

Class Meetings

Meeting	Time	Days	Location
Virtual Lectures	2 hours per week	Asynchronous	Videos posted on Canvas
In Person Lecture	08:30 AM - 10:20 AM	Fridays	SC1102
In Person Lab	10:30 AM - 1:20 PM	Fridays	SC2208
Virtual Office Hours	3:00 PM – 4:45 PM	Thursdays	<u>Zoom</u> *

* Schedule at: https://calendly.com/wilcoxallan_fhda/office

Instructor	Allan Wilcox, PhD	Email: wilcoxallan@fhda.edu
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Introduction

This course is an introduction to the core theories and problem-solving techniques of chemistry as preparation for general chemistry and other science-related fields. Topics discussed include modern theories and laws of chemistry, chemical reactions, gases, and thermochemistry, all with emphasis on reasoning and problem solving skills. We will also discuss chemistry topics from a cultural, historical, and societal perspective. The laboratory program teaches laboratory safety, general procedures, methods of chemical analysis, the maintenance of your laboratory notebook and writing laboratory reports.

This course is a preparatory course for entry into the General Chemistry sequence, which is the primary course sequence that is a major preparation requirement in the discipline of Chemistry at all CSUs and UCs. This course meets general education requirements for De Anza GE (Area B), CSU GE (Area B), and IGETC (Area 5).

Pre-requisite: MATH 114 or MATH 130 or equivalent.

Class Meetings – what we do.

Because this is a hybrid course, the schedule and expectations are a little different than a traditional college course.

1. You must view the week's "**Virtual Lecture**" videos posted on Canvas prior to Friday to do well in this class (see why below).
2. "**In Person Lecture**" meetings on Fridays (SC1102) start with a summary lecture on what you should know from the "**Virtual Lecture**" videos.
3. Then we have a **Workshop** (in SC1102) covering concepts and problems presented in the "**Virtual Lecture**" videos.
 - Work from these workshops is graded.
 - See **Workshops: Group Work** below for more information on **Workshops**.
4. After the workshop, we may cover new material in the "**In Person Lecture**" meeting.
5. During our "**In Person Lab**" meetings (SC-2208), we do labs which demonstrate principles of chemistry taught in Chem25.
 - See **Lab Program** below for more information on the Chem25 labs.

Required Online Resources

- You must have access to internet with a computer to complete this course.
- The Chem25 Canvas Website has your Chem25 course information, study aides, homework assignments, quizzes, and current grades.
 - ✓ Class information is subject to change, and it is your responsibility to keep up to date with the most recent information.
 - *I recommend you set Notification Preferences in Canvas to alert you (via email) when changes are made to the Canvas website for example for new assignments and as your current grades are assigned, so that you do not miss any information.*
 - See [Canvas: set up your profile and notifications!](#) in the Getting Started Module.
 - ✓ The course eBook, study aides, online homework are delivered in the “M-H Connect” Tab in Canvas.
 - The eBook is Bauer, Birk, and Marks. "Introduction to Chemistry", 5th Ed.
 - ✓ You must complete the “ACS Safety Training” Module and post your Submit Safety Training Certificate on Canvas before you can participate in the lab program for Chem25.
 - If a you have completed the safety module within the last two quarters, can resubmit your certificate to the assignment without completing the module.

Required Materials

- Lab Manual available from the Bookstore
 - ✓ [Preparation For General Chemistry Lab Manual](#) ISBN: 978-1-307-81770-6
 - ✓ This is a custom lab manual that can only be purchased from the [De Anza Bookstore](#).
- A scientific calculator must be brought to each class meeting.
 - ✓ Calculators on cell phones are not allowed during exams or quizzes.
- Approved eye protection: Safety Goggles or Safety Glasses.
 - ✓ Uvex Stealth Goggles are the best!: available from the Bookstore or Amazon.
- Approved gloves for lab.
 - ✓ Nitrile gloves are the best, for example: [MedPride Powder-Free Nitrile Exam Gloves](#)

