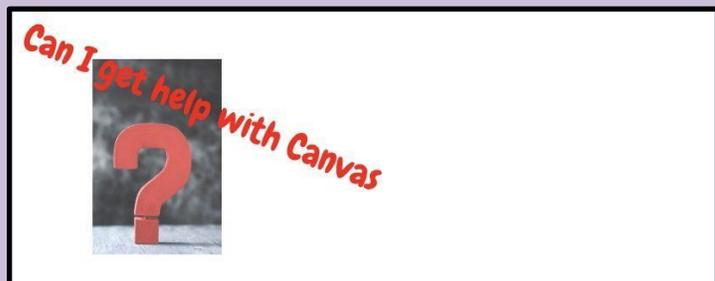


**CHEM1B - General Chemistry****A. INTRODUCTION:**

- **Lecture Instructor:** Burcak Artun, PhD ([artunburcak@fhda.edu](mailto:artunburcak@fhda.edu))
  - *Lab Instructors:* Dr. Brophy, Dr. Artun
- **Course Website:** Canvas

**INTRODUCTION:**

- **Instructor:** Burcak Artun, PhD ([artunburccak@fhda.edu](mailto:artunburccak@fhda.edu))
- **Course Website:** Canvas
- **Times**
  - **Lecture (01 & 02):** M W 12:30pm-1:45pm
  - **Lab 01 (Dr. Brophy):** M W 8:30am-11:20am
  - **Lab 02 (Dr. Artun):** M W 2:30pm-5:20pm
- **Office Hours:** TBD or by appointment on zoom

**STUDENT RESOURCES:**

**De Anza student resource pages:**

[Your Guide to the Quarter](#)  
[Student Services at DeAnza](#)

**Canvas Help:**

[Get Help With Canvas](#)

**Important Dates and Deadlines**

[DeAnza Academic Calendar](#)

January 9	First day of winter quarter
January 16	Martin Luther King Jr. Holiday - <b>no classes</b> , offices closed
January 21	Last day to <a href="#">add classes</a>
January 22	Last day to <a href="#">drop classes</a> without a W
February 17-20	Presidents' Holiday - <b>no classes</b> , offices closed
Mar 3	Last day to <a href="#">drop classes</a> with a W
Mar 27-31	<a href="#">Final exams</a>

## B. COURSE OVERVIEW AND OBJECTIVES

### Description:

- **Overview:** Chemistry 1B is the second quarter of a three-part introduction to the principles of general chemistry, and a direct continuation of Chemistry 1A.

Chemistry 1B consists of the study of intermolecular forces and their effects on the physical and chemical properties of matter, investigation of reversible reactions in terms of kinetics, thermodynamics, and equilibrium, the study of gas laws and kinetic molecular theory and their applications.

- **Prerequisites:** CHEM 1A or CHEM 1AH 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:** Weekly Lecture Hours: 3  
Weekly Lab Hours: 6

### Course Format:

The course is divided into two separate instructional periods. A lecture period, and a lab period. These sections will both be conducted in person. Studies have shown that students who are present and pay attention in classes are more successful in the class. So I strongly encourage each of you to attend the lectures. Attendance at each is actually mandatory. At De Anza College, **the lab and lecture may not be taken as separate courses under any circumstances.**

### Course objectives:

- ❖ **Course Objectives**
- ❖ Evaluate how intermolecular forces influence solids, liquids and phase changes
- ❖ Calculate the rate of a reaction and assess the mechanism of action
- ❖ Utilize the fundamental principles of equilibrium to probe reaction dynamics.
- ❖ Differentiate between acids and bases and evaluate their reactivity.

- ❖ Employ the principles of equilibrium in an expanded discussion of thermodynamics.
- ❖ Analyze the behavior of gases

### C. REQUIRED MATERIALS

- **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 Series.
- **Supplemental Texts:**  
OpenStax Chemistry, 2nd edition.  
Available **free** online at [openstax online textbook](#)
- **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.

#### **Required Lab Materials**

- **Lab Manual: *Laboratory Manual for Preparation for General Chemistry Lab*** manual can be found on the *De Anza Chemistry* page, and will be posted on Canvas. Schedule will be provided separately.
- **Approved laboratory safety goggles:** (not safety glasses), available from the De Anza College Bookstore. *In the case that the bookstore does not have as many goggles on hand as they typically would, you may order goggles from Amazon or another source, such as this one [compliant goggles from Amazon](#).*

If you choose to do this, you do need to purchase full safety goggles that seal on the sides, not just safety glasses, and that the goggles need to meet the ANSI Z87.1 or Z87+ specification, which will generally be listed in the product description.

