



**Chemistry 1212 L (Fall 2019)
Co-requisite CHEM 1212**

General Information

Instructor	Dr. Douglas Stuart Phone: (678) 839 - 6022 Office: TLC 2-125 (2 nd Floor, Department of Chemistry) email: dstuart@westga.edu
Office Hours	MWF 10:00– 11:00 am Additional office hours, by appointment
Overview	This laboratory course is designed to complement CHEM 1212. A series of experiments are based on the fundamental behavior of gases, liquids, solids, and solutions and their thermodynamics, kinetics, and equilibria.
Materials	A bound composition notebook and a non-erasable, black or blue ink pen to record data and observations. The MeasureNet software will be used to acquire the data in some of the labs. You will need to log in to www.measurenet.net to access your data.
Class time	Thursday 1:00-2:50 p.m.
Attendance	Attendance is required. If a student misses <u>more than two</u> laboratories, he or she may be awarded a grade of F for the course.

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; and
5. Students will demonstrate good laboratory technique, safe laboratory conduct, and cooperation with other students.

Course Assessment

Pre-Laboratory Work (10%)

The laboratories will require preparation and careful work to complete in the allotted time. ~~Please read all laboratory material before coming to laboratory.~~ The laboratory material will be posted on CourseDen. It is important that you understand the theory and procedure of the experiment. **PRIOR to each laboratory session, please turn in as typed a paper copy of a short summary of the experiments you will perform.**

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, please make sure to clean up the laboratory space, clean and store glassware, and unplug hotplates. Failure to follow safety protocols, complete your experiment on time, or properly clean your laboratory space will result in a deduction from your Laboratory Conduct grade.

Laboratory Notebook (10%)

Keeping a detailed, accurate, and organized records is critical for all scientific professions and will help you tremendously when writing your laboratory report. To practice this skill, please 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.

Lab Reports (80%)

Following each laboratory, you will be required to complete an associated laboratory report wherein you will analyze and summarize your findings. One separately completed report **per individual** is required. Reports are to be typed (**no photos of writing**) **should be submitted to the instructor or TAs**. Please follow formatting guidelines, and include all information requested. Reports will be graded for proper formatting and content, scientifically accurate and clear discussion, and correct use of *Standard English*. Please note: Each report will be graded out of 100 points. Labs will be turned in to a **Dropbox** that will be created for each assignment on CourseDen. Each lab is due one week after completing the lab. Any lab turned in after the start of class will be considered late.

Late reports will incur a penalty of 10 points for each day late. I will not accept reports that are more than 7 days late. These can be turned in via DropBox.

Letter grades

Score	Grade
90% - 100%	A
80% - 89%	B
60% - 79%	C
50% - 59%	D
0% - 49%	F

Course Policies

Extra-Credit Policy

No extra credit opportunities are available for this course.

Make-up Policy

Laboratory attendance is mandatory. If a student fails to attend a laboratory session or is removed from the laboratory due to a safety violation, the student will receive a zero for any grades and assignments associated with that laboratory. If an emergency forces a student to miss that day's laboratory, the laboratory grade will be replaced the average of all laboratory grades, **only if official documentation is presented**. A maximum of **one exemption** will be allowed. **No make-up laboratories 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 laboratory and a zero on your laboratory report and associated notebook and conduct grades.**
2. We will discuss the experiment and associated hazards at the beginning of each laboratory, so it is important to be on time. **Arrival after the conclusion of the pre-laboratory lecture constitutes a safety hazard and you will not be allowed to perform that day's laboratory and receive a zero on that laboratory 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 laboratory.

Academic Honesty

‘Sharing’ laboratory 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. **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.**

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Occurrences of cheating are rare. However, cheating by one individual raises questions about fairness for the rest of the class, and indeed, endangers the honor code that governs our examination system. It is after considerable thought and agonizing that I have arrived at the following formula. If an individual cheats on a report for the first time, he/she will obtain a score of zero for that particular report. If an individual is caught cheating a second time during the semester, he/she will receive a grade of F for the entire course.

What Counts as Plagiarism?

This course is one in which you will be working with a lab partner. To be clear, this does **not** mean that your lab reports are group reports. They are instead individual reports. What this means is that all of the following are examples of things that would be included as plagiarism:

- Dividing the lab in half and each person doing half of the assignment and then putting the halves together to create the final report.
- Having one person create all of the graphs and tables and send them to other group members for them to use
- Getting a copy of the lab from someone else and changing a few words and sentences so as to try and make it “different enough.”
- Getting a copy of the calculations from someone else even though you did the rest of the lab yourself.

Overall what this means is that you are supposed to do the write up portion of the lab ***on your own***. No part of the lab should be a copy from someone else. However, you will be doing the labs together. This means that the actual *data* will be the same but **no** part of the lab write up should be copied from someone else (including copying someone but changing a few words).

In addition, copying other sources is also plagiarism.

Note on Syllabus Modifications

I reserve the prerogative 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.

University Policies

Please refer to the following for academic support, the honor code, email policy, credit hour policy and HB 280 (Campus Carry Policy):

<https://www.westga.edu/administration/vpaa/common-language-course-syllabi.php>

1212 Lab Schedule – Fall 2019

Mon	Tues	Wed	Thur Stuart, Khan	Fri
August 12	13	14	15 NO LAB	16
August 19	20	21	22 Syllabus, Safety, MeasureNet Using Excel	23
August 26	27	28	29 Lab 12 – Clausius-Clapeyron	30
September 2 LABOR DAY	3	4	5 Lab 13 – Freezing Point Depression	6
September 9	10	11	12 Lab 14 – Kinetics (Clock Reaction)	13
September 16	17	18	19 Lab 15 – Kinetics II (Colorimeter)	20
September 23	24	25	26 Lab 16 - Equilibrium	27

September 30	October 1	2	<div style="border: 1px solid black; padding: 5px; display: inline-block;">FALL BREAK</div>	3	4
October 7	8	Last Day W 9	Lab 17 – pH of Acids/Bases/Salts	10	11
October 14	15	16	Lab 18 - Buffers	17	18
October 21	22	23	Lab 19 - Titrations	24	25
October 28	29	30	Lab 20 – Qualitative Analysis	31	No ve mb er 1
November 4	5	6	Lab 20 – Qualitative Analysis	7	8
November 11	12	13	Lab 21 – Enthalpy of Hydration	14	15
November 18	19	20	Lab 22 – Reaction Entropy	21	22
November 25	26	27	THANKSGIVING HOLIDAY	28	29

December 2	3	4	5	Cl ass es En d 6
Lab Final (optional)				