

De Anza College
Chemistry 30A Course
Fall 2024

Course and Contact Information:

Instructor: Melody Esfandiari, PhD

Email: esfandiarimelody@fhda.edu

Class Days/time: *Lecture:* Tuesday & Thursday 2:30 PM – 4:20 PM in MLC 105
 Lab (Section 23) Tuesday 11:30 AM – 2:20 PM in SC2 204
 Lab (Section 24) Thursday 11:30 AM – 2:20 PM in SC2 204

Office Hours: It will be announced in lecture

This class is divided into two separate instructional periods: a **lecture period** devoted to the primary course material; and a **lab period** for conducting lab experiments. One registration code automatically enrolls you in all two periods. Everyone will have the same lecture period, but a different lab period depending on which code you used for enrolling. Only one grade is assigned for lecture and lab combined, so the lecture and lab cannot be taken separately *under any circumstances*, since doing so would violate articulation agreements with other institutions. Once you are enrolled you may not switch lab period whether on a temporary or on-going basis.

All lectures and labs will be held in-person on the De Anza campus.

Course Description: This is a two-part course to be taken in sequence by students entering the allied health fields. The focus of the first part of this course is an introduction to general chemistry with a discussion of various measurement tools, followed by a discussion of energy and matter, and the discovery of an atom. The next set of topics will cover an introduction to elements, compounds, and types of bonding in compounds, followed by various types of chemical reactions and stoichiometric calculations based on chemical equations. The course will discuss the properties of gases and solutions and concludes with a discussion of acid-base chemistry and nuclear chemistry.

Prerequisites: Intermediate algebra or equivalent (or higher), or appropriate placement beyond intermediate algebra.

Student Learning Outcomes:

- 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.

Textbook & Materials:

1. **Text:** Janice G. Smith, General, Organic and Biological Chemistry, 5th ed., McGraw-Hill. ISBN: 9781307713107. *eBook or older/other editions also ok. If you have a different college-level book, you may use that.*
2. **Lab Manual:** lab experiments will be posted on Canvas. You need to print and bring a hard copy to the class.
3. A scientific calculator with log and exponential functions. No graphing calculators.
4. Safety Goggles, needs to meet the ANSI Z87.1 or Z87+ specification, which will generally be listed in the product description. Visorgogs or Z87.1-2010 Rates Safety Glasses.

This course requires the use of the Canvas platform for the completion of some of the course assignments. You can access Canvas either through your MyPortal account or directly at <https://deanza.instructure.com/>

Note that we require a computer and printer. There will be a few lecture handouts that need to be printed.

All the exams will be conducted on Canvas during our class period. You need to bring your laptop to class to take the exam. If you don't have one, please borrow one from the library:

<https://www.deanza.edu/students/computers.html>

Registration, Attendance, and Conduct Policy:

Registration: Due to safety concerns, enrollment in each section is strictly limited to 30 students per section. Class spaces are filled in accordance with the official class roster from Admission and Records, followed by the official wait list. Any errors with registration or status must be addressed directly to Admission and Records. Please note that if you are placed in a section from the wait list, you will not be assigned a laboratory locker or be allowed to perform experiments until you are **officially** enrolled in the class.

Attendance: Attendance is expected during all lectures, all lab lectures, and all laboratory periods. Students are expected to be prompt and to leave only when lecture or lab is concluded. Arriving late to lecture is disruptive to the class and **strongly** discouraged. **If you miss lecture, laboratory lecture, or a laboratory period for any reason within the first two days of class, you will be dropped from the course. TWO OR MORE UNEXCUSED ABSENCES FROM LAB WILL RESULT IN AN AUTOMATIC "F" FOR THE ENTIRE COURSE.**

Dropping the Course:

If you choose to drop the course **at any point** during the quarter, it is **your** responsibility to withdraw from the course through Admissions and Records by the appropriate deadline. You are required to officially check out of your lab locker whether you remain in the course or drop the course. Failure to check out of lab by the scheduled check-out date will result in an administrative fee and a block will be placed on your future registration.

Resources:

Tutoring: De Anza's tutorial center is in S43. This and many other campus services can be found as part of the student success center: <http://www.deanza.edu/studentuccess>

Disability Support Program and Services: DSPS can help you get the right tools to succeed.

Their website is <http://www.deanza.edu/dsps/>

Basis of Course Assessment:

Lecture Exams and Final

Two lecture exams will be given. Scheduled dates for the exams are attached. Plan ahead. The final exam will be 2 hours long; it is a comprehensive multiple-choice exam. This course builds on itself so material covered on a previous lecture exam is needed in a following exam. There will be no make-ups for lecture exams. Should you miss an exam because of illness or equally compelling reasons, you should inform me of the fact as soon as possible, and hopefully before the exam is given. You can do so by emailing me. You will need to provide me with written evidence (doctors' note, police report, etc.) for your excuse. An unexplained or unsatisfactory excuse for missing a lab or exam will result in a grade of zero. *You will need to bring your photo ID card and a non-programmable calculator to the exam. Please note that all the exams will be proctored in the classroom during lecture period. You will take the exams on your laptop via Canvas.*

In Class Exam Dates:

Exam I: Tuesday, October 22nd Exam II: Tuesday, November 19th

Final Exam: Thursday, December 12th (from 1:45 pm to 3:45 pm)

Exam Policies (read carefully). If you violate our honor code, you will be reported to the office of student conduct and receive an F for the course.