- Disposable latex or nitrile gloves or a lab coat is optional.

### D. COURSE WORK AND GRADING

#### **Notes on Grading:**

- There will **not be a curve** in general, but I may curve individual exams if deemed necessary.
- Final Exam is **not cumulative**
- You will need to **pass both lab and lecture** to be able to pass the course

### 1. Grading Breakdown

<b>Lecture</b>	<b>70% of Total Grade</b>
<i>Homework</i>	<i>10 % of Lecture</i>
<i>Assessments (Midterms Quizzes)</i>	<i>65% of Lecture (40% 25%)</i>
<i>Final Exam</i>	<i>20% of Lecture</i>
<i>Participation</i>	<i>5% of Lecture</i>
<b>Lab</b>	<b>30% of Total Grade</b>
<i>PreLabs</i>	<i>20 % of Lab</i>
<i>Lab Exercises</i>	<i>45 % of Lab</i>
<i>Lab Quizzes (Replaces Lab Final)</i>	<i>30 % of Lab</i>
<i>Participation</i>	<i>5 % of Lab</i>

#### Grade Scale:

A+	97.0 – 100.0 %	C+	73.0 – 76.9 %
A	90.0 – 96.9 %	C	70.0 – 72.9 %
A–	87.0 – 89.9 %	D+	66.0 – 69.9 %
B+	84.0 – 86.9 %	D	63.0 – 65.9 %
B	80.0 – 83.9 %	D–	60.0 – 62.9 %
B–	77.0 – 79.9 %	F	00.0 – 59.9 %

### 2. Work Expectation:

**Each week there are 2x 75 min lectures, and 2x 3 hour lab section. Expect to spend an additional 8-12 hours a week on the course.**

You will spend additional time preparing for the labs (PreLab), completing Homework, and writing up the results from the labs (Lab WriteUp or PostLab Activity), as well as preparing for Quizzes and Midterms. You are expected to join class having done some related reading and chapter assignments.

## A. Lectures

### **Quizzes and Chapter Assessments - 65% of Lecture Grade**

There will be two midterms and weekly quizzes as assessments. The schedule can be found in the course calendar. The assessments will consist of the material covered in lecture, and will also assess your problem solving skills. They might be a combination of multiple choice, True/False or free response questions.

- ***I will be testing for concepts.***
- ***I will provide Study Guides***

The quizzes will take place at the end of each chapter covered and will be administered on Canvas.

### **Final Exam - 20% of Lecture Grade**

The final exam is not a cumulative exam and is worth 20% of your lecture grade. No make-up exam will be given if you miss the final. Final will take place during Finals week, on Wednesday March 29<sup>th</sup> from 11:30 AM to 1:30 PM.

### **Homework - 10 % of Lecture Grade**

**Coverage** In Chem 1B the following Chapters will be covered from *Silberberg*: **Chapters 5, 12-17, 20** older editions are OK

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

**Problem solving:** Additionally, you will be assigned problems from the textbook to follow up and to reinforce your knowledge of the topics. **There will be a homework problem set for every Chapter covered.** 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.

### **Participation - 5 % of Lecture Grade**

*As long as you show up and show effort, you will get full credit*

***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***

## B. Labs

### **PreLab - 20 % of Lab Grade**

Before you start any lab, you will create a “Prelab” and submit electronically. List of prelabs are scheduled in the Schedule. You will not get credit for the prelab if it is submitted after the start of lab period.

**Include the following in your PreLab:**

- **Name and date** on each page.
- **Title** write the title of the exercise at the top.
- **Page number** as in B1-1, B1-2 (for exercise B1 page 1, etc)
- **Purpose** in your own words, state the goals for doing this experiment.
- **A summary of procedures or instructions.**

You **must submit** the pre-lab **before coming to the lab**. You will not be allowed to perform the experiment if prelab hasn't been submitted.

### **Lab Notebook**

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.

**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.

**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.**

Experiments 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.

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

### **Lab Reports - 45 % of Lab Grade**

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

Lab Reports, if required, are generally due one week following the end of that particular exercise and must be submitted online. **Note that exact due dates are listed on your schedule. There might be exceptions.**

**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, calculations, results, discussion, and a conclusion.**

A list of Exercises, Prelabs and Assignments are detailed in the course schedule.

