

Chemistry 161L Lab – General Chemistry Lab I

TA: name
email
office
Office Hours

Prof. Amy Fuller
amy.fuller@hawaii.edu
Office: BIL 236

Philosophy: Experimentation is the best part of chemistry. New discoveries come from careful examination and interpretation of experimental results. To have confidence in your results, it is important that the experiments be executed carefully and properly. This laboratory is designed to show you lab skills, realize that things don't work perfectly every time, reinforce concepts from a lecture course, and teach you scientific problem solving.

I. Required Materials/Equipment

Laboratory Manual: This will be available on Lulima. There will be a mix of video labs, at home labs, and simulation labs for you to accomplish this semester. *You may need to purchase extra materials for the at home labs.

II. General Information

Attendance: You will be required to attend the lab session on Zoom, unless prior arrangements are made. Personal contact and knowing you have support are important to us!

Lab assignments: Must be completed on your own time and turned in weekly by a set date. Due dates will be assigned and late work will receive a 20% deduction per day and cannot be turned in more than a week late. If you do not turn in more than two lab assignments, you cannot earn a passing grade, NO exceptions. Excused assignments (court, funeral, professional trip, Covid-19) require notification and prior arrangements.

Safety: You are responsible for your own safety for home experiments. Take it seriously.

Tentative Lab Grading: Your lab grade will be based on attendance, lab notebooks, and any other assignment given. The tentative grading breakdown is shown in the table below and may change slightly during the semester.

Tentative Grading Breakdown				
"Upload"	10 pts			10
Spreadsheet	20 pts			20
Attendance	10 pts	X 12		120
Lab Notebook	50 pts	X 9		500
DIY Poster	50 pts			50
		Total		700

Academic Integrity and Dishonesty: Use your original words and ideas for all of your lab notebooks or properly cite the words and ideas of others. Your lab notebook should *NOT* be identical to anyone else! If you copy a shared screenshot of someone else's work, you will receive a 0 for the whole lab.

III. Grading

Grade Scale: Letter grades will be determined based on your percentage and are up to the discretion of the professor. Grades will be rounded to the nearest 0.1%. For example an 89.49% rounds to 89.5%, which is a B+.

Approximate Grading Scale

Overall %	Grade Earned
98.0% and above	A+
93.0-97.9%	A
90.0-92.9%	A-
88.0-89.9%	B+
83.0-87.9%	B
80.0-82.9%	B-
78.0-79.9%	C+
73.0-77.9%	C
70.0-72.9%	C-
68.0-69.9%	D+
63.0-67.9%	D
60.0-62.9%	D-
59.9% or below	F

IV. Day of Lab

* Utilize your scheduled lab time to ask questions about the lab. Before coming to the zoom meeting, you should familiarize yourself with the theory, techniques, and general expectations for each experiment.

Lab Notebook: Will be turned in by uploading the document as a **single** .pdf document. The document should be titled with the Lab#_labname_lastname.pdf. The pages should be in the correct order and facing the correct direction. Make sure each page scans clearly to earn all of your points.

Lab notebooks will be handwritten legibly. **Typed work won't be accepted**, unless it's an Excel graph. What to submit as your lab notebook is described in section IV of this document.

Each page of your lab notebook should be dated and signed acknowledging that you did the work.

Prelab: In a chemistry lab, you need to prepare for your experiment. Before the video and at home labs, it will be useful to understand what will be done in the lab. On a piece of plain white copy paper, you should have the **title, objective statement, background, and procedure handwritten before you watch/do the experiment** (see section IV. of this document for more instruction). This won't be graded before the lab, but will be turned in and graded as part of the full lab notebook.

Experiment: For video labs, write down all of the data as it is collected in the video and understand what was done during the experiment so you can write the lab notebook. Try to finish the lab notebook as soon as you can after the lab. You will be more successful than if you wait until the next week to finish it.

* **Always write in your lab notebook in PEN, not pencil!** Mistakes in the lab notebook should be crossed out with a single line. *Whiteout, etc is not acceptable.*

V. Lab Notebook

Purpose: Even though lab is online, we want to train you to learn how to be a scientist. As a scientist, in this class, you will prepare a notebook by taking notes like they do in the real scientific world! The purpose of a research lab notebook is to make a notebook so your work can be duplicated without you present. This means, it should be complete enough that you or **any other worker** at the same level as you to understand your experiment and the results. Our goal is to teach the habits and level of detail that are required of a scientist or any other (medical, legal, engineering) professional.

