

CHEM 1C, General Chemistry and Qualitative Analysis
S21 April 5-June 25
Syllabus

INTRODUCTION:

- **Instructor:** Burcak Artun, PhD (artunburcak@fhda.edu)
- **Course Website:** Canvas
- **Times-Zoom Links will be provided**
 - **Lecture:** TTh 6:00pm-7:15pm
 - **Lab03:** MW 7:30pm-9:20pm
 - **Lab04:** TThu 7:30pm-9:20pm
 - **Office Hours M/W 6:30pm-7:30pm**

STUDENT RESOURCES

Important Dates

- APRIL 5 First day of spring quarter classes
- APRIL 17 Last day to add classes
- MAY 28 Last day to drop classes with a "W"
- MAY 29-31 Memorial Day Weekend - offices closed; no classes
- JUNE 21-25 Final exams

De Anza student resource pages:

[Guide to Online Spring Quarter](#)
(Links to an external site.)

Online Education Center

<https://www.deanza.edu/online-ed/students/>
(Links to an external site.)

COURSE SCHEDULE (List of Exercises and Important Dates at a Glance)

[S21 Chem 1C Schedule](#)

COURSE OVERVIEW AND LEARNING OBJECTIVES:

Overview:

Chemistry 1C is the third quarter of a three part introduction to the principles of general chemistry, and a direct continuation of Chemistry 1A and 1B.

In this class, advanced equilibrium concepts pertaining to solubility and buffers will be discussed. This will be followed with an introduction to electrochemistry, the chemistry of transition metals, and nuclear chemistry.

- **Prerequisites:** CHEM 1B or CHEM 1BH with a grade of C or better
- **Advisory:** EWRT 1A or EWRT 1AH or (EWRT 1AS and EWRT 1AT) or ESL 5
- **Units:** 5 Units
- **Hours:** Lec Hrs: 36.00, Lab Hrs: 72.00
Out of Class Hrs: 72.00
Total Student Learning Hrs: 180.00

REQUIRED MATERIALS:

- Lab will be a combination of simulations, pre-recorded data for certain experiments, and hands-on exercises performed from prepackaged materials (Science Interactive-previously-Hands On Labs).
- You will need to have a stable internet connection to be able to follow and participate in Discussions, Lab simulations and Lab Exercises.
- Please let me know as soon as possible if you need assistance.

- **Textbook: *The Molecular Nature of Matter and Change*** 8th or 9th Edition by Silberberg and Amateis (*McGraw-Hill*)
 - This textbook is used for the Chem 1 A-B-C.
- **Calculator:**
 - A simple scientific calculator with natural log functionality is necessary and sufficient for this class. You can use previously purchased ones, but graphing functionality will not be necessary to use.
- **Supplemental Texts:**
 - Any necessary and additional handouts/reading material can be downloaded from the canvas course website.
 - OpenStax Chemistry, 2nd edition.
 - Available **free** online at [Chemistry 2e](#)

COURSE WORK AND GRADING*

- **Work Expectation:**

Each week there are 2x 75 min synchronous lectures, and 2x2 hour synchronous lab sections. Additional hour will be scheduled asynchronously. Expect to spend an additional 8-12 hours a week on the course.

You will spend additional time preparing for the labs (PreLab), practicing/carrying out the Lab simulations, Studying on Chem101 (see below for explanation), answering quiz questions, and writing up the results from the labs (Lab WriteUp

or Post Lab Activity), as well as preparing for Quizzes and Midterms. You are expected to join class having done some related reading and chapter assignments.

○ **Grading is based on the following breakdown:**

- **Lecture 70% of Total Grade**
 - **Quizzes and Midterms.** 60 % of Lecture
 - **Homework Assignments (TBD)** 25 % of Lecture
 - **Final** 15 % of Lecture
- **Lab 30% of Total Grade**
 - **Lab Reports, Pre and Post Labs Exercises** 70 % of Lab
 - **Lab Final Exam** 20 % of Lab
 - **Lab Conduct (participation, attendance)** 10 % of Lab

