



## CHEM 1112 GENERAL CHEMISTRY LABORATORY II

**Course Chemistry 1112** laboratory sections meet:

Section 01L: T 2:00 –5:50 pm, STC310

Section 03L: R 2:00 –5:50 pm, STC310

### INSTRUCTOR INFORMATION

**Instructor: Dr. Ben Jang**

**Office Location: Science #335**

**Office Hours: MW 9-10am & TW 3:00-4:30pm**

**Office Phone: 903-886-5383**

**University Email Address: ben.jang@tamuc.edu**

### COURSE INFORMATION

#### Text/Manual and other required material

- **Custom Laboratory Manual:** *Laboratory Experiments- General Chemistry II*, 11<sup>th</sup> Edition, by Wentworth | Munk, ISBN: 978-1-337-90771-2 (Available in the bookstore)
- **A pair of safety goggles and a combination lock. You must bring a lock to your first laboratory meeting**
- **Appropriate lab attire** (long pants without holes, no open-toed shoes, long hair tied back, no sleeveless shirts)
- **Calculator**
- **Lab coat** (optional)

#### Course Description

Introduction to methods and techniques of chemical experimentation using quantitative and semi-quantitative procedures to explore problems in chemistry. Prerequisites: Chem 1311 with a minimum grade of C, Chem 101 with a minimum grade of C and Chem 1111 with a minimum grade of C. Corequisites: Chem 102, Chem 1312.

#### Student Learning Outcomes

- (1) Students will be able to apply knowledge and skills to safely operate lab equipment and handle, utilize and dispose of chemicals and properly organize and return equipment at the end of experiments.
- (2) Students will be able to apply knowledge and skills to obtain accurate data needed to complete the experiments.
- (3) Students will be able to use chemical theories and principles to interpret and discuss data to draw sensible conclusions.
- (4) Students will be able to apply the conclusions drawn from experiments to strengthen the concepts learned from lectures.
- (5) Students will be able to work cooperatively with your team members to obtain data and complete lab reports.

## COURSE REQUIREMENTS

### Instructional Methods

You must perform the laboratory experiments and write down what you observe and measure during the time of the experiment. The observations section of the report must be the original notes taken during the course of the experiment (take detailed, legible notes during the experiment). No photocopied reports will be accepted.

### Course Specific Procedures

The following are directions for preparing for the laboratory experiments. It is essential that you read these rules carefully and understand what is expected.

- It is essential to read the background information of the experiment and its procedure before coming to labs.
- Performing lab experiments without pre-lab report is not allowed.
- Labs cannot be done without safety glasses and gloves.
- Late arrival (more than 20 minutes) will result in forfeiting of the grade for that lab.
- There will be 12 labs assigned with written lab reports (Prelab, Data and Post lab questions). **A minimum of 11 labs must be completed (with report) to pass the class.** Only initialized data sheet will be accepted.
- You are required to submit Post Lab Report in a timely manner. For example, for Tuesday lab sections, the reports are due on Tuesday, a week after the labs.
- You will incur a 10% penalty for every day that your lab report is late; thus, if a lab report is more than 10 days late, you will receive a zero for that report.
- There will be absolutely no make-ups for laboratory experiments. If you miss a laboratory experiment that will be your dropped laboratory report. If you miss more than one laboratory experiment, you will be assigned a grade of zero for that assignment. **It is the student's responsibility to inform the instructor of his/her absence before class starts.**
- No phones are allowed.

### Lab Cleanliness

You will be expected to maintain a clean and orderly lab. At the end of every experiment, your bench space and hood space must be cleaned. Any equipment utilized during the experiment must be cleaned as well (balances, rotovaps, etc.). You should ensure that the sinks and floors are also clean. If the lab space and equipment that you utilized during the experiment is left dirty and unorganized, you will be penalized 20% on your lab report.

## GRADING

### Methods of Student Evaluation and Grading Scale

Lab quizzes will be given after each lab introduction. Students who do not pass the quiz are not allowed to participate in labs. The lowest lab performance will be dropped. The average of the grade for the rest of the eleven laboratories plus the final exam will constitute the course grade.

Pre-lab	25%
Lab techniques/team work/safety/ Post-lab	65%
Final Exam	10%
Total	100%

**Grading will be based on a standard percentage scale: 100-90 = A; 89.4-80 = B; 79.4-70 = C; 69.4-60 = D; 59.4-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 above 70% and is precluded from completion of the course by a documented illness or family crisis.

## 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](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](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>

## ***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/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf>

[Graduate Student Academic Dishonesty Form](#)

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

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

**Tentative Laboratory Calendar**

<b>Week</b>	<b>Experiment</b>
1	Syllabus; Safety lecture & quiz; Check in equipment
2	Experiment 1: Softening Hard Water
3	Experiment 2: A Molar Mass from Freezing Point
4	Experiment 3: The Rate of an Iodine Clock Reaction
5	Experiment 4: The Le Chatelier's Principle
6	Experiment 5: Determination of an Equilibrium Constant
7	Experiment 6: The Relative Strength of Some Acids
8	Experiment 7: Equilibria with Weak Acids and Weak Bases
9	Experiment 8: An Acid-Base Titration Curve
10	Experiment 9: A Solubility Product Constant
11	Experiment 10: Qualitative Analysis of $\text{Ag}^+$ , $\text{Cu}^{2+}$ , $\text{Zn}^{2+}$ , and $\text{Ca}^{2+}$ ions
12	Experiment 11: Spontaneity
13	Experiment 12: Oxidation-Reduction Reactions
14	Final Exam & Laboratory Check-Out. Return Equipment to Stockroom