

Chem30A General, Organic and Biochemistry I
Section 44 CRN 39337

Meeting	Time	Days	Location
Lectures and Workshops	12:30 - 2:20 PM	Tuesday and Thursday	G2
Labs	2:30 - 5:20 PM	Tuesday	SC2208
Office Hours	2:30 - 3:00 PM	Thursdays	G2
	10:00 – 10:30 AM	Fridays	<u>Zoom</u>

Instructor: Allan Wilcox, PhD	Contact: Canvas Inbox* or allanwilcox@fhda.edu <i>*Preferred method of contact</i>
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Introduction

This class is the first quarter of the general inorganic, organic and biological chemistry course for students entering allied health fields. Introduction to General, Organic and Biochemistry I focuses on an introduction to general chemistry. The course opens with an overview of the scientific method and of chemistry as the study of matter and its transformations, followed by a discussion of measurement and unit analysis. The central topics include an introduction to elements, compounds, and types of bonding in compounds, leading into a survey of classes of chemical reactions and stoichiometric calculations based on chemical equations. Subsequent discussion of intermolecular forces and phases and phase changes leads into a consideration of the properties of gases, and the course concludes with discussions of acid-base chemistry and nuclear chemistry.

Action Plan – What to Do.

Listed below are essential activities to successfully complete Chem30A.

A. By the end of Week 1

1. Complete the Getting Started Module on Canvas.
2. Complete "ACS Lab Safety Training" to obtain your certificate of completion. Submit a pdf of your certificate on Canvas.
3. Purchase your code for Access Pearson, See: **“Required Online Resources”** below.
4. Complete Peason Homework Chapter 1 and Chapter 2

B. Each Week

1. Prepare for Lectures and Workshops.
 - ✓ Review the eText Chapters listed in the course schedule.
 - ✓ Complete Access Pearson homework assignments.
2. Prepare for Labs.
 - ✓ Study the week’s Lab Page on Canvas.
 - Explain the Lab’s Objectives.
 - Bring your questions about the Lab.
 - ✓ Complete the Prelab Quiz before lecture (12:30 PM) on the day of lab.
3. Follow **“General Tips and Time Management”** below.

Policies for Chem30A

- Chem30A Class announcements are posted on Canvas.
 - ✓ Announcements include course information (e.g., schedule changes, reminders).
- Class Information will change as the quarter progresses.
 - ✓ It is your responsibility to keep up to date with Class 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 assignments, grades, or information from your instructor.
 - ✓ Set Canvas Announcements to be emailed directly to you.
- Participation in all lectures and lab meetings is required.
 - ✓ Lectures and lab meetings start promptly on time!
 - ⇒ Always follow the course schedule.
 - ⇒ Arrive *before* meetings start with plenty of time to prepare, ask questions, and take notes.
 - ❖ *Take notes to help you master Chem30A chemistry!*
- There are no make-up assignments.
 - ✓ Zero points will be given 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.
- Canvas has your complete Chem30A course information, study aides, homework assignments, practice quizzes, and current grades.
 - ✓ Access Pearson on Canvas provides online resources (e.g. study help, short instructional videos, homework, and eText).
 - You must purchase your code for Access Pearson through the bookstore.
 - “Modified Mastering Chemistry with eText Student Access Code for General for DE ANZA COLLEGE”.
 - The eText is: “General, Organic, and Biological Chemistry”, Owens, et.al.
- ✓ **NOT REQUIRED** from Bookstore: “Bundle: Aktiv Chemistry - Quarter + Math Diagnostic”

Required Materials for Chem30A Labs

- You must complete all pages on the “ACS Safety Training” Module and post your **Safety Training Certificate** on Canvas before you can participate in the lab program for Chem30A starting January 13.
 - ✓ If you have completed the safety module within the last two quarters, you can resubmit your certificate to the assignment without completing the module.
- You must have approved eye protection: Safety Goggles.
 - ✓ Uvex Stealth Goggles are the best because they breathe (have vents)!
- Lab Manual: Lab Instructions and Lab Report Forms are posted on Canvas.
 - ✓ A paper copy of Lab Report Forms will be provided in class.
- You must bring a scientific calculator to each lab, lecture, and workshop 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 3.

Table 1 Letter Grade Categories based on % 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 from the grade categories according to their weights (Grade %) shown in Table 4.

Table 2 Weighted Grade Categories of % Score

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

Grade categories are described in the next sections.

Participation (5% of Grade).

Actively engaging in activities and assignments in Chem30A is counted as participation.

Submit all assignments on time to show your active participation.

Participation points are deducted for:

- Absence from Class Meetings
- Late arrival (up to 15 minutes late, 30% penalty for each late arrival)
 - ✓ A student who arrives more than 15 minutes late will be marked absent.
- Sending texts or engaging in any online activity not related to Chem30A.
- Lack of participation in group work.
- Not starting lab work when instructed (immediately after the lab lecture).

Workshops: Group Work (15% of Grade).

What is Group Work? Group work uses guided activities to help you learn chemistry and apply the concepts to more complex problems.

- Group work allows you to learn and apply concepts covered in Chem30A.
- Working in groups, students do most of the talking and problem-solving.
 - You will work in a group of 3-4 students to complete worksheets.
 - Groups report results from worksheets to the rest of the class.
- Successful group work requires effective communication and teamwork skills.
- Your instructor will help you when needed.
- Each student turns in their own separate completed Worksheet for grade, unless instructed differently.
- Worksheets are not accepted late.