○ **The Following Grade Scale will be used :**

| | | | |
|----|------------------|----|--------------------|
| A+ | 98.00 - 100.00 % | B- | 80.00– 82.99 % |
| A | 93.00 – 97.99 % | C+ | 75.00– 79.99 % |
| A- | 90.00– 92.99 % | C | 70.00 – 74.99 % ** |
| B+ | 87.00 – 89.99 % | F | 0 - 69.99 |
| B | 83.00– 86.99 % | | |

**You will need to obtain 70% or above in both lecture and lab to pass this course

Notes on Grading

- There will not be a curve in general.
- Final Exam is cumulative
- A grade of “C” (% 70) or better is required to pass the course
- *You will need to pass both lab and lecture to be able to pass the course*

Note on Safety:

- Proper use and disposal of hazardous reagents, and equipment is mandatory. Instructions on how to safely handle materials used in this class will be provided with each HOL exercise.
- You are expected to follow all directions as indicated in the lab exercises and discussed in class.
- Policy: https://www.ue.ucsc.edu/academic_misconduct
Links to an external site.

LECTURE

- **Quizzes and Midterms - 60% of Lecture Grade**

There will be two midterms . The schedule is provided but it is subject to change based on where we are with the lectures. The assessments will consist of the material covered in lecture, and will also assess your problem solving skills. ***I will provide Study Guides. I will be testing for concepts as well as problem solving skills. You will have to tap into your analytical problem solving skills, because there may be one question that you haven't encountered before.***

○ **Final Exam - 15% of Lecture Grade**

- The final exam is a cumulative exam, covering all of the lecture material. It is worth 15% of your lecture grade. No make-up exam will be given if you miss the final.
- **The final exam will take place in the last week of class.**
- **Will be posted online based on the assigned final exam date (June 22nd)**

○ **Assignments - 25 % of Lecture Grade**

Coverage In Chem 1C the following Chapters will be covered in order from

Silberberg (9th edition): Chapters 13, 19, 21, 23, 24

Assignment grade will be based on assigned end-of-chapter problems, as well as Chem101, an online learning system.

Reading: Please read the assigned textbook chapters carefully **before** coming to lecture.

Problem solving: Additionally, you might be assigned problems from the textbook to follow up and to reinforce your knowledge of the topics. These problems will help increase your grasp of the material. Please make sure to work on and understand the sample problems available to you in your textbook before you attempt the assignment problems. Chapter assessments may include similar problems.

- ***Do not hesitate to drop in to the office hours if for any reason you think you are falling behind, need reinforcement of material or simply to say hi. Office hours are a crucial part of the support system the students have.***
- ***Remember “practice makes perfect” and “mistakes are the stepping stones to learning”. It is essential that you attempt as many problems as possible***

LAB

Lab will be a combination of dry data, at home experiments (Science Interactive - HOL), in class activities, and simulations. HOL information will be provided separately.

○ **Lab Reports, Pre and Post Lab Exercises - 70% of Lab Grade**

Please read very carefully. We will go over the lab expectations within the first lab class.

- **PreLab**

Before you start any lab related activity, you will create a “Prelab” and submit electronically. List of prelabs are scheduled in the Lab Schedule.

Include the following in your PreLab:

1. **Name and date and page number** on each page.
2. **Title** write the title of the exercise at the top.
3. **Purpose/Abstract** in your own words, state the goals for doing this experiment in abstract form. Purpose should be specific to the experiment being done. ***It should not be a general statement about an experiment or the topic.***
4. **Procedure** is a summary of procedures or instructions, ***in a flowchart form in your own words.***

- **Lab Reports**

You are required to keep a Lab Notebook that you designate for lab. It could be an old lab notebook you have at home, or any bound notebook. I will ask you to send me pictures of your notebook periodically.

- **What goes in a lab notebook:**

First couple of Pages should be left blank for a **Table of Contents** - which basically lists the experiments we are doing with the corresponding page numbers for the start of the Experiment.

PreLab for each experiment should also be written here. You need to submit your prelab online BEFORE you start doing the lab simulation or exercise.

ALL DATA RECORDINGS GO IN YOUR BOUND LAB NOTEBOOK Use ink to record your Data. Mistakes can be crossed out with a simple line through. Use of white-out during Data Collection is prohibited

You will be asked to send "snapshots" of your experiments taken as you are doing them

- **What goes in a lab report:**

Some exercises will end with a “Lab Report” which is to be submitted to me online after the experiment is concluded on the due date indicated on your schedule.