- The exams will be conducted on Canvas during our regular class time.
- You need to bring your laptop to class to take the exam on Canvas.
- You can NOT use online resources, and you are NOT permitted to talk to

Lecture Quizzes

Several take-home quizzes will be given. Take-home quizzes must be submitted on assigned due dates, or they will not be accepted. **No make-ups for missed quizzes. Do not miss the due dates!** The quizzes will be posted on your Chem 25 Canvas account, and you will need to finish them online before the due dates. More information will be given in lecture meetings before the due dates.

Once you submit your quiz on canvas, you cannot access it again so make sure you print a hard copy of the quiz for your reference. The quizzes will help you prepare for the exams.

Laboratory

The total lab grade constitutes 35% of the final grade. Do not miss labs, no makeup labs will be allowed! We will conduct 9 experiments and will turn in 9 **Lab Reports** (25% of your grade) and there will be 7 **Pre-lab Canvas assignments** (10% of your grade). There are no pre-labs for the two dry experiments. The format for each lab report will be discussed in the lab. LABORATORY REPORTS generally include the recording of data and the completed laboratory report sheets. Each lab report will be worth 15 points and is due at the end of the lab. **Late lab reports will not be accepted!**

Pre-Labs: Before beginning a new experiment, you are required to complete the pre-lab questions for that experiment. There are no pre-lab questions for the dry labs. The pre-lab questions are on Canvas and can be answered after reviewing the experiment introduction and procedure. **No make-up for missed pre-labs. Do not miss the due dates!**

Important: Lab reports should be in your own words. Copying data, calculations, phrases or paragraphs from another student or the web is considered plagiarism. The due dates for the lab reports will be announced in lab. **No late lab report will be accepted.**

Grade Computation

Your course grade will be determined according to the following:

| | |
|------------------------------|-----|
| Two in-class lecture exams | 30% |
| Comprehensive in-class final | 20% |
| Take-home Quizzes | 15% |
| Lab* | 35% |

**Laboratory works account for 35% of total course grade and it includes the following:
25% Lab Reports and 10% Pre-labs*

At the end of the semester, you will receive a single grade for the course. The following grade scale is for the full course, including lab.

| | |
|----------------------|-----------|
| above 97.0 % | A+ |
| 96.9 - 92.0 % | A |
| 91.9 - 89.0 % | A- |
| 88.9 - 85.0 % | B+ |
| 84.9 - 80.0 % | B |
| 79.9 - 77.0 % | B- |
| 76.9 - 72.0 % | C+ |
| 71.9 - 65.0 % | C |
| 64.9 - 61.0 % | D+ |
| 60.9 - 57.0 % | D |
| 56.9 - 54.0 % | D- |
| Below 54.0% | F |

Dr. Esfandiari reserves the right to change exam dates as well as modify the grade scale at any point during the fall quarter. You must receive a passing lab grade in order to pass this course.

Tentative Lab and Lecture Schedule for Chem 30A: Subject to Change
Fall 2024 De Anza College

| Week | Week of | Lab Topic | Lecture Topic |
|-------------|----------------|--|---|
| 1 | Sep 23 | Introduction, Safety, & Check in | Measurements & Conversions |
| 2 | Sep 30 | Lab 1: Density | Compounds and Naming |
| 3 | Oct 7 | Lab 2: Nomenclature (Dry Lab) Lab 3: Structures (Dry Lab) | Lewis Structures |
| 4 | Oct 14 | Lab 4: Sand/Salt Separation | Periodic Table & Atomic Theory |
| 5 | Oct 21 | Lab 5: Chemical reactions | Exam I (Oct 22nd) Chemical Reactions |
| 6 | Oct 28 | Lab 6: Yield of Sodium Carbonate | Solubility & Moles |
| 7 | Nov 4 | Lab 7: Synthesis of Alum | Stoichiometry, Limiting Reagent & Percent Yield |
| 8 | Nov 11 | Lab 8: Gas Forming Reaction | Gases & Energy & Equilibrium |
| 9 | Nov 18 | Lab 9: Citric Acid Titration | Exam II (Nov 19th) Solutions & Concentrations |
| 10 | Nov 25 | No Lab-Thanksgiving | Acid, Bases & pH |
| 11 | Dec 2 | Lab Checkout | Nuclear & Review |
| 12 | Dec 9 | No Lab and No Lecture | Cumulative Final Exam (December 12th) from 1:45 pm to 3:45 pm |

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- ionics vs. covalent.

Office Hours:

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|-----------|-----------|------|---------|---------|
| In-Person | MLC 105 | T,TH | 4:15 PM | 4:45 PM |
| In-Person | In-person | T,TH | 4:15 PM | 4:45 PM |