

Chemistry 1211L

Principles of Chemistry II Lab - Honors

Fall 2018



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 and by appointment

Course Information

Class: Chem 1211L Section 25H (CRN 80404 - 1 credit hour)
Meeting Time: Wednesday 3:30 pm – 5:20 pm
Room: TLC 3108

Course Description

This laboratory course is designed to complement the material covered in Chem 1211 and is a co-requisite of that course. A series of experiments treat basic measurement techniques and fundamental principles of matter, heat, and reactivity.

Required Materials

1. A scientific calculator to perform calculations while in the lab.
2. A bound composition notebook and a non-erasable, black or blue ink pen to record data and observations.
3. This course will employ the MeasureNet system to acquire data in some of our labs. You will need to log in to www.measurenet.net to access your data.
(Username = UWG email; Password = First Name with first letter capitalized)

Learning Outcomes

1. Students will perform measurements commonly employed in chemistry laboratories to accurately determine quantitative chemical information.
2. Students will explain experimental results in terms of fundamental principles of atomic/molecular structure, chemical reactivity, and thermodynamics.
3. Students will operate cooperatively to solve laboratory challenges through the application of practical, creative, and critical thinking skills.
4. Students will communicate results and conclusions in a written format.
5. Students will demonstrate good laboratory technique, safe lab conduct, and cooperation with other students.

Course Assessment

Pre-Lab Questions (10%)

To help you prepare ahead of time for each lab, a set of pre-lab questions will be made available as a 'quiz' on CourseDen and will be due at the beginning of the corresponding lab period. A maximum of two attempts will be allowed for each quiz.

Laboratory Conduct (10%)

You are responsible for working in a safe, timely manner to complete your experiment in the allotted time. After completion of an experiment, make sure to clean up the lab space, clean and store glassware, and unplug hotplates. Failure to follow safety protocols, complete your experiment on time, or properly clean your lab space will result in a deduction from your Lab Conduct grade.

Notebook (10%)

Keeping detailed, accurate, and organized records is critical for all scientific professions. To practice this skill, you will keep a laboratory notebook that contains your observations, measurements, and experimental details (i.e. what you actually did). All notes are to be made in **non-erasable, blue or black ink** and kept in a **bound composition book**. Errors should be crossed out with a single horizontal line. **Prior to lab** you should write a short outline of your procedure. **During lab** you should write down any important observations (e.g. sketches of equipment setups, color changes, masses of reactants or products). **After lab** you should reference your lab notes to back up your written claims with observations.

Lab Reports (60%)

Following each lab, you will be required to complete a written lab report. A worksheet will be provided for each lab that includes the required material for your report. An **electronic copy** of your report must be submitted via the **CourseDen Dropbox** before the start of the next lab period. *It is your responsibility to ensure your file can be opened and all images can be viewed.* One separately completed report **per individual** is required. Reports need to be typed (**no photos of writing**). Reports will be graded for proper formatting and content, scientifically accurate and clear discussion, and correct use of *Standard English*. Reports *will not be graded for the accuracy of measurements* unless a specific exception is made in the assignment.

Practical Exam (10%)

A practical exam will be given on the last day of class. This exam will test the ability of students to answer questions and perform techniques used over the course of the semester. Students will be able to use a **non-graphing calculator** and their **laboratory notebook**. Other notes, handouts, reference materials, or electronic devices will not be allowed.

Grading Scale

A	90 – 100
B	80 – 89
C	70 – 79
D	60 – 69
F	0 – 59

Course Policies and Information

Extra-Credit Policy

No extra credit is accepted for this course.

Late Assignments

Lab reports for each experiment are due at the beginning of the following scheduled lab meeting time. Late lab reports will receive a **10% deduction per day late**. For example, a lab report due at 9:00 am on Wednesday and turned in at 10:00 am on Thursday will receive a 20% deduction.

