

CHEM 1B: General Chemistry II
Spring 2025 Syllabus

Instructors: Laura Showalter, M.S. (she/her) Email: showalterlaura@fhda.edu
 Tim Karpishin, Ph.D. (he/him) Email: karpishintimothy@fhda.edu

Office hours: Laura: M and W from 9:10 – 10:00 pm via email, Canvas, or Zoom by appointment
Tim: M and W from 7:00 – 7:50 pm on Zoom (access on Canvas)

CRN: 44843 and 44845

Section	Class	Instructor	Time	Location
53 & 54	Lecture	Showalter	T/Th 6:00 – 7:15 pm	FOR1
53	Lab	Karpishin	T/Th 2:30 – 5:20 pm	SC2204
54	Lab	Showalter	T/Th 7:30 – 10:20 pm	SC2204

Prerequisite: CHEM 1A or CHEM 1AH with a grade of C or better

Advisory: EWRT 1A, EWRT 1AH, or ESL5

Necessary Materials:

- Textbook: Chemistry: A Molecular Approach, 6th edition, by Tro
 The [bookstore](#) has a \$47 deal for the quarter, which includes the electronic version of the book and the Mastering Chemistry platform. You need Mastering access.
 Library ISGN • 0135402263
- Computer with internet access
- Scientific calculator—Make sure you can do scientific notation (EXP, EE or x 10c button, log, and ln). It cannot have graphing functionality. Casio fx-260solar is a very good and cheap one.
- A laboratory notebook (not a composition book). Purchase it in the [campus bookstore](#) or on [Amazon](#).
- Recommended: Lab safety goggles. They are required during lab experiment sessions. However, there are goggles available for use during labs in the lab room. They are available in the [campus bookstore](#) or [Amazon](#) if you want to own a personal pair.
- Recommended: Lab coat- 100% cotton. You may purchase one on Amazon if you wish.

Important Registrar Deadlines:

- **Course Add:** Sunday, April 20th (add code required)
- **Course Drop (without a 'W'):** Sunday, April 20th
- **Course Drop (with a 'W'):** Friday, May 30th

Holidays Impacting Our Class:

- **Juneteenth:** Thursday, June 19th

I. Course Description

This course is a continuation of an introduction to the principles of chemistry covering the investigations of intermolecular forces and their effects on chemical and physical properties. Also covered are investigations of reversible reactions from the standpoints of kinetics, thermodynamics, and equilibrium. Investigation and application of gas laws and kinetic molecular theory.

Student learning outcomes:

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

II. Formats and Procedures

Exams. All exams are anticipated to be during normal class time, except the final. Keep in mind that later chapters are generally dependent on earlier chapters, so the later exams will require knowledge from chapters tested in earlier exams, but won't be directly testing those topics. However, the final will be cumulative—directly testing concepts from throughout the course.

Exam 1: Tuesday, May 6th

Exam 2: Tuesday, June 3rd

Final Exam: Tuesday, June 24th from 6:15 – 8:15 pm

Attendance. At the beginning of lecture, a sign-in sheet will be passed around to gauge attendance. For each lecture you attend, you can earn up to 2 pts of extra credit. If you are late for class, it may impact the amount of extra credit points you earn.

Online Homework. There will be a homework assigned after completion of each chapter (except chapter 13), pertaining to the main topics of the chapter. It will be online through Mastering Chemistry (access through the 'Access Pearson' tab in our course on Canvas). You have access to this as part of the package deal through the campus bookstore. Homework can be turned in up to one day late for a 25% penalty. After that, there will be a 50% penalty. Once the answer key is released, you can no longer turn in the assignment.

Labs. You must attend lab sessions. If you miss 4 or more lab sessions, you will receive an F for this course. To participate in a lab session, you must have completed the prelab and be wearing appropriate lab attire. Appropriate lab attire includes flat close-toed shoes and fully covered feet, legs, and torso (stomach). Hair needs to be secured with a hair tie if it is shoulder-length or longer. See the 'Laboratory Policies' section later in the syllabus. If you are unable to make it to a lab session, contact your lab instructor via Canvas/email to let them know as soon as possible.

After you finish a laboratory experiment, you must complete the lab report and turn it in on Canvas one week later. Labs can be turned in up to one day late for a 25% penalty. After that, there will be a 50% penalty. Your lowest lab report will be dropped at the end of the quarter.