The Lab Report should be typed on a separate word (or similar) document and will state the purpose of doing the experiment/simulation in your own words, abstract for the experiment (brief description), data, results and calculations, and a conclusion.

Lab Report will be submitted electronically, preferably as a pdf

A list of Exercises, Prelabs and Assignments will be detailed in Canvas.

- **Post Labs**

For some lab experiments, you may be asked to include an assignment with your lab writeup. Assignments will also be posted on Canvas

- **Lab Final - 20% of Lab Grade**

There will be 3 lab quizzes administered throughout the quarter, which make up the Lab final exam grade. Quizzes will cover the concepts/calculations and core techniques. Dates are posted on the schedule.

- **Participation - 5% of Lab Grade**

You will receive points based on your performance in the lab class that will take into account the following:

- whether you are prepared for the lab;
- whether you demonstrate that you have a strong understanding of the lab exercises;
- your general interaction with the class material.

POLICIES

- **Registration: Enrollment is strictly limited to 30 students per section.** Spaces are filled in accordance with the official class roster from Admissions and Records, followed by the official wait list. Any errors must be addressed directly with Admission and Records. Waitlisted students **sign-in to the zoom meeting** for the first day of class, but may not be assigned a code until someone drops the course within the first two weeks
- **Policy on attendance: This is a synchronous class.** Attendance of **both** the Lecture and scheduled Labs are required for the successful completion of this course. Unexcused absences will affect your grade. **Attendance is expected for all lectures, all lab lectures and all labs.**
- **Policy on missing class: Since we are doing lecture and lab synchronously,** If you need to miss class you must notify the instructor **at least 24 hours in advance** for approval. Missing a lab period may affect your grade negatively. If you have an excused absence, we can talk about ways to compensate for the

missed lab. **You will be dropped from the course for any unexcused absences during the first two weeks of class.**

- **Absences from lecture or lab will be evaluated on a case by case basis. It is your responsibility to contact the Instructor for any absences. Clear Communication is the best whatever the reason is. If I don't know your reasons, I can't be reasonable...**

- **Policy on late assignments/lab notebooks/lab report:** Items turned in late will receive an automatic 3% deduction per day in points. If the assignment is late over a week, the most you can get out of that assignment is 75%

ALL assignments, lab write-ups, reports, and exams must be completed and turned in to receive credit for this course. No exceptions. It is the responsibility of the student to arrange for make-ups for missed work.

- **Policy on Final exams:** Final exam dates are determined by the De Anza College and cannot be changed. Please find the exam dates from your course calendar, and put all of the dates into your calendar.
- **Dropping the course:** Dropping the course must be done through the Admissions and Records office. **It's your responsibility to withdraw from the course by the deadline set by the Admissions and Records Office.** Dropping the course after the deadline will result in a (W-withdrawal) on your transcript. If you fail to withdraw by the deadline, you will receive a grade based on the work you have submitted.

Policy on plagiarism There's a zero tolerance policy for cheating and academic misconduct. You should remember as a De Anza College student, you agreed to abide by the policies of the De Anza College Rules of Conduct. It is expected that you are familiar with the code of conduct and disciplinary actions that may result from academic misconduct. Work that has been found to be copied from any external resource including a friend will receive a "0" and you will be reported to the school administration.

All submitted work should be your own, and should represent your own grasp of the material. Cheating will not be tolerated.

If you have any questions about what constitutes unfair collaboration or cheating, please contact the instructor.

These policies are found in the De Anza College manual:

<https://www.deanza.edu/studenthandbook/academic-integrity.html>

[\(Links to an external site.\)](#)

Students who violate academic integrity policy (e.g. are caught cheating or plagiarizing) will be reported to the Dean of Student Services. Any plagiarized material will receive a 0.

More information about student rights and responsibilities can be found at <https://www.deanza.edu/student-complaints/rights-responsibilities.html>

Student Learning Outcome(s):

- *Apply the principles of equilibrium and thermodynamics to electrochemical systems.
- *Apply the principles of transition metal chemistry to predict outcomes of chemical reactions and physical properties.
- *Evaluate isotopic decay pathways.
- *Demonstrate a knowledge of intermolecular forces.