

CHEM 1100L - INTRODUCTORY CHEMISTRY LAB
Summer 2020 - Online Summer 2020
Instructor: Dr. Anne Gaquere-Parker

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Office Hours: You can find me online from 1pm to 2pm on M, T, W, R, F. I am also available by appointment.

Course Material:

- Textbook: **No textbook**
- **Safety glasses** are required to be worn at all times.
- A list of materials easily **purchased from a local store** is compiled at the end of the syllabus. Obtain them as soon as possible.

Objectives: To apply the knowledge obtained in CHEM 1100 lecture to problem solving in the laboratory. To develop good laboratory techniques; work safely; take data carefully; record relevant observation; use time effectively; assess the efficiency of your experimental method; and study the effect of various parameters on chemical phenomena.

Tardiness / Missed Lab: Each lab has a specific deadline and it is important the students respect that deadline. Missing a deadline will result in a grade of zero for that part of the assignment. However, if you find yourself in a difficult position, please email the instructor prior to the deadline to request a one-day extension.

Before the lab: Read the lab sheet in its entirety, answer the pre lab quiz and gather all the materials needed.

During the lab: Wear your safety goggles. Record all data and observations. Take pictures as indicated in the procedure. After completion of the experiment, fill the lab data-sheets in a legible, tidy manner and

After the lab: Clean up the lab space, dispose of the chemicals and disposable tools, answer post lab quiz, copy and paste pictures of your work in one single document submitted in the assignment dropbox, and reflect on the lab on the discussion board.

Lab final proposal: Students will write a short statement (about 200 words) describing what their final project will be on, including the learning outcomes (what are the chemical concepts learned during the experiment), the list of materials, and the major steps needed to implement it. Ideas for projects will be shared with the students who can also create their own after approval by instructor.

Final Project: Students will implement the project designed with the approval of the

instructor following the steps stated in the proposal and submit the results as a PowerPoint presentation. If a student wishes to change topic after the proposal is submitted and approved, a new proposal has to be submitted and approved.

Grades

Experiment	Deadline (by 11.30pm)	Points	Notes
RTK*	T, June 2 nd	100	Photo of completion certificate
Lab 1: Safety	W, June 3 rd	100	Safety Quiz + photos
Lab 2: pH	F, June 5 th	100	Pre & post quizzes + photos
Lab 3: Osmosis	M, June 8 th	100	Pre & post quizzes + photos
Lab 4: Protein	W, June 10 th	100	Pre & post quizzes + photos
Lab final proposal	F, June 12 th	100	Written statement
Lab 5: DNA	M, June 15 th	100	Pre & post quizzes + photos
Lab 6: Half-life	W, June 17 th	100	Pre & post quizzes + photos
Lab 7: Conductivity	F, June 19 th	100	Pre & post quizzes + photos
Lab 8: Calorimetry	M, June 22 nd	200	Pre quiz + photos + summary
Reading Day	W, June 24 th	---	Nothing due
Lab final	Th, June 25 th	300	PowerPoint Presentation
Assessment	Th, June 25 th	100	Quiz graded for completion
TOTAL		1500	Course Grading Scale: A: above 1343; B from 1342 down to 1193; C from 1192 down to 1043; D: from 1042 down to 893; F: 892 and below.

Course Grading Scale:



*RTK: Right-To-Know Basic Awareness with the Global Harmonized System:

<https://www.usg.edu/facilities/rtk-ghs>

This program is designed to educate all USG employees on the importance and benefits of properly recognizing and safely working with hazardous materials and provides an introduction to the new Global Harmonized System requirements with an emphasis on new chemical labels and safety data sheets.

Please Note: CHEM 1100 (lecture class) is a pre- or co-requisite for this lab class, so it is assumed that basic chemical knowledge has been/is being acquired in the lecture. However,

a detailed theoretical introduction for each lab will remind every student of the chemistry behind the experiment. If you do have questions about any part of the lab, please let your instructor know as soon as possible.