III. Course Requirements and Grading

Grade Components:

<u>Component</u>	<u>Points</u>	<u>% of Grade</u>
Attendance	Up to 38 bonus	Up to 3.8% bonus
Online Homework (6)	180	18
Prelabs	105	10.5
Labs	215	21.5
Exam 1	150	15
Exam 2	150	15
Final Exam	200	20
TOTAL	1000	100

You are guaranteed the following grades:

Grade Percentage	Letter Grade	Grade Percentage	Letter Grade
97 – 100%	A+	73 – 76%	C
93 – 96%	A	70 – 72%	C-
90 – 92%	A-	67 – 69%	D+
87 – 89%	B+	63 – 67%	D
83 – 86%	B	60 – 62%	D-
80 – 82%	B-	<60%	F
77 – 79%	C+		

Regrade Policy. If a student believes an error has been made in the grading of an assignment, they must email the instructor a written explanation of the perceived error within one week of it being returned. The physical work must be given back to the instructor in that timeframe as well. Never alter work that has been handed back; that will cause it to be denied for a regrade. Keep in mind that a regrade could potentially decrease the score of the assignment.

IV. Academic Honesty

- Cheating will result in a 0 grade for the assigned work in question and a warning. Further cheating will subject you to increasing disciplinary measures, including referral to the Vice President of Student Services for disciplinary action.
- Good rules of thumb:
 - Never look at others' answers during exams or quizzes
 - Do not try to browse the internet or send text messages during quizzes or exams to gain outside assistance
 - Do not look directly at other students' work and don't let others look directly at your work. This will cause the tendency to copy. You cannot control what others do with your work. As instructors, we cannot tell who copied who easily, so both of you would get zeros (it's not worth it!)
 - It is fine to help classmates on homework, but verbally discuss problems. This ensures you won't be copied. This will help your classmate understand and then they can put the answer in their own words

V. Accommodations for Students with Disabilities

The mission of Disability Support Programs and Services (DSPS) is to ensure access to the college's curriculum, facilities, and programs, and to promote student success in realizing individual educational and vocational goals. DSPS includes on- and off-campus programs and services offering students with disabilities a comprehensive array of accommodations, educational assistance classes and support services. Find out more about their services by going to [Disability Support Programs and Services \(DSPS\)](#). You can sign up to speak with a counselor online or request assistance by email (dss@deanza.edu) or phone [(408) 864-8838]. Please contact them as soon as possible in the semester to quickly accommodate any needs.

VI. Flexibility Clause

There may be a need to make changes to the syllabus over the course of the semester. The syllabus is subject to change if unforeseen circumstances come up. Students will be given as much notice as possible if any changes need to be made.

Tentative Schedule:

Date	Lecture	Lab
4/08	"Orientation" CH-6: Gases	Check-In
4/10	CH-6: Gases	Molar Volume
4/15	CH-12: Solids, Liquids, and Intermolecular Forces	Structure Review
4/17	CH-12: Solids, Liquids, and Intermolecular Forces	Heat of Vaporization (1)

4/22	CH-13: Solids and Modern Materials (only sec. 13.3)	Heat of Vaporization (2)
4/24	CH-15: Chemical Kinetics	Green Salt (1)
4/29	CH-15: Chemical Kinetics	Green Salt (2)
5/01	Review for Exam 1 (CH-6, 12, 13.3, and 15)	Green Salt (3)
5/06	EXAM 1: CH-6, 12, 13, and 15	Green Salt (4)
5/08	Go Over Exam 1 CH-16: Chemical Equilibrium	Green Salt (5)
5/13	CH-16: Chemical Equilibrium	Iodine Clock Reaction (1)
5/15	CH-16: Chemical Equilibrium	Iodine Clock Reaction (2)
5/20	CH-17: Acids and Bases	Iodine Clock Reaction (3)
5/22	CH-17: Acids and Bases	Iodine Clock Reaction (4)
5/27	CH-19: Free Energy and Thermodynamics	Kc by Spectro 20 (1)
5/29	Review for Exam 2 (CH-16, 17, and 19)	Kc by Spectro 20 (2)
6/03	EXAM 2: CH-16, 17, and 19	Ka of a Weak Acid (1)
6/05	Go Over Exam 2 CH-19: Free Energy and Thermodynamics	Ka of a Weak Acid (2)
6/10	CH-19: Free Energy and Thermodynamics	Calcium Hydroxide (1)
6/12	Review for Final Exam (Cumulative)	Calcium Hydroxide (2)
6/17	Review for Final Exam (Cumulative)	Check Out
6/19	Juneteenth Holiday- NO CLASS	--
6/24	FINAL EXAM: Cumulative	--

