



General Chemistry Laboratory II

CHEM162L, CRN: 62022

Summer 2022

CLASS INFORMATION

Asynchronous online

Meeting Location: No scheduled meeting

INSTRUCTOR INFORMATION

Instructor: Martine Bissonnette

Office Hours: Virtual office, email for appointment via Zoom

E-mail: martineb@hawaii.edu

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide the Ko'olau region of O'ahu and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

SYLLABUS CHANGE POLICY:

Information contained in the course syllabus may be subject to change with reasonable advance notice, as deemed appropriate by the instructor. Updates to the syllabus will be communicated via email.

About This Course

Laboratory experiments illustrating fundamental principles of chemistry. (3-4 hours estimated time to complete each lab).

Pre-Requisite(s): Credit for CHEM161L and credit or registration in CHEM 162.

Course Learning Outcomes

After successfully completing this course, you will be able to:

1. Develop an appreciation for the methods of scientific inquiry through computer-based laboratory experiments showing real-time data.
2. Apply knowledge to determine molar mass of unknown substance using freezing point data of solution.
3. Calculate chemical reaction rate and constant using graphing analysis.
4. Predict the effects of concentration and temperature changes on equilibrium mixtures using Le Chatelier's principle.
5. Determine whether equilibrium is established and calculate equilibrium concentration constants and cell potentials.
6. Apply and articulate the scientific method by preparing lab reports using the standard scientific format. Express in writing core chemistry principles, results of experiments and do critical thinking by synthesizing conclusions based on observations and data.

Course Format

We will be using the Labflow platform which provides a way to view experimental techniques, make observations, and perform some of the calculations used during lab experiments. There are no supplies to purchase but there is a \$30 fee to access the platform.

For each lab, students will have to review the material, complete a pre-lab quiz, and complete a report. Students should allocate 6-8 hours a week to complete all the tasks.

All tasks are due at 11:59 pm on Sunday for the 2 labs assigned each week except for the last week of class which has a due date of Friday (see tentative schedule at the end of this syllabus) and include the following:

- Login to Labflow to view the background videos
- View required Laulima videos
- Answer pre-lab quiz questions
- Submit lab report

Required Materials

Students must have the following:

- Computer or tablet with high-speed internet connection
- Access to Laulima website and Zoom as needed
- Access to Labflow platform (semester cost \$30): www.labflow.com, enrollment code 62022
- Chem 161 class notes and OpenStax Textbook: Chemistry (Free, <https://openstax.org/details/books/chemistry-2e>)
- Scientific calculator that has Log and natural log (ln) functions.
- Electronic device to take photos of written work and ability to upload image to website

Course Policies

Communication

Your instructor will send a weekly email to provide specific instructions about the week's experiment.

Students can communicate with the instructor via Laulima e-mail, or university e-mail. Messages will be answered within 24 hours during the week or within 48 hours on weekends and holidays.

Alternative Contact

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

Location: Alakai 121
Phone: 808-235-7422
Email: wccaa@hawaii.edu

Attendance & Grading

Attendance/Participation

Students are expected to complete the work associated with each week's experiment within the allocated time frame.

Evaluation and Feedback

The instructor will attempt to grade work and provide feedback within one week.

Late Work

A 10% per day penalty (up to 30%) will be applied to all late reports. No work will be accepted later than one week after the due date unless there are specific circumstances and you have notified the instructor prior to the initial due date. Work can be submitted until 11:59 pm on the due date.

Pre-lab Assignments

Each experiment (except the first one) will have an associated pre-lab assignment posted on Laulima. Allow 1-2 hours to watch the videos and complete the pre-lab.

Reports

Each lab includes worksheet reports that will be used to record simulation data and observations during the experiment. You should allocate 6-8 hours to complete both the experiment and the post-lab questions. Formal reports may take longer. All work must be completed by the due date and time.

Formal lab reports.

One of the experiments will require a formal report which have to be submitted either in Word, Google doc, or pdf format. More information will be provided the weekend prior to the formal report being due; you will be provided with a template and sample of a formal report.

Just like the worksheets, formal lab reports must be turned in by the due date/time.

Lab Safety

At-home lab.

All experiments will be performed virtually and will not involve any chemicals.

Data

You will be working solo for these experiments and every person must present their own data.

When recording data, pay attention to significant figures and to the precision/units of the instrument used (for example, your balance should weigh to two decimal places, so you would record a reading at 10.45 grams).

Exams

There will one final exam (120-minute duration) administered via Labflow. The exam will be open-book.

Weekly Experiments - Recipe for Success

- Prepare before each lab session so you're ready to ask questions if needed – read the experiment, complete the pre-lab assignment, contact your instructor as needed.
- Check the Laulima homepage weekly for announcements and update/important information.
- Check your email a couple of times per week.
- Submit your work on time.
- Don't hesitate to reach out if you have questions.

