CHEM1B Syllabus

INTRODUCTION:

- **Instructor*:* Burcak Artun, PhD** (**artunburccak@fhda.edu**)
- **Course Website: Canvas**
- **Times**
    - **Lecture: T Th 6:00pm-7:15pm**
    - **Lab 03: T Thu 2:30pm-5:20pm**
    - **Lab 04*:* T Thu 7:30pm-10:20pm**
    - ***Office Hours TBD on zoom or by appointment in person***

STUDENT RESOURCES

Important Dates

- ***APRIL 6 First day of spring quarter classes***
- ***APRIL 16 Last day to add classes***
- ***APRIL 17 Last day to drop classes without a W***
- ***APRIL 29 Last day to request "Pass/No Pass"***
- ***MAY 27 Last day to drop classes with a W***
- ***MAY 28-30 Memorial Day Weekend - no classes, offices closed***
- ***JUNE 20 Juneteenth Holiday - no classes, offices closed***
- ***JUNE 21-24 Final exams***
- ***JUNE 24 Graduation***

De Anza student resource pages:

https://www.deanza.edu/quarter-guide/

Canvas Help:

https://www.deanza.edu/online-ed/help.html

COURSE OVERVIEW AND LEARNING OBJECTIVES:

- ***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:*** Chemistry 1A with a grade C or better.
- ***Advisory:*** EWRT 211 and READ 211 (or LART 211), or ESL 272 and 273.
- ***Units:*** 5 Units
- ***Hours:*** Three hours lecture, six hours laboratory (108 hours total per quarter)

REQUIRED MATERIALS:

- ***Textbook: The Molecular Nature of Matter and Change,*** 8th or 9th Edition by Silberberg and Amateis *(McGraw-Hill)* This textbook will be 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 https://openstax.org/details/books/chemistry-2e

COURSE WORK AND GRADING

- ***Work Expectation:***

  Each week there are 2x 75 min lectures, and 2x3 hour lab sections. Expect to spend an additional 8-12 hours a week on the course.

  You will spend additional time preparing for the labs (PreLab), Solving HW problems, answering quiz questions, 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.

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

  Lecture 70% of Total Grade

  - ***Midterms (100 pts)*** — ***50 % of Lecture***
  - ***Homework (6 assignments, 15 pts each)*** — ***22.5 % of Lecture***
  - ***Final (100 pts)*** — ***25 % of Lecture***
  - ***Attendance (10 pts)*** — ***2.5 % of lecture***

  Lab 30% of Total Grade

  - ***PreLabs and Data (10 weeks, 10 pts each week)*** — ***25 % of Lab***
  - ***Lab Reports (8 reports)*** — ***50 % of Lab***
    - *B1 20 pts*
    - *B2 20 pts*
    - *B3 40 pts*
    - *B4 20 pts*
    - *B5 20 pts*
    - *B6 20 pts*
    - *B7 20 pts*
    - *B8 40 pts*
  - ***Lab Quizzes (3 quizzes, 30 pts each)*** — ***22.5 % of Lab***
  - ***Lab Conduct (participation, attendance, 10pts)*** — ***2.5 % of Lab***

- ***The Following Grade Scale will be used***

A^+	**95 - 100 %**	**B^-**	**77– 79 %**
A	**90 – 94 %**	**C^+**	**73– 76 %**
A^-	**87– 89 %**	**C**	**70 – 72 %**
B^+	**84 – 86 %**	**F**	**0 - 69**
B	**80– 83 %**		

Notes on Grading

- There will not be a curve in general.
- Final Exam is NOT 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 lab
- You are expected to follow all directions as indicated in the lab exercises and discussed in class.
- Policy: https://www.ue.ucsc.edu/academic_misconductLinks to an external site.

LECTURE

Midterms - 50% of Lecture Grade

There will be two "Midterms". The schedule will be provided. 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.***

Final Exam - 25% of Lecture Grade

The final exam is not a cumulative exam. No make-up exam will be given if you miss the final. The final exam will take place in the last week of class as scheduled.

Assignments – 22.5 % of Lecture Grade

There will be a problem set homework assignment for each chapter covered

Coverage In Chem 1B the following Chapters will be covered in order from *Silberberg:* **Chapters 5, 12-17, 20**

Assignment grade will be based on assigned end-of-chapter problems, as well as a chosen 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 manual can be found on the De Anza Chemistry page, and will be posted on Canvas. Schedule 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 lecture.

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:

- **Name and date** on each page.
- **Title** write the title of the exercise at the top.
- **Page number** as in A1-1, A1-2 (for exercise A1 page 1, etc)
- **Purpose/Abstract** in your own words, state the goals for doing this experiment in abstract form.
- **Information about the activity. This can be a summary of procedures or instructions.**

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

What goes in a lab report:

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.

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.

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;

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 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 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. ***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

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.

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.