- * The notebook should always be entirely **handwritten** unless you are inserting graphs.
- * The notebook should be in third-person removed viewpoint, using complete sentences and proper punctuation. This means no pronouns! No “I” or “we” or “the researchers” or “this researcher”. You will need to learn this style of writing.
- * Each Video and At Home lab notebook should include after the title sections 1-6 described below. We suggest doing 1-3 before the lab.
- * Simulation experiments will include sections 1, 4, 5, and 6 described below.

- 1) **Objective:** a concise statement (a full sentence) of the purpose of the experiment;
- 2) **Background:** Important information needed to complete the experiment. This includes: a table of all chemicals, chemical formula, and hazards (if any); a list of glassware/special equipment used;
- 3) **Procedure:** an outline, in your own words, of the procedure that will be followed (bullet points are ok).
- 4) **Results:** all results and observations must be written directly in the lab notebook on the data sheet. For the final notebook, computer-generated tables and graphs are encouraged and must be included.
- 5) **Calculations:** should either be done on a separate paper (numbered!) OR done on the page in your lab manual. Each calculation should be written neatly **with units and labels**, and crossed out if the calculation is wrong. The “answer” should be included in the calculations sheet. If a calculation was performed in Excel, note it;
- 6) **Conclusions/Questions:** Write a conclusions paragraph of your results and include a summary table. If there are questions, answer the questions in the questions section of the lab.

VI. Tentative Schedule and Lab Category

NOTE Italicized Labs are NOT in the order in the lab manual! Double check the schedule or check with your lab TA.

Dates	Monday	Tuesday	Wednesday	Thursday	Friday
8/23 - 8/27				Download Excel	Download Excel
8/30 - 9/3	Download Excel / Upload .pdf	Download Excel	Download Excel	Upload .pdf	Upload .pdf
9/6 - 9/10	Labor Day	Upload .pdf	Upload .pdf	Spreadsheet	Spreadsheet
9/13 - 9/17	Spreadsheet	Spreadsheet	Spreadsheet	Density (video)	Density (video)
9/20 - 9/24	Density (video)	Density (video)	Density (video)	States of Matter (simulation)	States of Matter (simulation)
9/27 - 10/1	States of Matter (simulation)	States of Matter (simulation)	States of Matter (simulation)	Sublimation (video)	Sublimation (video)
10/4 - 10/8	Sublimation (video)	Sublimation (video)	Sublimation (video)	<i>Gas Law Cookie (At Home)</i>	<i>Gas Law Cookie (At Home)</i>
10/11 - 10/15	<i>Gas Law Cookie (At Home)</i>	<i>Gas Law Cookie (At Home)</i>	<i>Gas Law Cookie (At Home)</i>	<i>Chemical Formulas (Video)</i>	<i>Chemical Formulas (Video)</i>
10/18 - 10/22	<i>Chemical Formulas (Video)</i>	<i>Chemical Formulas (Video)</i>	<i>Chemical Formulas (Video)</i>	Power Lab (At Home)	Power Lab (At Home)
10/25 - 10/29	Power Lab (At Home)	Power Lab (At Home)	Power Lab (At Home)	Spectrometry (simulation)	Spectrometry (simulation)
11/1 - 11/5	Spectrometry (simulation)	Spectrometry (simulation)	Spectrometry (simulation)	DIY Lab (At Home) Topic due!	DIY Lab (At Home) Topic due!
11/8 - 11/12	DIY Lab (At Home) Topic due!	DIY Lab (At Home) Topic due!	DIY Lab (At Home) Topic due!	Veteran's Day	Atom S/Molec M (simulations)
11/15 - 11/19	Atom S/Molec M (simulations)	Atom S/Molec M (simulations)	Atom S/Molec M (simulations)	Atom S/Molec M (simulations)	
11/22 - 11/26				Thanksgiving Day	Thanksgiving Day
11/29 - 12/3					
12/6 - 12/10					
12/13 - 12/17	Finals week	Finals week	Finals week	Finals week	Finals week

VII. Course Learning Objectives

Course learning objectives can be found at: <http://manoa.hawaii.edu/chem/academics/courses/>

VIII. UHM Title IX Syllabus Information

The University of Hawai'i is committed to providing a learning, working and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. If you or someone you know experiences any of these, UHM has staff and resources on campus to support and assist you. Staff also can direct you to resources in the community. Here are some of your options:

If you wish to remain **ANONYMOUS**, speak with someone **CONFIDENTIALLY**, or would like to receive information and support in a **CONFIDENTIAL** setting, contact:

Office of Gender Equity

The Office of Gender Equity offers direct services to victims and survivors of sexual harassment and sexual assault. Services offered include crisis screening and assessment, case referral, safety planning and risk assessment.