Course Policies for Chem25

- Email. All announcements from Canvas are emailed to your email address registered with FHDA.
- Participation in all lectures and lab meetings is required.
 - ✓ In person lectures and lab meetings start promptly on time!
 - ✓ Arrive with plenty of time to be ready to start the day’s lecture quiz and participate.
- You are responsible for material presented in all Lectures.
 - ✓ In person lectures are given on Fridays
 - Lecture slides are posted as handouts on Canvas
 - ✓ Recorded Lectures are posted on Canvas.
 - You can view the recordings at your convenience.
- There are no make-up assignments.
 - ✓ Students are responsible for ALL work, handouts, and material missed during an absence.
 - ✓ A missed class meeting will earn zero points for all activities and assignments in the missed meeting.
- Any student with two or more absences from class meetings or who fails to turn in two or more assignments by due dates may be dropped from the course.

Grade for this Course

Your course letter grade will be based on the percentage of possible points earned (% Score), as shown in the table below.

Letter	% Score	Letter	% Score	Letter	% Score	Letter	% Score
A+	100-98	B+	89-88	C+	79-77	D	67-62
A	97-92	B	87-82	C	76-70	D-	61-60
A-	91-90	B-	81-80	D+	69-68	F	59-0

Your % Score earned will be assigned according to weighted grade categories in the table:

Category	Grade %
Participation	5
Worksheets	10
Homework	15
Prelab Quizzes	5
Lab Reports	25
Exams	40
Total	100

Participation

Participation is actively engaging in activities and assignments in Chem25.

Participation points are deducted for:

- Absence
 - ✓ Absence will also result in a zero for work done on all assignments during the class meeting.
 - ✓ Exceptions due to documented health or personal situations may be granted by the instructor.
 - Please contact your instructor before the meeting if you must miss a class meeting.
- Late arrival (up to 10 minutes late, 30% penalty for each late arrival)
 - ✓ Any student who arrives more than 10 minutes late to any class meeting will be counted absent.
 - In addition, the student will not be permitted to perform the scheduled experiment or remain in the lab due to safety and operational concerns.
- Texting, answering phone calls, visiting social media websites, any online activity not related to Chem25.
- Lack of preparation for Labs as shown by:
 - Failure to bring your copy of the lab manual.
 - Being unaware of goals or learning objectives of the labs.
 - Not starting work immediately after lab lecture.
- Submit all assignments on time (by due date) to show your active participation.

Workshops: Group Work

The purpose of group work is to promote learning. Group work uses guided activities (worksheets and online simulations) to teach chemistry concepts and apply concepts to more complex problems. Group work allows you to take advantage of the strengths of a group and get help from the instructor to gain new knowledge. Groupwork is good practice in communication and teamwork skills (essential skills).

Working in groups, students do most of the talking and problem-solving. The process of group work is enhanced by assigned roles to each group member. You will work in a group of 3-4 students to complete Worksheets during Group Work. The instructor monitors progress and helps if needed.

- Worksheets reinforce topics covered the week before class on Friday at 8:30 AM.
- The time allowed to complete worksheets varies with each worksheet.
- Each student turns in their own worksheet for Worksheet grade.

Homework

- Homework is found under the “M-H Connect” menu on **Canvas**.
 - ✓ M-H Connect is an online homework and learning management platform.
 - ✓ Bauer, Birk, and Marks. "Introduction to Chemistry", 5th Ed, the eBook delivered in M-H Connect
- Click on the M-H Connect tab to register.
 - ✓ Visit Student Registration for Canvas for links to tech support.
 - Watch Ari's Video for how to register for Connect and a description of what you get in Connect.
- Homework is delivered in SmartBook 2.0, an adaptive learning system designed to help you learn faster, study more efficiently, and retain knowledge for greater success.
 - ✓ See the online article, Assignment Tips for how SmartBook Works.
 - ✓ Using the Assignment Tips above you will efficiently finish assignments and receive 100% on Homework Scores!

Lab Program

Lab time is used to perform experiments or to engage in collaborative workshops (group work).