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

### **Lab Quizzes - 30% of Lab Grade**

You will have three lab quizzes, based on the discussions in lab, testing concepts behind the lab procedures and ability to perform calculations such as those done in the lab. They will take place during lab class. These quizzes combined will count for the lab final grade. Schedule will be posted.

### **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;

## **E. LABORATORY SAFETY and PROTOCOLS**

### **Laboratory Safety**

All chemistry laboratories inherently come with associated risks and hazards. There will be mishaps. When an accident occurs, inform your instructor immediately and do not attempt to clean-up any broken glassware or spilled chemicals by yourself. In order to ensure that the lab is as safe as possible, we must (1) Recognize hazards, (2) Assess the risks of hazards, (3) Minimize the risks of hazards, and (4) Prepare for emergencies.

From the American Chemical Society Safety In Academic Laboratories Guidelines, 7th Ed., the following mandatory minimum safety requirements must be followed by all students and be rigorously enforced by all chemistry faculty.

*You will also have to complete the ACS Safety Module within the Canvas, download a certificate of completion as a pdf file, and upload the file as one of your Canvas assignments.*

1. Chemistry Department-approved safety goggles purchased from the De Anza College bookstore (NOT safety glasses) must be worn at all times once laboratory work begins, 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 student drawers.
2. 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.
3. Shorts, cut-offs, skirts or pants exposing skin above the ankle, and sleeveless tops may not be worn in the lab: ankle-length clothing must be worn at all times.
4. Hair reaching the top of the shoulders must be tied back securely.
5. Loose clothing must be constrained.
6. Wearing "...jewelry such as rings, bracelets, and wristwatches in the laboratory..." should be discouraged to prevent "...chemical seepage in between the jewelry and skin...".
7. Eating, drinking, or applying cosmetics in the laboratory is forbidden at ALL times, including during lab lecture.
8. Use of electronic devices requiring headphones in the laboratory is prohibited at ALL times, including during lab lecture.
9. Students are advised to inform their instructor about any pre-existing medical conditions, such as pregnancy, epilepsy, or diabetes, that they have that might affect their performance.
10. Students are required to know the locations of the eyewash stations, emergency shower, and all exits.
11. Students may not be in the lab without an instructor being present.
12. Students not enrolled in the laboratory class may not be in the lab at any time after the first lab period of each quarter.

13. Except for soapy or clear rinse water from washing glassware, NO CHEMICALS MAY BE Poured INTO THE SINKS; all remaining chemicals from an experiment must be poured into the waste bottle provided.
14. Students are required to follow the De Anza College Code of Conduct at all times while in lab: "horseplay", yelling, offensive language, or any behavior that could startle or frighten another student is not allowed during lab.
15. Strongly recommended: Wear Nitrile gloves while performing lab work; wear a chemically resistant lab coat or lab apron; wear shoes made of leather or polymeric leather substitute.

Reckless behavior will not be tolerated. If your actions endanger the health and safety of yourself or someone else you will be asked to leave and you will receive a zero for the day. In extreme cases, you may lose your lab privileges for the remainder of the quarter

## F. POLICIES

### PLEASE READ THE FOLLOWING POLICIES VERY CAREFULLY

- **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:** Attendance of **both** the Lecture and 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. The De Anza College Chemistry Department does not offer make-up labs.**
- **Policy on missing class:** If you need to miss class you must notify me **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 5 % per day, up to 7 days. The most points you can get on an assignment is 65 % if it is more than a week late

***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.***

***Make Up Labs are not offered at De Anza. You will risk getting a zero for lab reports or prelabs if you have an unexcused absence***

- ***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 the student's 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.

***Policy on plagiarism There's a zero tolerance policy for 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. ***All submitted work should be your own, and should represent your own grasp of the material. Cheating will not be tolerated.***

These policies are found in the De Anza College manual:

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

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

*Student Learning Outcomes*

- Evaluate the principles of molecular kinetics.
- Apply principles of chemical equilibrium to chemical reactions.
- Apply the second and third laws of thermodynamics to chemical reactions.

**Student Learning Outcome(s):**

\*Evaluate the principles of molecular kinetics.

\*Apply principles of chemical equilibrium to chemical reactions.

\*Apply the second and third laws of thermodynamics to chemical reactions.

**Office Hours:**

M,W	01:45 PM	12:15 PM	In-Person	MLC 105
TH	12:00 PM	01:00 PM	Zoom	zoom