Learning Outcomes

1. To understand topics covered in introductory chemistry. Attainment of this learning outcome will be reflected by the students' abilities to:
 - Follow written instructions to successfully complete laboratory assignments.
 - Complete laboratory reports, quizzes and projects as assigned by the instructor.
2. Demonstration of a working knowledge of topics covered in introductory chemistry by successfully completing laboratory assignments.

Academic Misconduct: Honesty in reporting results is one of the essential characteristics of your laboratory work. Little of your grade depends on getting "good" quantitative results. You will be more severely penalized for misrepresenting results than for honestly reporting "poor" results. You are supposed to write one report per person although you are welcome to work with another student to conduct the experiments.

Notes: 1. There are no bonus points to be earned in this class. If you complete all your work as required, you will be successful without needing bonus points.

2. If you find yourself in a difficult position, please email the instructor prior to the deadline to request a reasonable extension.

3. The photos submitted must demonstrate that the student performed the experiment. The simple gathering of materials is not an acceptable submission and will result in a grade of zero.

4. Please check the document you turned in is not corrupted, blank or the incorrect one. It is your duty as a student to ensure what you submit is the correct and complete assignment. Again, if you find yourself unable to submit the assignment by the deadline, do not place a space holder in the assignment dropbox in lieu of your work, just ask the instructor for an extension.

Common Language: For additional UWG policies, please follow this link:

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

UWG grants one semester hour of credit for work equivalent to a minimum of one hour of in-class or other direct faculty instruction AND two hours of student work outside of class per week for approximately fifteen weeks. Since this course is a short session, the weekly amount of work is adjusted to reflect this policy, so please do not fall behind.

Timelines: The class starts on June 1st and ends on June 25th. Reading Day is June 24th. The last day to withdraw with a W is June 11th. Students should expect graded feedback within 3 days of the posted due date. Emails will be answered within 24 hours during business days. I will check the course emails at least once over the weekend. For faster answer, email me directly at agaquere@westga.edu instead of within coursedem.

List of materials

Lab 1: Safety goggles, first aid kit, fire extinguisher (optional but encouraged).

Lab 2: Red cabbage, microwave or stovetop, microwave-safe bowl or stovetop pot, 7 transparent plastic glasses, a container (another plastic glass or any cup), a teaspoon of white vinegar, a teaspoon of baking soda or baking powder, a teaspoon of clear, colorless soft drink (7up, sprite), a teaspoon of lemon juice, a teaspoon of toothpaste, a teaspoon of table salt, a teaspoon of sugar.

Lab 3: 8 Gummy bears, 8 transparent plastic cups, tap water, about 21 tablespoons of sugar, spoon to stir, paper towel, ruler (cm/mm).

Lab 4: Two egg whites, tap water, a pan, a cooktop, whip (or fork), ceramic bowl, 3 transparent cups, one tablespoon of vinegar, one tablespoon of rubbing alcohol (isopropyl alcohol), one teaspoon of baking powder (or baking soda).

Lab 5: Strawberries, egg white, sandwich bag, a plastic cup, a piece of paper towel (or toilet paper or even better a coffee filter), three tablespoons of cold rubbing (isopropyl) alcohol, 1 tablespoon of detergent (dish soap or shampoo), a teaspoon of salt, wooden stick (or a long wire such as an unfolded paper clip), optional: funnel to hold paper towel, egg white, 4 cups that can be placed in hot water, hot water, two tablespoons of vinegar.

Lab 6: 10 coins (preferably all the same) in an envelope or a sandwich bag.

Lab 7: Thermometer (optional), stopwatch, ice cubes, sandwich bags, cloth (actual clothes, T-shirt or rags), wood surface (floors, desk, wooden cutting board), metal surface (pot or pan), plastic surface (desktop, counter top, cutting board). If you do not have one of these surfaces, replace it with whatever surface you have access to (glass (cake mold), granite countertop, and so forth). Food dyes (blue and yellow if possible, but any two colors will do), 2 small transparent plastic bottles (see image below), 3 pieces of cardboard to cover the mouth of the plastic bottles (optional), starch (no more than 8 tablespoons).

Lab 8: Cooktop, pan, 3 cups of tap water, thermometer, 3 tablespoons of salt, timer.

Lab final: You have to create your own list depending on your project. The list is shared in the final project proposal.