UNIVERSITY of HAWAI'I®
WINDWARD
COMMUNITY COLLEGE

CHEM 162: GENERAL CHEMISTRY II

3 Credits (CRN 99032)

Online

INSTRUCTOR: Dr. Christopher Guay
OFFICE HOURS: via email anytime or online conference by appointment
EMAIL: cguay@hawaii.edu
EFFECTIVE DATE: Summer 2026

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 O'ahu's Ko'olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

CATALOG DESCRIPTION

Second course of a two-course sequence designed to meet the one-year General Chemistry requirement for pre-med, science and engineering majors. Topics include thermochemistry, kinetics, acid-base equilibrium, solubility equilibrium and electrochemistry. Emphasis on problem solving. (3 hrs. lecture)

Prerequisites: A grade of "C" or better in CHEM 161, credit or concurrent registration in MATH 135, or instructor's consent

Co-requisite: Concurrent registration in CHEM 162L

WCC: DP

STUDENT LEARNING OUTCOMES

1. Predict properties (boiling point, melting point, osmotic pressure, vapor pressure) of solution based on concentrations.
2. Determine reaction rate laws and calculate rate constants and half-life based on experimental data.
3. Calculate the equilibrium concentration of chemicals in solution involved in precipitation, acid-base and redox reactions.
4. Predict spontaneous reactions based on enthalpy and entropy considerations.
5. Determine the electrochemical potential of redox reactions.

COURSE TASKS

- Lecture videos: You are required to watch the recorded lecture videos for each unit that are posted on the Lamaku course website. Printed copies of the lectures slides (in pdf format) are also available on the course website.
- Textbook readings: You will need to read all of the assigned readings in the textbook (we are using an OpenStax electronic text with free online access). A schedule showing the textbook sections that should be read each week will be posted on the course website.
- Homework: You will be required to submit online homework assignments through the Aktiv Learning portal. A schedule listing the assignments and their due dates will be displayed when you log in to your Aktiv Learning account.
- Online quizzes: Online quizzes for each unit will be accessible through the Aktiv Learning portal. You will be responsible for taking each quiz during the dates when it will be open – a quiz schedule showing the open dates for each quiz will be posted on the course website.
- Midterm exams: There will be three midterm exams given during the course. You may use a single-sided sheet of 8.5 x 11" paper with your own handwritten notes when taking the exams (I will ask you to email me a copy of your notes sheet after the exam. I will also provide you with a copy of a standard periodic table of the elements.
- Final exam: There will be a final exam at the end of the course. **The final exam is cumulative** – *i.e.,* it will cover all of the material encountered during the course.

ASSESSMENT TASKS AND GRADING

Grades will be based on the following categories:

i. Online homework
ii. Online quizzes
iii. Midterm Exam 1
iv. Midterm Exam 2
v. Midterm Exam 3
vi. Final Exam (counts double – *i.e.*, counts as two categories)

Your percentage score in each category will be determined, and the category with the lowest score will be dropped. An average percentage score for the remaining six categories will be calculated and used to assign your grade for the course as follows:

A: 100 - 90.0 %
B: 89.9 - 80.0 %
C: 79.9 – 70.0 %
D: 69.9 – 60.0 %
F: below 60 %

Curving may be employed if deemed necessary. Grades of I, W, CR, NC are described in the current college catalog. Changing from letter grading (A-F) to CR/NC option must be done by the deadline for the current term – this must be discussed previously with the instructor.

LEARNING RESOURCES

- We will be using the following text: ***Chemistry 2e***, which is available for free from OpenStax. This text can be accessed via an online reader (recommended) or downloaded as a pdf file at the following website: https://openstax.org/details/books/chemistry-2e
- Online homework assignments, online quizzes, and exams will be done through the **Aktiv Learning** platform. This can be accessed online through the **Aktiv Learning** website (https://aktiv.com) and/or through an app that you can install on a smart phone. You will need to purchase an access code online . For instructions on how to set up your account on **Aktiv Learning**, go to the "General Course Instructions" tab on the left side of our course website on Laulima and click on the **"Getting Started With Aktiv Learning"** link.
- Course website: Lecture videos, copies of the lecture slides, exam study guides, and announcements will be posted on our Lamaku website (lamaku.hawaii.edu). There will also be links to online tutorials and interactive exercises for extra practice.
- You will need to have a standard scientific calculator and Internet access.

