

Chem30A General, Organic and Biochemistry I
Section 27Y CRN 27100

Table 1. Class Meetings

Meeting	Time	Days	Location
Virtual Lecture	2 hours / week	Asynchronous	Videos posted on Canvas
Office Hours	3 – 4 PM	Thursdays	<u>Zoom</u>
In Person Workshop	08:30 - 10:20 AM	Friday	G7
In Person Lab	10:30 AM - 1:20 PM	Friday	SC2204

Table 2 Instructor Contact

Instructor: Allan Wilcox, PhD	Contact: Use Canvas Inbox
-------------------------------	---------------------------

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 (the limit of weak intermolecular forces), 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. Before Our first Meeting Friday August 26.

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

B. Each Week

1. Prepare for Friday Workshop.
 - ✓ Review the week’s videos (“Virtual Lectures”) posted on Canvas.
 - ✓ Study Chapter sections in the eBook that are covered in Lecture.
 - ✓ Complete Access Pearson homework assignments.
 - ✓ See “**Workshops: Group Work**” below in this document.
2. Prepare for Friday Lab.
 - ✓ Study the week’s Lab Page on Canvas.
 - ✓ Complete the Prelab Quiz due at 8:30 AM on Fridays.
 - ✓ See “**Lab Program**” below in this document for more information.
3. After Lab: Complete Lab Report within 24 hours of finishing Lab.
4. Follow “**General Tips and Time Management**” below in this document.

Policies for Chem30A

- 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.
 - ✓ 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.
 - ✓ You must Review all Lectures.
 - ⇒ Lecture Video recordings are posted on Canvas
 - ⇒ Lecture slides are posted as handouts on Canvas.
 - ⇒ You can view the recordings at your convenience, but you must do so before Friday Meetings to insure a good grade in Chem30A.
 - ✓ *Take notes during Lectures, then review to help with your comprehension of the material!*
- 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 Chem30A Canvas Website has your 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 Submit Safety Training Certificate on Canvas before you can participate in the lab program for Chem30A.
 - ✓ 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.
- You must have approved eye protection: Safety Goggles or Safety Glasses.
 - ✓ Uvex Stealth Goggles are the best because they breath (have vents)!
- Lab Manual: Lab Instructions are posted on Canvas.
 - ✓ You must bring a paper copy of the lab instructions and lab report form to each lab meeting.
- 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 3.

Table 3 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 by the weighted grade categories in Table 4.

Table 4 Weighted Grade Categories of % Score

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

Grade categories are described in the next sections.

Participation

Actively engaging in activities and assignments in Chem30A 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 Chem30A.
- Lack of preparation for Labs as shown by:
 - ✓ Failure to bring a paper copy of the lab instructions to the lab meeting.
 - ✓ You must bring a paper copy of the lab report form to the lab meeting.
 - ✓ Being unaware of goals or learning objectives of the labs.
 - ✓ Not Completing the Prelab Quiz.
 - ✓ Not starting work immediately after the lab lecture.

Submit all assignments on the due dates to show your active participation.

Workshops: Group Work

What is Group Work? Group work uses guided activities 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 Chem30A.
 - 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 Assignment for grade.
- Worksheets Assignments are accepted past the due date with a 20% penalty per day late.

Pearson 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: “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 time is used to complete labs with experiments or engage in collaborative workshops (group work) that demonstrate principles of chemistry taught in Chem30A.

- Experiments demonstrate and apply chemical concepts taught in Chem30A.
- Experiments in Chem30A are fun learning opportunities!
- You must receive a score greater than 59% on your Lab Reports Grade to pass Chem30A.

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 and the lab report form to Lab.
 - ✓ A copy of Instructions for each lab is posted on the Lab Page as a pdf file for printing.

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).

Instructions for 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 posted with instructions on Canvas.
 - ✓ Detailed instructions for lab reports are given on each Lab Report assignment page on Canvas.
 - ✓ Complete Lab Report Forms 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 make your own calculations; answer questions and state your conclusions in your own words.
- Lab Reports are accepted up to 48 hours past the due date with a 20% late penalty per day past the due date/time.
- You must receive a score greater than 59% for your Lab Reports Grade to pass Chem30A.

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.
- Study Guides and Practice Exams are posted on Canvas “Preparation for Exam” Pages.
- Complete policies for exams are posted on Canvas “Exam Policy” Pages..
- Exams are given in two concurrent parts in two different formats.
 - ✓ Questions in Part 1 have multiple choice answers.
 - ⇒ 80% of each Exam Score
 - ✓ Questions in Part 2 require you to show 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 each Exam Score

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..

Lab Safety Policies

- You must complete the ACS Safety Training Canvas pages on Lab Safety before Lab October 23.
- 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.**
- 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 handling 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 effective notes.

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 3:00 PM - 4:00 PM

Zoom