- Experiments demonstrate and apply chemical concepts taught in Chem25.
- Experiments in Chem25 are fun learning opportunities!
- **You must receive a score greater than 59% for your Lab Program Grade to pass Chem25.**

General Lab Requirements and Rules

- Before each lab: Read the Lab Instructions and complete the Prelab Quiz on Canvas.
- Safety precautions will be discussed, and experimental techniques will be demonstrated during the Lab Lecture at the beginning of lab.
- If you miss the Lab Lecture, you will not be allowed to participate in that lab.
- You must bring your own copy of the Lab Manual to each lab.
 - ✓ Preparation For General Chemistry Lab Manual ISBN: 9781307817706
 - ✓ This is a custom lab manual that can only be purchased at the De Anza Bookstore

Lab Safety Policy

- You must complete the Module “ACS Safety Training” and post your certification of completion on Canvas before you can participate in the lab program for Chem25.
- After one warning, failure to follow safety policies presented in ACS Safety Training or discussed in class will result in being dismissed from lab that day.
 - ✓ **No Exceptions.**

Prelab Quizzes

- Prelabs are “open book” online quizzes with multiple choice questions, multiple answer questions, matching questions, and questions requiring calculations.
- A prelab quiz must be completed by each student before each lab.
- Prelabs are found on Canvas, are based on lab instructions and materials presented in lectures.
- For each prelab, three attempts are allowed – the highest scored attempt is counted for your grade.
 - ✓ Prelab Quizzes close at 8:30 AM of the day of the lab.
 - ✓ Late Prelab Quizzes are accepted up to 24 hours past the due date with a **20% penalty**.

Lab Reports

- Instructions for lab reports are given on each Lab Report assignment page found on Canvas.
- Unless otherwise stated, Lab Reports are submitted as pdf files on the course site on Canvas.
- Any modifications to requirements for lab reports or changes to experimental procedures will be discussed during the Lab Lecture.
 - ✓ *Be sure to take notes!*

Lab Report Policy

- Lab Reports are Report Sheets found in the lab manual, submitted on Canvas as single pdf file.
 - ✓ Lab Reports are accepted up to 24 hours past the due date with a **20% penalty**.
- Lab reports are based on measurements, observations, and results from the study of properties of matter and chemical reactions.
- For most experiments, you will be sharing data and observations with a partner; however, you must describe what you do in lab and record observations in your own words.
- You also must do your own calculations; answer questions and state your conclusions in your own words.

Exams

- The average of your 3 exams counts as 40% of your course grade.
- The dates of three exams are listed on the class schedule.
 - ✓ **NO** make-up exams will be given.
- Complete policies for exams are given on the Canvas Page for each exam.
- Exams are given in two concurrent parts in two different formats.
 - ✓ Questions in Part 1 have multiple choice answers.
 - ✓ Questions in Part 2 includes problems requiring calculations (show your work with unit conversions and correct significant figures), drawing chemical structures, writing balanced chemical equations, and short essay questions that requires you to explain your answers in grammatically correct sentences using appropriate chemical terms and concepts.

Chem25 Course Objectives

- Explore the core concepts of modern atomic and molecular theory.
- Assess the importance of the mole concept in stoichiometric calculations.
- Apply fundamental mathematical concepts to the proper collection and evaluation of experimental data.
- Explore the various gas laws and understand the relationships between pressure, temperature, and volume of a gas.
- Differentiate between standard classes of chemical reactions.
- Acquire an elementary understanding of thermochemistry
- Explore the discipline of chemistry from a cultural, historical, and societal perspective.

Academic Integrity Policy

Common forms of academic dishonesty are plagiarism, fabrication, and cheating. When you submit answers as an individual (on prelabs, lab reports, quizzes, exams) it must be your own, original work. Any student found pursuing any form of academic dishonesty will be subjected to disciplinary action according to the guidelines described in the College Catalog. Any cheating or plagiarism will result in a zero grade and a report to the Office of Student Affairs for disciplinary action.

Student Learning Outcome(s):

- Assess the fundamental concepts of modern atomic and molecular theory.
- Evaluate the standard classes of chemical reactions.
- Demonstrate a fundamental understanding of mathematical concepts pertaining to chemical experimentation and calculations.

Office Hours:

TH 03:00 PM 05:00 PM Zoom By Appointment