the material, feel free to see the instructor as soon as you can for advice on how best to improve your understanding of the material.**

#### **Pointers to Succeed in CHEM 1305:**

1. The lectures in this course will cover Chapters 1–9 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 through the problems will help you succeed in the course. The more problems you solve, the better prepared you will be for exams.
3. Finish your homework promptly. Working through the problems will help you succeed in the course. The more problems you solve, the better prepared you will be for exams. The due dates for the HW assignments will be communicated in class and/or D2L.
4. It is assumed that a good student will be able to work through all the problems in the textbook for each chapter. It is not a good idea to try to memorize solutions to problems, 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. If your explanations do not make sense to your classmate, then they probably will not make sense to the exam grader.
5. Review the lecture notes after each chapter. Write down the questions you have and ask the instructor during office hours 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 – 60% (15% x 4)

Homework and quizzes – 15%

Critical Thinking Project – 5%

Final exam – 15%

Attendance – 5%

**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 1-9.

**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.**

**The syllabus/schedule are subject to change.**

**Students should not attend class when ill or after exposure to anyone with a communicable illness. Communicate such instances directly with your instructor. Faculty will work to support the student getting access to missed content or completing missed assignment.**

**COURSE OUTLINE / CALENDAR**  
**Tentative Class Schedule**

| <b>Week</b> | <b>Date</b>              | <b>Topics</b>   | <b>Reading assignments</b>       |
|-------------|--------------------------|---|----------------------------------|
| 1           | 01/11                    | Syllabus<br>Chapter 1. Matter, Energy and Measurement                               | Page 1-12                        |
| 2           | 01/16 - 01/18            | Chapter 1. Matter, Energy and Measurement<br>Chapter 2. Atoms                       | Page 12-23<br>Page 27-39         |
| 3           | 01/23 – 01/25            | Chapter 2. Atoms  | Page 39-56                       |
| 4           | 01/30<br><b>02/01</b>    | Chapter 3. Chemical Bonds<br><b>Exam 1: (Chapters 1-2)</b>                          | Page 65-77                       |
| 5           | 02/06 – 02/08            | Chapter 3. Chemical Bonds<br>Chapter 4. Chemical Reactions                          | Page 77-89<br>Page 91-99         |
| 6           | 02/13 – 02/15            | Chapter 4. Chemical Reactions   | Page 99-116                      |
| 7           | 02/20<br><b>02/22</b>    | Chapter 5. Gases, Liquids, and Solids<br><b>Exam 2: (Chapters 3-4)</b>              | Page 117-123                     |
| 8           | 02/27 – 02/29            | Chapter 5: Gases, Liquids, Solids   | Page 123-145                     |
| 9           | 03/05 – 03/07            | Chapter 6. Solutions and Colloids   | Page 147-164                     |
| 10          | 02/12 – 03/ 14           | <b>Spring Break</b>   |                                  |
| 11          | 03/19 – 03/21            | Chapter 6. Solutions and Colloids   | Page 164 - 173                   |
| 12          | 03/26<br>03/28           | Chapter 7. Reaction Rates and Chemical Equilibrium<br><b>Exam 3: (Chapters 5-6)</b> | Page 175 - 185                   |
| 13          | 04/02 – 04/04            | Chapter 7. Reaction Rates and Chemical Equilibrium<br>Chapter 8. Acids and Bases    | Page 175 - 185<br>Page 200 - 211 |
| 14          | 04/09 – 04/11            | Chapter 8. Acids and Bases  | Page 212 – 230                   |
| 15          | 04/16 – 04/18            | Chapter 8. Acids and Bases  | Page 212 – 230                   |
| 16          | 04/23<br><b>04/25</b>    | Chapter 9. Nuclear Chemistry<br><b>Exam 4: (Chapters 7-8)</b>                       | Page 233 - 259                   |
| 17          | 04/30                    | Review  |                                  |
|             | <b>05/01 – 05/03</b>     | <b>Study Days – No Classes</b>  |                                  |
|             | <b>05/09<br/>1:15 pm</b> | <b>Final comprehensive exam (Chapters 1-9)</b>                                      |                                  |

**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.   |
| Chapter 9: | 8, 10, 12, 14, 15, 21, 22, 25, 28, 31, 39, 40, 53                               |

## **TECHNOLOGY REQUIREMENTS**

### **LMS – myLeo Online – D2L Brightspace**

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

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

## **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](mailto: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 e-mail account. Students should check e-mail frequently.

### **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/studentGuid\\_ebook.aspx](http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuid_ebook.aspx)

Students should also consult the Rules of Netiquette for more information regarding

how to interact with students in an online forum: [Netiquette](http://www.albion.com/netiquette/corerules.html)  
<http://www.albion.com/netiquette/corerules.html>

### **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](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>  
[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

### **ADA Statement 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

Email: [studentdisabilityservices@tamuc.edu](mailto: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](http://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