

Chemistry 161L Lab – In-person General Chemistry Lab I

TA: name
email
office
Office Hours

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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: Available on Lulima under the IDAP tab on the left side of the course menu. Your school account will automatically be charged for the manual. This class will be conducted in lab classroom *Bilger Addition (BA)*, however if the class needs to go online, a mix of video labs, at home labs, or simulation labs may be substituted. *You may need to purchase extra materials for the at home labs. The lab schedule is posted in this document below.

Laboratory Notebook: A carbon-copy lab notebook will be required.

Safety Glasses: All students are required to have departmental (OSHA) approved safety glasses or goggles for use in the laboratory at ALL times. Find a comfortable pair. If you wear glasses, you will need safety glasses or goggles over your glasses.

Masks: Masks covering your nose and mouth will be determined by the University's current policy.

Laboratory Attire: Proper lab attire will be required at ALL times. You must always attend lab wearing safety glasses, long pants, close-toed shoes, and a shirt that covers your whole upper body (at least equivalent to a t-shirt). Long hair should be tied back. If your TA or any staff or faculty member at UH determines you are dressed inappropriately, you will not be allowed in lab and will be sent home to change.

II. General Information

Attendance: Each lab will start promptly on time. Do not be late. You will not be allowed to submit work for a lab you did not attend. Unexcused absences will result in a zero for that lab no matter what you turn in. If you miss more than two labs, you cannot earn a passing grade. Excused absences (court, funeral, professional trip, athletic event, super sick, etc.) require notification and/or prior arrangements.

Cell Phones: No cell phones can be used by the lab benches; this practice avoids chemical contamination.

Safety: You are responsible for your own safety in the lab! Take safety seriously. No horseplay! You will be asked you to leave if they feel like you are putting others at risk. No food, drink, or gum will be allowed in lab.

Lab Grading: Lab performance will be based on participation, prelab assignments, lab notebooks, and any other assignment. The homework in the manual is there for practice, but will not be turned in. Lab notebooks must be completed on your own time and the carbon copy sheets turned in weekly by a set deadline. Late work will NOT be accepted unless prior arrangements have been made. Excused assignments (court, funeral, professional trip, athletic event, super sick, etc.) require notification and/or prior arrangements.

Tentative Lab Grading: Your lab grade will be based off of points earned in the course. Points will be earned through course participation, prelab, 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
Safety	10 pts		10
Spreadsheet	20 pts		20
Participation/Prelab	10 pts	X 13	130
Lab Notebook	50 pts	X 9	450
Molecular Model	20 pts		20
		Total	640

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. If you use AI, state how AI was used and cite it. You should still proofread and heavily edit any AI content. Your lab notebook should *NOT* be identical to anyone else, not even your lab partner. If you submit any work that isn’t your own, even a shared screenshot of someone else’s work, you will receive a 0 for the lab and this could result in an “F” grade for the entire course.

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-
87.0-89.9%	B+
83.0-86.9%	B
80.0-82.9%	B-
77.0-79.9%	C+
73.0-76.9%	C
70.0-72.9%	C-
67.0-69.9%	D+
63.0-66.9%	D
60.0-62.9%	D-
59.9% or below	F

IV. Day of Lab

* All students are expected to come prepared for lab. Before coming to lab, you should familiarize yourself with the theory, techniques, and general expectations for each experiment. A “prelab” will be required before you can attend lab.

Prelab assignment: In your carbon copy notebook, you should hand write the **title, objective statement, background, and procedure**. This needs to be handwritten before you do the experiment. See section V. of this document for more instruction and look at your lab manual for an example.

Presentation: The TA will give a brief presentation of the day’s lab with hints, tips, and tricks.

Experiment: During the lab, even if working in groups, write down all of your observations and data as it is collected and try to understand what is done during the experiment. Observations and measurements should be written in either the blank half of the procedure section or in the results section. 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.

Lab Notebook: Will be due before the next lab class. The lab notebook will include the carbon copy sheets from your lab notebook, which include: prelab, data sheets, calculations sheets, any calculations, and a paragraph of conclusions or answer to the lab questions. If you create a graph or use excel, these graphics should be cut out and taped or glued onto the front of a notebook page. Your carbon copy sheets will be turned in to your TA. If there is reason to do an electronic submission, the document will be uploaded as a **single** .pdf document in Lulima. If uploaded, the document should be titled with the labname_yourlastname.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 V of this document.

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

* **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: 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 have carbon copy sheets and always be entirely **handwritten in PEN** 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.

* The prelab is sections 1-3 before the lab.

* Every lab (and if needed Video and At Home lab) notebook should include after the title sections 1-6 described below.

* Simulation experiments (if needed) will include sections 1, 4, 5, and 6 described below.

Sections of the Lab Notebook:

- 1) **Objective:** a concise statement (a full sentence) of the purpose of the experiment. Do not start your sentence with "The Objective of this lab is...." you did that in high school. Start the sentence with a noun and it will sound more scientific;
- 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). The procedure should be written on the left side of the page with room on the right side blank for notes, changes, or measurements.
- 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. Your tables and graphs must be included by cutting them out and gluing or taping them on to a carbon copy page.
- 5) **Calculations:** should either be done on a separate page (numbered!). 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

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

Dates	Monday	Tuesday	Wednesday	Thursday	Friday
8/21 - 8/25	Download	Download	Download	Download	Download/Upload
8/28 - 9/1	Upload Spreadsheet	Upload	Upload	Upload	No Lab
9/4 - 9/8	Labor Day	Spreadsheet	Spreadsheet	Spreadsheet	Spreadsheet
9/11 - 9/15	Safety/Density	Safety/Density	Safety/Density	Safety/Density	Safety/Density
9/18 - 9/22	Sublimation	Sublimation	Sublimation	Sublimation	Sublimation
9/25 - 9/29	Avogadro's #	Avogadro's #	Avogadro's #	Avogadro's #	Avogadro's #
10/2 - 10/6	Chemical Formula	Chemical Formula	Chemical Formula	Chemical Formula	Chemical Formula
10/9 - 10/13	Solutions	Solutions	Solutions	Solutions	Solutions
10/16 - 10/20	Redox	Redox	Redox	Redox	Redox
10/23 - 10/27	Calorimetry	Calorimetry	Calorimetry	Calorimetry	Calorimetry
10/30 - 11/3	Aspirin Spectrometry	Aspirin Spectrometry	Aspirin Spectrometry	Aspirin Spectrometry	Aspirin Spectrometry
11/6 - 11/10	No lab	No lab	No lab	No lab	Veterans Day
11/13 - 11/17	Atom Spectra	Atom Spectra	Atom Spectra	Atom Spectra/ Molecular Model	Atom Spectra/ Molecular Model
11/20 - 11/24	Molecular Model Check out	Molecular Model Check out	Molecular Model Check out	Thanksgiving Break	Thanksgiving Break
11/27 - 12/1					
12/4 - 12/8					
12/11 - 12/15	Finals week				

VII. 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/>