Pearson Homework (10% of Grade).

- Pearson Homework is found under the “Access Pearson” tab on **Canvas**.
 - ✓ Access Pearson provides online resources (e.g. study help, homework, and eText).
 - ✓ The eText is provided by Access Pearson: “General, Organic, and Biological Chemistry”, Owens, et.al.
 - ✓ You must purchase your code for Access Pearson through the bookstore.
 - “Modified Mastering Chemistry with eText Student Access Code for General for DE ANZA COLLEGE”, \$48.00
 - ✓ **NOT REQUIRED** from Bookstore: “Bundle: Aktiv Chemistry - Quarter + Math Diagnostic”

Lab Program

Lab experiments demonstrate principles of chemistry taught in Chem30A.

- Labs in Chem30A are fun learning opportunities!
- You must receive a score greater than 59% on your Lab Reports Grade to pass Chem30A.
- Lab Instructions are posted on the Lab Pages found on Canvas.
- Study the Lab Instructions and complete the Prelab Quiz before each lab.
- 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.

Prelab Quizzes (5% of Grade)

- 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 lecture (12:30 PM) the day of each lab.
- Prelabs Quizzes 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 12:30 PM the day of the lab.
 - ✓ Late Prelab Quizzes are not accepted.

Lab Reports (25% of Grade)

- Lab reports are based on measurements, observations, and results from experiments showing properties of matter and chemical reactions.
 - ✓ 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 Forms are posted with instructions on Canvas.
 - ✓ Each student must submit their own, original Lab Report Form.
 - For most experiments, you will be sharing data and observations with a partner; however, you must complete your own Lab Report Form.
 - Do not rely on your lab partner's observations and measurements.
 - You must verify all observations and measurements as the lab progresses.
 - You also must make your own calculations; answer questions and state your conclusions in your own words.
 - ✓ Completed Lab Report Forms must be submitted as **single** pdf file on Canvas for Lab Report Grade.
- Lab Reports are accepted up to 24 hours past the due date with a 20% late penalty.
- You must receive a score greater than 59% for your Lab Reports Grade to pass Chem30A.

Exams (40% of Grade)

- 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.
- Study Guides are posted on Canvas “Preparation for Exam” Pages.
- Complete policies for exams are posted on Canvas “Exam Policy” Pages.

Lab Safety Policies

- You must complete the ACS Safety Training Canvas pages on Lab Safety and submit your certificate of completion by 12:30 PM on January 13.
- Failure to complete ACS Safety Training will result in being dropped from 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.**
- The following rules must be followed at all times in the lab rooms, regardless of the activity.
 1. Shoes that completely enclose the foot are to be worn at all times; **NO** sandals, open-toed, or open-topped shoes, or slippers, even with socks on, are to be worn in the lab
 2. Shorts, cut-offs, skirts or pants exposing skin above the ankle, and sleeveless tops or tops that expose the abdomen may not be worn in the lab: ankle-length clothing must be worn at all times.
 3. Eating, drinking, or applying cosmetics in the laboratory is forbidden at **ALL** times, including during lab lecture. Food and drink containers must be stored outside the lab.
 4. Use of electronic devices requiring headphones or earbuds in the laboratory is prohibited at **ALL** times, including during lab lecture.
- The following rules must be followed anytime students have glassware or chemicals out and in use. Note that if some students finish their experiments, they must keep their PPE on while others have chemicals and glassware out.
 1. Chemistry Department-approved safety goggles (**NOT** safety glasses) must be worn at all times once laboratory work begins. Safety goggles must include a flex seal and indirect venting, and carry ANSI Z87.1+ and CSA Z94.3 certifications. Appropriate goggles may be purchased from the De Anza College bookstore.
 2. Goggles must be worn at all times after lab lecture, including when obtaining equipment from the stockroom or removing equipment from student drawers, and may not be removed until all laboratory work has ended and all glassware has been returned to all student drawers.
 3. Nitrile gloves should be worn when handling chemicals and glassware and removed prior to handing any personal electronic devices.
 4. Hair reaching the top of the shoulders must be tied back securely.

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.
 - ✓ Chem30A has scheduled 7 hours / week of class meetings.
 - This means that the guideline requires **14 hours per week study outside of class** is for Chem30A.
 - 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 notes.

Chem30A Course Objectives

- Solve scientific problems using dimensional analysis and report measured values to appropriate precision in standard or scientific notation.
- Examine the relationships between energy and matter.
- Examine the structure of the atom and summarize major properties of elements based on a discussion of the periodic table of elements.
- Examine the structure, properties and nomenclature of chemical compounds.
- Balance and classify chemical equations for common reaction types.
- Perform calculations based on stoichiometric relationships, given a balanced chemical equation. Examine the properties and behavior of ideal gases.
- Examine the chemical properties of solutions.
- Compare the properties of acids and bases.
- Discuss the theory and relevant applications of nuclear chemistry..

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):

- Solve stoichiometric problems by applying appropriate molar relationships.
- Identify the differences between elements and compounds and describe the chemical bonding in compounds- ionic vs. covalent.

Office Hours:

TH 2:30 PM - 3:00 PM

F 10:00 AM - 10:30 AM

G2

Zoom