

CHEM 1240
GENERAL CHEMISTRY I LABORATORY
Fall, 2022

Instructor: Prof. Todd A. Wells
Physics 319
Email: towells@du.edu
Telephone: 1-2439

Mailboxes: Chemistry Department Office: Olin 202, x1-2436

Section	Day	Room	Time	T.A.	Email
1	M	225	2:00 – 4:50 pm	Enoch Asimbisa	Enoch.Asimbisa@du.edu
2	M	235	2:00 – 4:50 pm	Eman Elshalia	Eman.Elshalia@du.edu
3	M	225	6:00 – 8:50 pm	Enoch Asimbisa	Enoch.Asimbisa@du.edu
4	M	235	6:00 – 8:50 pm	Georgina Amassah	Georgina.Amassah @du.edu
5	T	225	2:00 – 4:50 pm	Nick Dacon	Nick.Dacon@du.edu
6	T	235	2:00 – 4:50 pm	Eman Elshalia	Eman.Elshalia@du.edu
7	T	225	6:00 – 8:50 pm	Nick Dacon	Nick.Dacon@du.edu
8	T	235	6:00 – 8:50 pm	Jess Huang	Jess.Huang@du.edu
9	W	225	2:00 – 4:50 pm	Maxwell Freeman	Maxwell.Freeman@du.edu
10	W	235	2:00 – 4:50 pm	Alex Volkova	Alex.volkova@du.edu
11	W	225	6:00 – 8:50 pm	Maxwell Freeman	Maxwell.Freeman@du.edu
12	W	235	6:00 – 8:50 pm	Alex Volkova	Alex.volkova@du.edu
13	R	225	2:00 – 4:50 pm	Tanden Hovey	Tanden.Hovey@du.edu
14	R	235	2:00 – 4:50 pm	Lena Kallweit	Lena.Kallweit@du.edu
15	W	222	6:00 – 8:50 pm	Charles Baysah	Charles.Baysah@du.edu
16	M	222	6:00 – 8:50 pm	Charles Baysah	Charles.Baysah@du.edu
17	W	222	2:00 – 4:50 pm	Georgina Amassah	Georgina.Amassah @du.edu
18	M	222	2:00 – 4:50 pm	Lena Kallweit	Lena.Kallweit@du.edu
19	T	222	6:00 – 8:50 pm	Tyler Ball	Tyler.Ball@du.edu
20	T	222	2:00 – 4:50 pm	Tyler Ball	Tyler.Ball@du.edu
21	R	225	6:00 – 8:50 pm	Tanden Hovey	Tanden.Hovey@du.edu

- You are required to do **EVERY** lab. What if you miss your scheduled lab?
 - We attempt to make reasonable accommodations for students to make up missed labs. **Try and make up the missed lab during the week it was originally scheduled.** However, a missed lab can be completed in the following week as well.
 - It is **your responsibility** to make the proper arrangements to complete the lab. These include:
Choose a section from the list above that fits your schedule.
Contact both your Teaching Assistant and the TA for the desired make-up section. Provide them with:
Your Name
Your Teaching Assistant's Name
The lab section you are registered for
The name of the Teaching Assistant for the make-up section **The number of the lab section for the make-up.**

Attend the make-up lab **only** after both TAs have acknowledged your request

- **No student** will be **allowed to begin** a lab if they arrive **more than 30 minutes late** for their scheduled lab time.
- **No student** will be **allowed to complete** a lab without following proper safety procedures including following safety protocol as it pertains to proper laboratory attire.
- Reports are due one week from the scheduled finish of the experiment at the beginning of the next lab period. **Any assignment turned in 15 minutes after the start of lab is considered one day late. A penalty of 10% per day will be charged for late assignments. No assignment will be accepted after 4 days from original due date.**

Notebooks: You will be required to have a lab notebook they can be purchased at the DU bookstore. You must use a notebook that produces copies either carbonless or with carbon paper. This should be used to record your data and observations. While your notebook will not be graded, you must have your Teaching Assistant initial it at the conclusion of each lab exercise.

Prelabs: There are Prelab assignments with each lab, to be completed **before** coming to lab each week. You are required to watch/read the prelab material on CANVAS then answer a series of questions. The Prelab questions will also be posted on CANVAS under assignments. If your Prelab is not complete, you will not be allowed to begin the experiment. THIS REQUIREMENT IS NOT FLEXIBLE. IT IS FOR YOUR PROTECTION AND THE OTHER STUDENTS IN THE COURSE. You must come to lab prepared and informed.

Grading:	Safety Quizzes (15 pts each)	45
	Pre-labs (20 pts each)	180
	Lab Worksheets (80 pts each)	720
	Lab Report (100 pts)	100
	<u>Notebooks (5 pts each week)</u>	<u>45</u>
	Total	1090

EXPERIMENT SCHEDULE (subject to change with appropriate notice)

WEEK	DATES	EXPERIMENT
1	Sept. 12-16	Lab introduction
2	Sept. 19-23	Lighting the way to atomic structure ¹
3	Sept. 26-30	Periodic Trends and Electron Configuration
4	Oct. 3-7	Glassware Calibration ²
5	Oct. 10-14	Molecular Geometry and Bonding
6	Oct. 17-21	What's in a name...a look at chemical formulas ³
7	Oct. 24-28	Using stoichiometry for quantitative analysis of an unknown ⁴

8	Oct. 31-Nov. 4	Chemistry in water (reactions of copper) ⁵
9	Nov. 7-11	On the lighter side of chemistry...gases (Full Lab Report)
10	Nov. 14-18	Enthalpy of Reaction ⁶

1. Emission spectroscopy of gaseous atoms, the interaction of light with nanoparticles and an introduction to scientific notation/significant figures.
2. Introduction to glassware and basic laboratory techniques such as using balances, measuring volume, and pipetting.
3. Includes determination of empirical formulas.
4. Using balance chemical reactions and stoichiometry to determine the composition of an unknown.
5. Using reactions of copper to investigate types of aqueous chemical reaction more on limiting reactants.
6. This experiment replaces the enthalpy neutralization experiments and includes the use of a simple calorimeter along with Hess' Law to determine enthalpy of formation.

Basic Instructions For Laboratory Work

1. Read the assignments and complete the prelab before coming to the laboratory.
2. You will work in pairs but must complete the assignments independently.
3. Record your results directly in your laboratory notebook.
4. Be prepared and work carefully to avoid mistakes and accidents.
5. Leave reagents and other materials where you found them.
6. Avoid taking excess reagents. USE ONLY THE AMOUNT STATED IN THE EXPERIMENT PROTOCOL.
7. Dispose of unused reagents as instructed by your Teaching Assistant. NEVER RETURN REAGENTS TO THE ORIGINAL BOTTLE.
8. KEEP YOUR LAB BENCH AND ALL COMMON AREAS CLEAN.