

Instructor: Allan Wilcox, PhD	Email: Use Canvas Inbox
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### Class Meetings

Meeting	Time	Days	Location
Virtual Lectures	2 hours per week	Asynchronous	Videos posted on Canvas
In Person Workshop	08:30 AM - 10:20 AM	Fridays	SC1102
In Person Lab	10:30 AM - 1:20 PM	Fridays	SC2208
Virtual Office Hours	10:00 AM – 11:00 AM	Thursdays	Zoom*

\* Schedule on Canvas Under “Zoom > Appointments”

### 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 for this course: MATH 114 or MATH 130 or equivalent.

### Class Meetings – what we do.

This is a hybrid course, so expectations are different from a college course with all meetings in person.

1. You must review the week’s (see course schedule) “Virtual Lecture” videos posted on Canvas prior to Friday to do well in this class.
2. On Fridays (Room SC1102) you will complete a worksheet that covers 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.
3. During our Lab meetings on Fridays (Lab SC-2208), we do labs with experiments or engage in collaborative workshops (group work) that demonstrate principles of chemistry taught in Chem25 (see course schedule).
  - See **Lab Program** below for more information on the Chem25 labs.

## 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 activities.
- You are responsible for material presented in all Lectures.
  - ✓ Recorded Lectures are posted on Canvas.
    - You can view the recordings at your convenience.
  - ✓ In person summary lectures are given on Fridays.
  - ✓ Lectures given before lab on Fridays.
- There are no make-up assignments.
  - ✓ 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.

## Required Online Resources

- You must have access to a computer and the internet with and an individual email address to complete this course.
- The Chem25 Canvas [Website](#) has your Chem25 course information, study aides, homework assignments, quizzes, and current grades.
  - ✓ Access Pearson on Canvas provides online resources (e.g. study help, homework, and eText).
    - You must purchase your code for Access Pearson through the bookstore.
    - “Modified Mastering Chemistry with eText Student Access Code for Introductory Chemistry for DE ANZA COLLEGE”
  - ✓ The course eText, study aides, online homework are delivered in the “Access Pearson” Tab in Canvas.
    - The eText is provided: Nivaldo J. Tro, “Introductory Chemistry”, 7th ed., Pearson.
  - ✓ Class information is subject to change, and it is your responsibility to keep up to date with the most recent information.
    - We recommend setting Notification Preferences in Canvas to alert you (via email) when changes are made to the Canvas website so that you do not miss any new information.

## Required Materials for Chem25 Lab

- 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 have you have completed the safety module within the last two quarters, you can resubmit your certificate to the assignment without completing the module.
- Lab Manual: [Preparation For General Chemistry Lab Manual](#)
  - Author: Subramaniam, ISBN: 978-1-307-81770-6
  - ✓ This is a custom lab manual that can only be purchased from the [De Anza Bookstore](#).
  - ✓ You must bring your paper copy of the lab manual to each lab meeting.
- You must have approved eye protection: Safety Goggles or Safety Glasses.
  - ✓ Uvex Stealth Goggles are the best! Available from the Bookstore or Amazon.
- You must bring a scientific calculator to each class meeting.
  - ✓ Calculators on cell phones are not allowed during exams.

## 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
<b>Total</b>	<b>100</b>

## Participation

Actively engaging in activities and assignments in Chem25 shows participation. Participation points are deducted for:

- Absence
  - ✓ An absence will 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 15 minutes late, 30% penalty for each late arrival)
  - ✓ Any student who arrives more than 15 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.
- Wearing earbuds or headphones during class meetings.
- 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/time) to show your active participation.

## Workshops: What is 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 learn and apply concepts covered in Chem25.
  - Worksheets reinforce topics covered the week **before** class on Friday.
- Working in groups, students do most of the talking and problem-solving. You will work in a group of 3-4 students to complete and report results from worksheets during Group Work.
  - Successful group work is good practice in communication and teamwork skills (essential skills).
  - Your instructor monitors progress and helps when needed.
- Each student turns in their own completed worksheet for Worksheet grade.

## Homework

- Homework is found under the “Access Pearson” menu on **Canvas**.
  - ✓ Access Pearson provides online resources (e.g. study help, homework, and eText).
  - ✓ The eText is provided by “Access Pearson”: Nivaldo J. Tro, “Introductory Chemistry”, 7th ed., Pearson.

## Lab Program

Lab time is used to complete labs with experiments or engage in collaborative workshops (group work) that demonstrate principles of chemistry taught in Chem25.

- 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 Reports 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 must be purchased at the De Anza Bookstore

## Lab Safety Policy

- You must complete the Canvas pages on Lab Safety before Lab 1 January 17.
- 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

- Lab reports are based on measurements, observations, and results from the study of properties of matter and chemical reactions.
- Instructions for lab reports are given on each Lab Report assignment page found on Canvas.
- Unless otherwise stated, Lab Reports are submitted as single pdf files on Canvas.
- Lab Reports are Report Sheets found in the lab manual, submitted on Canvas as a single pdf file.
- Any modifications to requirements for lab reports or changes to experimental procedures will be discussed during the Lab Lecture.
  - ✓ *Be sure to take notes during the Lab Lecture!*

## Lab Report Policy

- 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.
- Lab Reports are accepted up to 24 hours past the due date with a **20% penalty**.

## 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.

## General Tips and Time Management

- This is a fast-paced course - we cover new material every week.
  - You must practice effective time management to succeed in this course.
  - Staying caught up with the class work throughout the semester is essential to understand the material and to receive a good grade.
  - A general guideline for college chemistry courses: 2 hours of study for every hour of class meetings.
    - ✓ Chem25 has scheduled 7 hours / week of class meetings.
      - This means that the guideline requires 14 hours per week study outside of class is for Chem25.
      - You may require more or less than 14 hours study time outside of class, depending on your learning style and previous experience.
- You will benefit the most from your studying if your time is spread out uniformly in short study sessions during the week rather than concentrated into one or two long study sessions.
- Procrastination and putting off doing work (rushing assignments, cramming for exams) will result in poor performance and will negatively affect your grade.
- Also, before class, you will gain a great advantage if you read the corresponding sections of the textbook. – this will really help reinforce and expand the concepts from class activities.
- One of the most effective ways to understand and remember what you are learning is to take effective notes.

## 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 10:00 AM 11:15 AM Canvas,By Appointment,