

## Chemistry 161L Lab – Online General Chemistry Lab I

TA: name  
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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:* This will be 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 consist of a mix of video labs, at home labs, and simulation labs for you to accomplish this semester. \*You will need to purchase extra materials for the at home labs, so plan ahead.

### 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. Late work will NOT be accepted unless prior arrangements have been made. 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 off of points earned in the course through course 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			
<b>"Upload"</b>	10 pts		10
<b>Safety</b>	10 pts		10
<b>Spreadsheet</b>	20 pts		20
<b>Attendance/prelab</b>	10 pts	X 13	130
<b>Lab Notebook</b>	50 pts	X 10	500
<b>DIY Poster</b>	50 pts		50
		<b>Total</b>	<b>720</b>

*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 an AI, state how you used the AI and cite it. You should heavily edit the output and make sure the information is correct. 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-
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

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

*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 V. of this document for more instruction and also your lab manual for an example prelab. This could 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 try to understand what was done during the experiment so you can write the lab notebook. 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 turned in each week by uploading the document as a **single** .pdf document. 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:* 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. Do sections 1-3 before the lab.
- \* Simulation experiments will only include sections 1, 4, 5, and 6 described below.

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, you 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 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 or on the data sheet. For the final notebook, computer-generated tables and graphs are encouraged. Your tables and graphs 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** 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	<b>No Lab</b>
9/4 - 9/8	<b>Labor Day</b>	Spreadsheet	Spreadsheet	Spreadsheet	Spreadsheet
9/11 - 9/15	Density (video)	Density (video)	Density (video)	Density (video)	Density (video)
9/18 - 9/22	States of Matter (simulation)	States of Matter (simulation)	States of Matter (simulation)	States of Matter (simulation)	States of Matter (simulation)
9/25 - 9/29	Gas Law Cookie (At Home)	Gas Law Cookie (At Home)	Gas Law Cookie (At Home)	Gas Law Cookie (At Home)	Gas Law Cookie (At Home)
10/2 - 10/6	Sublimation (video)	Sublimation (video)	Sublimation (video)	Sublimation (video)	Sublimation (video)
10/9 - 10/13	Power Lab (At Home)	Power Lab (At Home)	Power Lab (At Home)	Power Lab (At Home)	Power Lab (At Home)
10/16 - 10/20	Chemical Formulas (Video)	Chemical Formulas (Video)	Chemical Formulas (Video)	Chemical Formulas (Video)	Chemical Formulas (Video)
10/23 - 10/27	Spectrometry (simulation)	Spectrometry (simulation)	Spectrometry (simulation)	Spectrometry (simulation)	Spectrometry (simulation)
10/30 - 11/3	DIY Lab (At Home) Topic due!	DIY Lab (At Home) Topic due!	DIY Lab (At Home) Topic due!	DIY Lab (At Home) Topic due!	DIY Lab (At Home) Topic due!
11/6 - 11/10	No lab	No Lab	No Lab	No Lab	<b>Veterans Day</b>
11/13 - 11/17	Atom Spectra (simulation)	Atom Spectra (simulation)	Atom Spectra (simulation)	Atom Spectra/ Molecular Model (simulations)	Atom Spectra/ Molecular Model (simulations)
11/20 - 11/24	Molecular Model (simulation)	Molecular Model (simulation)	Molecular Model (simulation)	<b>Thanksgiving</b>	<b>Thanksgiving</b>
11/27 - 12/1					
12/4 - 12/8					
12/11 - 12/15	<b>Finals week</b>				

## 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](mailto: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](mailto: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](mailto: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](mailto:uhmcsdc@hawaii.edu)  
[www.manoa.hawaii.edu/counseling](http://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/](http://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](mailto: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/>