ACTIVITIES REQUIRED OUTSIDE OF REGULAR CLASS TIMES

Since this is an online course, you will need to exercise strong self-discipline and make sure that you are keeping up with all of the course assignments in a timely manner. This is particularly true during the short summer semester, when the pace of the course moves much more quickly than the regular spring and fall semesters. You should plan on spending *at least 25-30 hours per week* to study for this class:

- ***1 hour per day watching the lecture videos posted on our course website.*** This will consist of watching the assigned lecture videos and going through my lecture notes/ slides, which are also posted on the course website.
- ***1-2 hours per day for textbook reading assignments.*** This will consist of reading the assigned sections in the text. This can be done using the electronic copy of the course text available via the OpenStax portal or a hard copy of the textbook (purchasing a hard copy of the text is *optional* – it is fine to just use the electronic copy of the text if you are OK with that). Reading the material in the textbook is very important to gaining understanding of the chemistry concepts that we will cover in this class – just watching the lecture videos is not enough! You will not succeed in this course if you do not do the assigned text readings.
- ***1-2 hours per day working on homework assignments.*** It is very important to practice solving problems in order to consolidate your understanding of the course material. You should practice writing out and solving calculation problems by hand even though all of the homework assignments will be submitted online via Aktiv Learning. You can work on the problems using your notes and the text at first until things start to click. Then you should try doing some problems without any outside resources to make sure that you really understand things (this will also be good practice for what you will need to do on the exams).

- ***1 hour working on other class assignments.*** These include taking online quizzes, working through the tutorials listed under the Online Resources section for each unit, and working on additional practice problems (especially for any topics that you are having trouble with).

DISABILITIES ACCOMMODATION

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 Accommodation Services Office (ASO) to discuss reasonable accommodations that will help you succeed in this class. They can be reached by email at uhmcds@hawaii.edu.

ACADEMIC INTEGRITY (VERY IMPORTANT!!)

Make sure that you are familiar with the sections related to "Academic Dishonesty" in the College's policies governing student conduct (available on the WCC website). The fundamental principle governing academic integrity and academic dishonesty is that **each student is responsible for presenting his/her own work at all times.**

It is fine to discuss homework assignments with other students and help each other out – I strongly encourage you to study with your classmates outside of class. But it is also important that you learn how to solve problems on your own, and **you must submit your own work.**

Of course it is not OK to collaborate on exams. The following rules will be enforced:

- You may use a single-sided sheet of 8.5 x 11" paper with your own handwritten notes when taking the exams. You may also use a clean, unmarked copy of the periodic table that I will provide. No other outside notes or resources are allowed.
- You may not access any websites, electronic files, social media, or any other sources of outside information while taking the exams.
- You may not talk with anyone while you are taking the exams – this includes in-person conversation, phone calls, texting, email, etc.
- You may not speak with other students about the exam until after the exam date has passed and everyone has taken the exam.
- You can use a calculator for the exams. But you will only be allowed to use standard scientific calculators – no cell phones, tablets, mini-computers, or any device that can connect to the internet, communicate with other devices, or has data storage capacity.

If you are observed cheating on any of the exams or other class assignments, your will receive an F for the assignment and I will refer the matter to the Department Head and the Office of the Dean. Cheating is unfair to everyone involved: the teacher, the cheater, and especially the honest students in the class. I adhere to a **zero-tolerance** policy regarding cheating and academic dishonesty, so consider this your first and only warning – there will be no "second chances" in this area.

Trust me – you do NOT want to test me on this!!! I have come down hard on students in my classes for cheating before and will not hesitate to do so if necessary in the future.

for more information.

TITLE IX

Title IX prohibits discrimination on the basis of sex in education programs and activities that receive federal financial assistance. Specifically, Title IX prohibits sex discrimination; sexual harassment and gender-based harassment, including harassment based on actual or perceived sex, gender, sexual orientation, gender identity, or gender expression; sexual assault; sexual exploitation; domestic violence; dating violence; and stalking. For more information regarding your rights under Title IX, please visit: https://windward.hawaii.edu/Title_IX/.

Windward Community College is committed to the pursuit of equal education. If you or someone you know has experienced sex discrimination or gender-based violence, WCC has resources to support you. To speak with someone confidentially, contact the Mental Health & Wellness Office at 808-235- 7393 or Kaahu Alo, Designated Confidential Advocate for Students, at 808-235-7354 or kaahualo@hawaii.edu. To make a formal report, contact the Title IX Coordinator, Karla K. Silva-Park, at 808-235-7468 or karlas@hawaii.edu.