Paxon Chang (available Tuesdays, Wednesdays, and Fridays)

Telephone: (808) 956-9499

Email: geneq@hawaii.edu

Queen Lili'uokalani Center for Student Services 210

2600 Campus Road

Honolulu, HI 96822

Website: <https://blog.hawaii.edu/genderequity/>

UH Confidential Advocacy

The UH Confidential Advocates provide confidential advocacy services and case management to victims* of sex discrimination and gender-based violence (including sexual harassment, gender-based harassment, dating and domestic violence, stalking, sexual exploitation, and sexual assault) who are involved in the University system on O'ahu.

Natalia Villegas

Telephone: (808) 341-4952

Email: nataliat@hawaii.edu

Pop in/Walk in Services:

Join Zoom Meeting: <https://hawaii.zoom.us/my/hccmanoaadvocate>

Mondays: 1PM – 3:30 PM

Tuesdays: 9:30 AM – 12 PM

Wednesdays 9:00AM – 11:00AM

Thursdays 4:30PM – 6:30PM

Student Parents At Mānoa (SPAM)

Student Parents At Mānoa (SPAM) seeks to increase the visibility of and resources for student parents at UH Mānoa as they pursue education while parenting. SPAM staff provide advocacy, support, and referrals for pregnant and parenting students to help them succeed in their educational goals.

Teresa Bill

2600 Campus Road

Queen Lili'uokalani Center for Student Services 211

Honolulu, HI 96822

(808) 956-8059

gotkids@hawaii.edu

<http://manoa.hawaii.edu/studentparents/>

Counseling and Student Development Center (CSDC)

The Counseling and Student Development Center (CSDC) offers support to UHM students, staff, and faculty to assist with personal, academic, and career concerns. All services are confidential and most are free of charge

for Mānoa students. They also offer free consultation to faculty and staff on personal and student-related issues as well. CSDC office hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday. They also offer immediate walk in appointments for urgent or emergency/crisis services during their regular daily hours.

Queen Lili'uokalani Center for Student Services 312
2600 Campus Road
Honolulu, HI 96822
(808) 956-7927
uhmcsdc@hawaii.edu
www.manoa.hawaii.edu/counseling

University Health Services Mānoa (UHSM)

[The University Health Services Mānoa](#) (UHSM) is staffed by physicians, nurse clinicians, nurses, and other support staff, and offers a wide range of medical services and programs to UH Mānoa students, with many of the services also available to UH Mānoa faculty and staff and students from other UH campuses. Services include general medical care on a walk-in basis; women's health, sports medicine, psychiatry, and dermatology clinics by appointment; pharmacy and clinical laboratory; and student training, employment and volunteer opportunities.

1710 East West Road
Honolulu, Hawaii 96822
Honolulu, HI 96822
(808) 956- 8965
www.hawaii.edu/shs/

[or]

If you wish to remain **ANONYMOUS**, speak with someone **CONFIDENTIALLY**, or would like to receive information and support in a **CONFIDENTIAL** setting, contact the confidential resources available here:

<http://www.manoa.hawaii.edu/titleix/resources.html#confidential>

If you wish to **REPORT** an incident of sex discrimination or gender-based violence including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence or stalking as well as receive information and support, contact:

Dee Uwono

Director and Title IX Coordinator
Hawai'i Hall 124
2500 Campus Road
Honolulu, HI 96822
(808) 956-2299
t9uhm@hawaii.edu

As a member of the University faculty, I am **required to immediately report** any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need. For more information regarding sex discrimination and gender-based violence, the University's Title IX resources and the University's Policy, EP 1.204, go to: <http://www.manoa.hawaii.edu/titleix/>