Make-up Policy

Laboratory attendance is mandatory. If a student fails to attend a lab or is removed from the lab due to a safety violation, the student will receive a zero for any grades and assignments associated with that lab. If an emergency forces a student to miss that day's lab, the lab grade will be waived **only if official documentation is presented**. A maximum of **one exemption total** will be allowed. **No make-up labs will be given.**

Student Conduct

Students are obligated to abide by the conduct guidelines in the university catalog. Respect and courtesy of all students while in the classroom is required. The following are also mandatory:

1. Experiments in the chemistry laboratory routinely employ hazardous materials and equipment. Proper dress and personal protective equipment are required to participate in a lab. **Failure to follow safe laboratory conduct or observe dress code will result in expulsion from that day's lab and a zero on you lab report and associated notebook and conduct grades.**
2. We will discuss the experiment and associated hazards at the beginning of each lab, so it is important to be on time. **Arrival after the conclusion of the pre-lab lecture constitutes a safety hazard and you will not be allowed to perform that day's lab and receive a zero on that lab report and associated notebook and conduct grades.**
3. This classroom space is used by multiple classes, so it is imperative to the safety of other students that **all stations are thoroughly cleaned** after the completion of that day's experiments. Failure to do so will result in a grade reduction for that lab.

Academic Honesty

'Sharing' lab assignments or material therein between students is plagiarism. Such 'sharing' can include, but is not limited to, copying any part from another assignment (i.e. **yours or another student's**) with no or minimal change. *I suggest writing independently to avoid accidental plagiarism.* **Manipulation of data** is a gross ethical violation and is expressly forbidden. **Instances of plagiarism or data manipulation will result in a '0' for that report and possible additional action per University regulations on Academic Dishonesty.**

Any form of academic dishonesty—including but not limited to cheating or plagiarism—will result in a failing grade on the relevant assignment as well as possible additional action. Please be familiar with the definitions of academic dishonesty and plagiarism as laid out in the Student Handbook, which can be found at the link: <http://www.westga.edu/handbook/>

Disabilities Act / Accessibility for the Course

If you are a student with a disability as defined under the Americans with Disabilities Act and require assistance or support services, please notify me and provide me with a copy of your packet from Student Services. The university will provide you with resources for any audio/visual needs that you may have with the learning management system or course content.

It is critical that you contact UWG Accessibility Services immediately to find out what accommodations are necessary so we can work together to facilitate your success in this class. Please consult the UWG Accessibility Services site <http://www.westga.edu/accessibility> or call (678) 839-6428 for more details regarding accessibility for this course.

University Policies and Academic Support

Please review the Common Language for all university course syllabi at the address: https://www.westga.edu/administration/vpaa/assets/docs/faculty-resources/common_language_for_course_syllabi_v2.pdf

This document contains important information regarding Academic Support, Online Courses, Honor Code, Email Policy, Credit Hour Policy, and HB 280 (Campus Carry).

Note on Syllabus Modifications

I reserve the right to modify this syllabus at any time during the course of the term, particularly with regards to course schedule. Students will be notified of all syllabus modifications. In a case where a substantial modification is required, I will reissue a revised syllabus.

Tentative Schedule

August 15	No Lab
August 22	Orientation, Safety, MeasureNet
August 29	Lab 1 - Basic Measurements
September 5	No Lab
September 12	Lab 2 - Emission Analysis/Density
September 19	Lab 3 - Lewis Structures and Resonance
September 26	Lab 4 - Molecular Modeling
October 3	No Lab
October 10	Lab 5 - Thermal Gravimetric Analysis
October 17	Lab 6 - Separation of a Mixture
October 24	Lab 7 - Stoichiometry I
October 31	Lab 8 - Stoichiometry II Limiting Reactants
November 7	Lab 9 - Aqueous Chemistry
November 14	Lab 10 - Behavior of Gases
November 21	No Lab
November 28	Lab 11 - Calorimetry
December 5	Lab Final