Keep in mind that later chapters are generally dependent on earlier chapters, so the later exams will require knowledge from chapters tested in earlier exams, but won't be directly testing those topics.

VII. Laboratory Policies

Safety Contract and Laboratory Rules:

De Anza College's laboratory safety contract is available on Canvas. The safety contract *summarizes* safety rules, precautions, and practices for the course. A signature is required before the first lab experiment session, and failure to sign the safety contract will result in your withdrawal from the course.

Safety is our first concern in the chemistry lab. You must follow the safety rules and instructor's directions in the lab. In addition, it is particularly important to have your cell phones in your backpack, dress appropriately, and never eat or drink in the lab.

Food, drinks, cell phones, and other electronic devices are NOT allowed in the lab for two reasons: 1) they may be a distraction while you (or others) are working with hazardous reagents and 2) these easily can be contaminated with chemicals from the laboratory. There are severe grade penalties for students who disregard safety rules or specific instructions. Food and drinks should be left inside your backpack. If needed, you can leave the room for a short time to drink (etc.), but please avoid excessive exit/entry from the lab and never leave a lab experiment unattended.

Personal Safety Equipment Requirements:

Students are required to use safety glasses or goggles during the lab experiments. The Department will provide goggles to be checked out for the lab period, so you are not required to purchase goggles. These goggles are shared amongst our chemistry students, so you are encouraged to bring your own – especially if you plan to take other lab courses at De Anza College. Lab goggles can be purchased from the campus bookstore. If they are purchased from a different vendor, please consult your instructor to ensure that they meet the Department's requirements.

It is absolutely mandatory that you dress appropriately for lab. Loose, baggy clothing is discouraged. Long hair must be pulled back; full-length shirts (covering the midsection) and long pants are required during lab days. *You must wear flat, closed-toe, closed-heel shoes.* Students violating these clothing and safety requirements will not be allowed in the laboratory.

Lab Manual and Pre-Lab Assignments:

The course experiment information will be provided on Canvas. For each lab or work session, you are required to (1) thoroughly read the laboratory protocol, (2) complete the pre-lab assignment in your lab notebook (3) review the relevant parts of the MSDS (material safety data sheet) as necessary, and (4) understand the experiment's purpose and general procedure. All pre-labs are due at the start of the lab session to ensure preparation. If you do not have your prelab ready or are not dressed properly for safety requirements, you will need to leave the lab session and will receive a 0 for the lab. Preparation is required for your safety as well as the safety of your fellow students.

Prelabs must be written in your lab notebook and include:

- A main objective (one sentence) describing the purpose / goal of the lab
- Potential safety concerns
- A detailed bulleted list of the entire procedure.
 - o This must be thorough enough to only need your prelab to complete the lab without referencing the experiment document.
 - o Electronics are not permitted, so you cannot look up the procedure online when in lab. It is okay to print out the experiment document for additional reference
- Table(s) to collect any data required for the lab

Lab Attendance:

The laboratory activities – lab experiments and work sessions – are essential for this course. Understanding chemistry also requires that you learn laboratory techniques, so if you are absent four (4) or more lab meetings during the semester, you will be given an F for the course. If it is before the withdrawal deadline, you can withdraw instead of receiving the F for 4+ absences.

At the start of each lab, there will be a short pre-lab lecture. During the pre-lab lecture, important safety information, technique and chemical handling procedures, and proper waste disposal instructions will be reviewed. Thus, it is essential that everyone arrive to lab on-time. If you arrive late and miss any portion of the pre-lab lecture, you may not be allowed to participate in lab. There are no make-up labs during the quarter. If you are unable to make it to a lab, please let your lab instructor know as soon as possible by email/Canvas.

