

Chemistry 1212L

Principles of Chemistry II Lab - Honors

Spring 2019



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**and by appointment

Course Information

Class: Chem 1212L Section 25H (CRN 10215 - 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 1212 and is a co-requisite of that course. A series of experiments treat the fundamental behavior of gases, liquids, solids, and solutions including their thermodynamics, kinetics, and equilibria.

Required Materials:

A bound composition notebook
A non-erasable, black or blue ink pen
A calculator capable of performing logarithms
Access to the MeasureNet system to acquire data.

Log in to www.measurenet.net to access your data (log in info resets each semester!)
Default Username: your westga e-mail address
Default Password: your first name with the first letter capitalized

Learning Outcomes

1. Students will apply principles of thermodynamics, kinetics, and equilibria to describe observed behavior of gases, liquids, solids, and solutions
2. Students will operate cooperatively to solve laboratory challenges through the application of practical, creative, and critical thinking skills.
3. Students will apply Microsoft Excel to analyze chemical data.
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 and will help you tremendously when writing your lab report. 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 (70%)

Following each lab, you will be required to complete a written lab report. A worksheet will be provided for each lab that includes a guide for working up your lab data using Excel and an outline of required material for your report. An **electronic copy** of your report along with any corresponding Excel files 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 are 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.

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

January 9	No Class
January 16	Using Excel in the Chemistry Lab
January 23	No Class
January 30	Lab 12 - Enthalpy of Vaporization
February 6	Lab 13 - Freezing Point Depression
February 13	Lab 14 - Kinetics I
February 20	Lab 15 - Kinetics II
February 27	Lab 16 - Chemical Equilibrium
March 6	Lab 17 - pH Measurements
March 13	Lab 18 - Buffers
March 20	No Class
March 27	Lab 19 - Titrations
April 3	Lab 20 - Qualitative Analysis
April 10	Lab 20 - Qualitative Analysis Continued
April 17	Lab 21 - Reaction Enthalpy
April 24	Lab 22 - Reaction Entropy