UNIVERSITY of HAWAI'I®
WINDWARD
COMMUNITY COLLEGE

CHEM 161: GENERAL CHEMISTRY I
3 Credits (CRN 62021)
Online

INSTRUCTOR: Dr. Christopher Guay
OFFICE HOURS: Online
EMAIL: cguay@hawaii.edu
EFFECTIVE DATE: Fall 2025

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

Basic principles of inorganic chemistry with emphasis on problem solving. First course of a two-course sequence designed to meet the one-year General Chemistry requirement for pre-med, science and engineering majors. Topics include chemical calculations, electronic structure, chemical bonding, states of matter and solutions. (3 hrs. lecture)

Prerequisites: A grade of 'C' or better in Math 103, or placement in Math 135 or instructor's consent.

Co-requisite: Concurrent registration in Chem 161L.

Recommended Preparation: Student should have taken high school chemistry, Chem 100 or Chem 151.

WCC: DP

STUDENT LEARNING OUTCOMES

1. Use the mole concept in solving stoichiometry problems involving solids, liquids, gases and solutions.
2. Balance chemical equations, classify reactions, identify and analyze the role of the chemicals involved in chemical reactions.
3. Predict the behavior of gases while undergoing changes in volume, pressure, temperature and quantity.
4. Manipulate thermochemical equations and calculate the amount of energy involved in chemical reactions.
5. Predict physical and chemical properties of elements based on electronic structure and location in the Periodic Table.
6. Predict physical and chemical properties of compounds based on chemical bonding, geometry and intermolecular interactions.

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 day 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 on our course website. 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 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 "Content" tab on the menu bar at the top of our Lamaku wesite and click on the "General Course Instructions" tab on the left side of the webpage, then look for the **"Getting Started With Aktiv Learning"** link.
- Course website: Online quizzes, lecture videos, copies of the lecture slides, exam study guides, and announcements will be posted on our Lamaku website. There will also be links to online tutorials and interactive exercises that you can work with 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 12 hours per week* to study for this class:

- ***3-4 hours per week 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.
- ***2-3 hours per week 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 biochemistry 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.
- ***4-5 hours per week 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. For the exams in this course, you will be required to solve problems by hand and show all of your work, so you should make sure to practice this when doing the homework problems. 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 notes to make sure that you really understand things (this will also be good practice for what you will need to do on the exams).

- ***1-2 hours per week 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).

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 during exam periods:

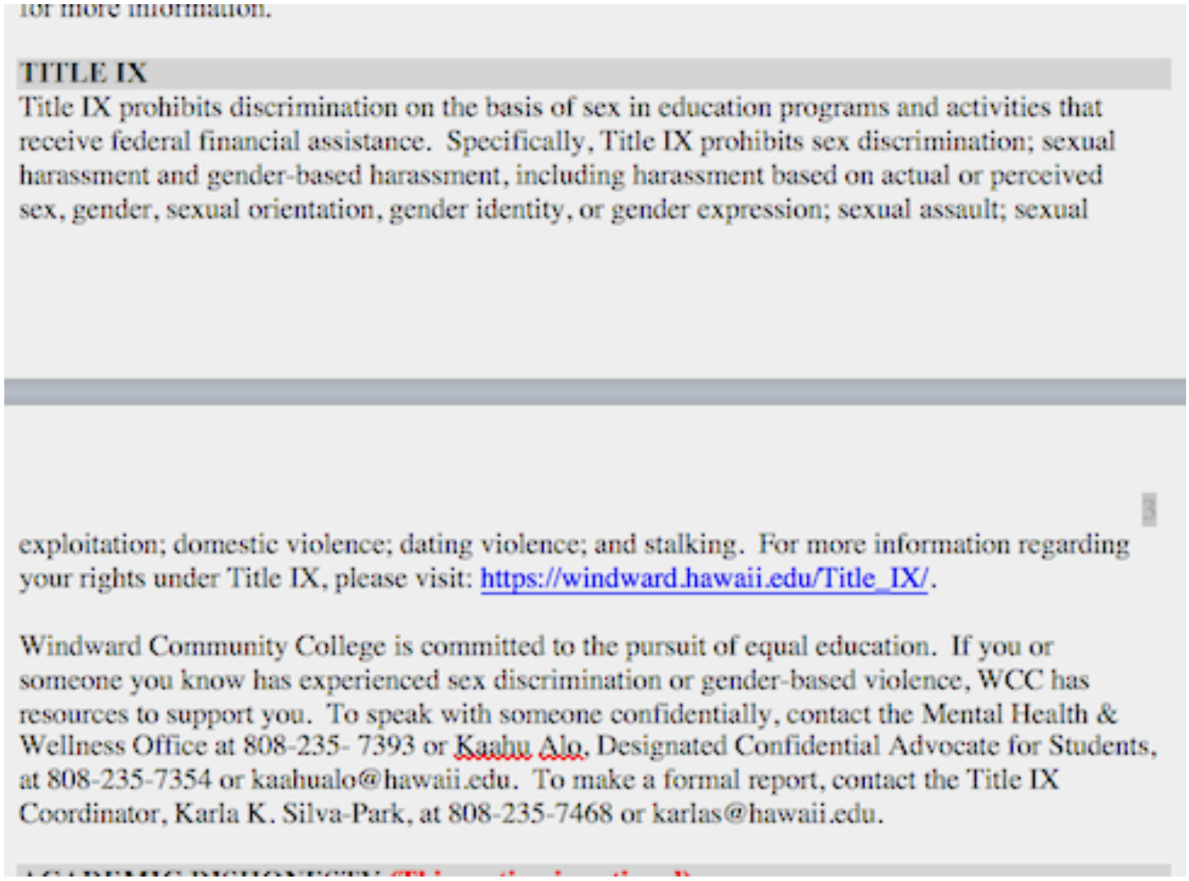
- Absolutely no talking once the exam begins. If you have a question or need something during an exam, do not ask your neighbor. Raise your hand and I'll come help you.
- Keep your eyes on your own paper. If I see you looking at someone else's paper during the quizzes and exams, I will assume you are cheating.
- 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 can (and should) bring a calculator for the exams. But you will only be allowed to use standard scientific calculators – no cell phones, PDA's (iPhones, Blackberrys, etc.), mini-computers, or any device that can connect to the internet, communicate with other devices, or has data storage capacity.
- No listening to any audio devices (iPods, etc.) during exams.

If you are observed cheating on any of the class assignments (homework, quizzes or exams), 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.

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 Disability Specialist Counselor (Ann Lemke) to discuss reasonable accommodations that will help you succeed in this class. She can be reached at 235-7448 or lemke@hawaii.edu. You can also stop by her office in Hale ʻĀkoakoa 213 for more information.



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.