Lab Reports and Lab Grades:

After you finish a laboratory experiment, you must complete the entire lab report and turn it one week later on Canvas. Requirements and due dates will be posted on Canvas.

Unless otherwise instructed, you may NEVER submit a report for a lab that you were absent from. Also, you may be working in pairs or groups, but it is essential that your lab reports and work sessions represents your own work and may not be copied from others – including AI-generated materials. Falsifying records, changing data entries, copying a lab report (or portions of a prelab, lab report, or worksheet) are forms of academic dishonesty and violate De Anza College's policies. All infractions will be reported to the Vice-President of Student Services and will result in a failing grade on the assignment.

Unauthorized Experiments:

Unauthorized experiments are expressly forbidden. Anyone conducting unauthorized experiments will be removed from the class immediately, and a report will be filed with the Division Dean and Vice-President of Student Services. This may result in a failing course grade, suspension, and/or dismissal from the college.

Lab Accidents/Injuries:

Accidents and spills can happen in the lab. While accidents do not affect your grade - unless they result from disruptive behavior or unauthorized experiments - how you deal with the accidents and injuries is important. If the accident results in a small spill that is easily contained and cleaned up, do so immediately. Liquids are typically absorbed on a paper towel, then put into solid waste. Solids are usually disposed in the proper waste container. If the accident results in a spill that you do not know how to deal with, do not leave the spill unattended; calmly call for your instructor. If you spill a chemical onto yourself or onto your clothing, wash with copious amounts of water; ask a classmate to get the instructor's attention or call out for help. Failure to notify the instructor of any chemical exposure or injury occurring in the classroom can put your health at serious risk. No matter how trivial the accident may be, please notify your instructor without delay.

Chemistry Laboratory Safety Rules:

Any student who disregards safety rules may have his/her overall laboratory grade lowered at the discretion of the instructor. Consistent failure to follow these rules or serious infractions may result in outright expulsion from the course.

VIII. Information and Campus Policies**Name and Pronoun**

If you'd like to be known by a name different from the name on the roll sheet or if you have a personal pronoun, please contact me, and I will make every effort to call you by the name and pronoun you use. You can identify your pronoun in Canvas as well. Here are directions: [How do I select personal pronouns in my user account as a student?](#) If you'd like to learn more about personal pronouns, go to mypronouns.org.

Nondiscrimination Statement

The college, the district and their representatives shall provide access to services, classes and programs without regard to national origin, immigration status, religion, age, gender, gender identity, gender expression, race or ethnicity, color, medical condition, genetic information, ancestry, sexual orientation, marital status, physical or mental disability, pregnancy, or military and veteran status, or because someone is perceived to have one or more of the foregoing characteristics, or based on association with a person or group with one or more of these actual or perceived characteristics.

Student Help and Support

De Anza College is here to support you with many [Student Services](#).

Academic Counseling

No matter what you're studying at De Anza, it's easy to find counselors and academic advisers who understand your situation and can help you succeed. Our counselors and advisers are available to assist you and to answer your questions on a variety of topics, including graduation and degree requirements, educational plans, academic progress and probation – and more. You can speak with a counselor or academic adviser in person or by phone, email or Zoom video. Connect with a counselor by going to [Our Counselors](#).

Textbooks and Technology

The [college bookstore](#) has textbooks for rent or buy. The Library now has Wi-Fi hot spots available for checkout at the Circulation Desk. Additionally, the library has [laptop computers, Chromebooks, iPads and calculators](#) available to checkout. You can apply for a free refurbished computer [here](#).

Health Services

[Student Health Services](#) offers [in-person services](#), as well as limited online services through their [Virtual Clinic](#). Additionally, you can speak with a mental health professional – online, any time, for free! TimelyCare is a new service that provides free mental health support and other resources for De Anza students. Learn how to sign up for this free service [here](#).

Learning Support

The [Student Success Center](#) is available in person or online – for academic support services, tutoring and workshops! In-person and online peer tutoring are available in all areas Monday through Thursday, beginning the second week of the quarter.

Student Needs

Are you struggling to secure daily essentials like food or housing? You're not alone. [Resources for basic needs](#) are available at De Anza College.

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:

W,M 9:10 PM - 10:00 PM

Canvas,Email,By Appointment