Special learning needs

If you have special learning needs, inform your instructor at the beginning of the semester.

Grade Composition

The Final Grade will be based upon a possible total of 400 points. The lowest pre-lab quiz will be dropped.

1. 10 Experiments Worksheets (25 points each) – 250 points
2. 1 Formal Lab Report (50 points) – 50 points
3. 10 Pre-lab Quiz (5 points each) – 50 points
4. Final Exam– 50 points

Students can check their grades and examination scores on Laulima Gradebook at any time.

Final Grade

Grades of I, W, CR, CN are described in the current college catalog. Students who no longer attend class and who DO NOT OFFICIALLY WITHDRAW from the course will receive "F" grades.

Students must present the "Request for Incomplete" form to their instructor prior to the last day of instruction. "I" grades will be given only to students who are achieving passing grades and are very close to completing the course. Only serious reasons will be accepted (listed under the withdrawal policy).

You will receive a letter grade based on the following scale:

Letter Grades and Percentage Ranges

A = 90-100%

B = 80-89%

C = 70-79%

D = 60-69%

F = 0-59%

Institutional Information

Please review the following institutional policies:

Student Responsibilities

- Students should allocate 4-6 hours per week to complete each experiment and work on assignment/report.
- UH Policy on Email Communication
The electronic communications policy adopted in December 2005 establishes the University of Hawai'i Internet service as an official medium for communication among students, faculty, and staff. Every member of the system has a hawaii.edu address, and the associated username and password provide access to essential Web announcements and email. You are hereby informed of the need to regularly log in to UH email and Web services for announcements and personal mail. Failing to do so will mean missing critical information from academic and program advisors, instructors, registration and business office staff, classmates, student organizations, and others.
- Academic Honesty
In cases of suspected or admitted academic dishonesty, the instructor involved shall attempt to discuss the matter with the student. The instructor may bring the matter to the attention of the departmental chairperson for consultation. The instructor may require the student to redo the assignment, give a failing or reduced grade for the course, and/or refer the student to the Vice Chancellor for Student Affairs or designee through the Department Chair for possible college action under the Student Conduct Code. The Vice Chancellor for Student Affairs or designee shall pursue such cases to determine appropriate disciplinary actions if, after a preliminary investigation, it is his/her determination that probable cause exists to establish that an act of academic dishonesty took place.

College Policies

- Disabilities Accommodations
If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Roy Inouye can be reached at (808) 235-7448, royinouye@hawaii.edu, or you may stop by Hale Kāko'o 106 for more information. You shall also inform your instructor at the beginning of the semester; that information will remain confidential.
- Sex Discrimination and Gender-Based Violence Resources (Title IX)

Windward Community College 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 is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

Kaahu Alo, Student Life Counselor & Designated Confidential* Advocate for Students

Phone: (808) 235-7354

Email: kaahualo@hawaii.edu

Office: Hale 'Ākoakoa 232

**confidentiality is limited*

Desrae Kahale, Mental Health Counselor & Confidential Resource

Phone: (808) 235-7393

Email: dkahale3@hawaii.edu

Office: Hale Kāko'o 101

Karla K. Silva-Park, Title IX Coordinator

Phone: (808) 235-7468

Email: karlas@hawaii.edu

Office: Hale 'Ākoakoa 220

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, Interim EP 1.204, go to manoa.hawaii.edu/titleix/

- Covid-19 policies: <https://windward.hawaii.edu/campus-life/safety-security/campus-emergency-preparedness-and-evacuation-procedures/coronavirus/>

How to Get Help <https://windward.hawaii.edu/services-for-students/>

- Academic Support
- Student Support Services windward.hawaii.edu/MySuccess
 - Academic Advising
 - Financial Aid
 - Personal Counseling
- Technical Support Services

Tentative Course Schedule

The following schedule is subject to change. Should changes occur, you will be notified by email. All due dates are on Sunday evening except the last week which has Friday due dates.

Lab #	Topic/Event	Due date
0	Safety Review and Syllabus	10-Jul
1	Exploring Intermolecular Attractions via Viscosity	10-Jul
2	Melting points of compounds and mixtures	10-Jul
3	Molar mass of solute using freezing point depression	17-Jul
4	Kinetics of an Iodine Clock Reaction (microscale)	17-Jul
5	Determination of an equilibrium constant	24-Jul
6	Le Chatelier principle	24-Jul
7	pH scale	31- Jul
8	Buffer solutions	31-Jul
9	Determination of solubility product constant with common ion effect	7-Aug
10	Entropy of Borax dissolution	7-Aug
11	Voltaic cells	12-Aug
	Final Exam	12-Aug
