Chem25 Preparation for General Chemistry **De Anza College**

Section 27Y CRN 37913 **Winter 2025**

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Table 1. Class Meetings

Meeting	Time	Days	Location
Virtual Lecture	2 hours / week	Asynchronous	Videos posted on Canvas
Office Hours	1:00 PM – 2:00 PM	Thursdays	Zoom
In Person Lecture	08:30 AM - 10:20 AM	Friday	SC1102
In Person Lab	10:30 AM - 1:20 PM	Friday	SC2208

* Join URL https://fhda-edu.zoom.us/j/3746684981

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.

Action Plan – What to Do.

Listed below are essential activities to complete for a good grade in Chem25.

A. Before Our first Meeting April 11.

1. Complete the Getting Started Module on Canvas!
2. Purchase code for Access Pearson, See "Required Online Resources" in this document below.

B. Each Week

1. Prepare for the Workshop.
   - ✓ Review the week's videos ("Virtual Lectures") posted on Canvas.
   - ✓ Study Chapter sections in the eBook that are covered in Lecture.
   - ✓ See "Workshops: Group Work" for more information on Workshops.
2. Complete Access Pearson homework assignments.
3. Study the week's Lab Page and complete the Prelab Quiz due at 8:30 AM on Fridays.
   - ✓ Activities in Lab demonstrate principles of chemistry taught presented in Lectures.
   - ✓ See "Lab Program" for more information on the labs for Chem25.
4. Follow "General Tips and Time Management".

Course Policies for Chem25

- Announcements and changes to the course.
  - ✓ The announcements include changes in Course Information and Study Advice.
    - ⇒ All announcements from Canvas are emailed to your email address registered with FHDA.
  - ✓ 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.
- Participation in all lectures and lab meetings is required.
  - ✓ Review Lecture Videos.
    - ⇒ Lecture slides are posted as handouts on Canvas.
  - ✓ In person lectures and lab meetings start promptly on time!
    - ⇒ Arrive with plenty of time to prepare and start the day's activities.
- You are responsible for material presented in all Lectures.
  - ✓ *Take notes during Lectures to help with your comprehension of Chem25 material!*
  - ✓ Recorded Lectures are posted on Canvas.
    - You can view the recordings at your convenience, but you must do so before Friday Meetings to insure a good grade in Chem25.
  - ✓ Lectures are also given before Workshops and before Labs.
- 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.
- If you must miss a class meeting, an excused absence may be given with verifiable documentation such as a note from your health care provider for illness or from your coach for De Anza sponsored sports activities.

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, short instructional videos, homework, and eText).
    - o 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"
    - o The course eText, study aides, online homework are delivered in the "Access Pearson" Tab in Canvas.
      - The eText is: Nivaldo J. Tro, "Introductory Chemistry", 7th ed., Pearson.

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 a paper copy of the lab instructions and report forms to each lab meeting.
- You must have approved eye protection: Safety Goggles or Safety Glasses.
  - ✓ Uvex Stealth Goggles are the best because they breath!
  - ✓ Available from the Bookstore or Amazon.
- You must bring a scientific calculator to each class meeting.
  - ✓ Calculators on cell phones are not allowed.

Grade for this Course

Your course letter grade will be based on the percentage of possible points earned (% Score), as shown in the Table 2.

Table 2 Letter Grade Categories based on % Score.

Letter	% Score	Letter	% Score	Letter	% Score	Letter	% Score
A+	100-98	B+	89-88	C+	79-77	D	67-62
0A	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 the weighted grade categories in Table 3.

Table 3 Weighted Grade Categories of % Score

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

Participation

Actively engaging in activities and assignments in Chem25 is counted as participation. Participation points are deducted for:

- Absence from Class Meetings
  - ✓ An absence will result in a zero for work done on all assignments during the class meeting.
- Late arrival (up to 15 minutes late, 30% penalty for each late arrival)
  - ✓ A student who arrives more than 15 minutes late to a class meeting will be considered absent.
    - In addition, the student will not be permitted to perform the scheduled Lab Activity.
- If a student texts, answers a phone call, visits social media websites, or engages in 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 (Complete the Prelab Quiz!).
- Not starting work immediately after the lab lecture.

Submit all assignments on the due date/time to show your active participation.

Workshop

What is Group Work? Group work uses guided activities (worksheets and online simulations) to teach chemistry concepts and apply concepts to more complex problems. The purpose of group work is to promote learning.

- Group work allows you to learn and apply concepts covered in Chem25.
  - Workshops 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.
  - Successful group work requires effective communication and teamwork skills.
  - Your instructor monitors progress and helps when needed.
- Each student turns in their own completed Worksheet or Quiz for Workshop grade.
- Worksheets and Quizzes are accepted past the due date/time with a 20% penalty per day late.

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 paper copy of the Lab Instructions for 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.
  - ✓ A copy of Instructions for each lab are posted on the Lab Page as a pdf file for printing.
  - ✓ You must bring a paper copy of the lab instructions to each lab meeting.

Lab Safety Policy

- You must complete the ACS Safety Training Canvas pages on Lab Safety before Lab 1 April 14.
- Failure to complete ACS Safety Training will result in being dropped for the class.
- 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 Quizzes 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 not accepted past the due date (8:30 am on Fridays).

Lab Reports

- Lab reports are based on measurements, observations, and results from the study of properties of matter and chemical reactions.
- Lab Reports are Report Sheets found in the lab manual.
  - ✓ Detailed instructions for lab reports are given on each Lab Report assignment page on Canvas.
  - ✓ Lab Reports must be submitted as **single** pdf file 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 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/time with a 20% penalty.
- You must receive a score greater than 59% for your Lab Reports Grade to pass Chem25.

Exams

- Study Guides and Practice Exams are posted on Preparation for Exam Pages.
- 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.
    - ⇒ 80% of Exam Score
  - ✓ Questions in Part 2 require you to write how to solve problems
    - ⇒ 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 require you to explain your answers using appropriate chemical terms and concepts.
    - ⇒ 20% of Exam Score

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 of 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	1:00 PM - 2:00 PM	Zoom