Chemistry 1A: General Chemistry Winter 2022

Dr. Brophy

CHEM 1A CRN 32189 Section 03Y
Monday and Wednesday 7:30 am – 10:20 am in SC2202 (Section 03Y)

CHEM 1A CRN 32190 Section 04Y
Monday and Wednesday 11:30 am – 2:20 pm in SC2202 (Section 04Y)

Lectures are asynchronous for the winter 2022 quarter. Recorded content is posted on Canvas.

The first class meeting is on Monday, January 3rd. This class meeting is strictly mandatory, and I will drop any no-shows by 3:30 pm on that day.

Instructor: Dr. Megan Brunjes Brophy
*Please contact me through the **Canvas Inbox** for all course-related communications. Please allow 24 – 72 hours for a reply.*

Course Webpage: Canvas. ***Turn on Canvas notifications to receive class announcements.*** Once the Canvas pagehas been published, I will communicate with the class exclusively through Canvas and not by email.

Office Hours: MTuWTh 2:30 pm – 3:20 pm
Office hours will be held over Zoom. The meeting room information is available on Canvas.

Important Dates

Add Day	January 15, 2022	Last day to *add*.
Refund Day	January 16, 2022	Last day to *drop* the course and receive a refund.
Drop Day	January 17, 2022	Last day to *drop* the course without receiving a "W"
Census Day	January 18, 2022	First day to order lab kits
Withdraw Day	February 25, 2022	Last day to withdraw from the course.
End of Term	March 16, 2022	This is the last day of class. *No late work will be accepted after this day.*
Final Exam	March 21, 2022	The final exam will be administered in SC2202 on this day.

Midterm Dates

Exam 1	January 12, 2022
Exam 2	February 9, 2022
Exam 3	March 9, 2022

Week 1 Drop Days
The Chemistry 1A program at De Anza College is heavily impacted. The official waitlists are typically full, and additional students are on unofficial waitlists. This class is comprised by both an asynchronous online lecture component and an in-person laboratory section. In order to keep your spot in the class, you must demonstate participation and attendance in both modalities during the first 5 days of the quarter. You must submit the **Unit 0 Module** assignments through Canvas in a timely manner. If *any* of these assignments has not been submitted by ***9:45 pm on January 7th,*** I will drop you from the course. Furthermore**, if you miss the first in-person laboratory meeting without prior arrangements, you will be dropped from the course**.

Lecture Materials

Required

- **Chem101 ($22.95)** We will use Chem101 as our online homework and in-class practice problem platform this quarter. *You must sign up for a Chem101 account before the second class meeting—you will lose points if you don't have Chem101 during the second lecture!* You will have complimentary access to Chem101 for the first two weeks of the quarter. After this period, Chem101 costs $22.95 for the first quarter you use it, and $17.95 for subsequent quarters.

- **Textbook** *Chemistry: The Molecular Nature of Matter and Change, 9th edition by Silberberg and Amateis.* There are multiple purchasing options available to you, and you should consider your future chemistry plans at De Anza College when making a decision. Please note that we will not use McGraw-Hill Connect or ALEKS this quarter, so **you do not need to purchase access to these platforms for this class**. Some faculty in the department use these platforms, and you may require access for Chemistry 1B or Chemistry 1C.
  - Purchase a used, old copy (any edition) from Amazon, eBay, or a former student (cost will vary). Each edition of Silberberg is more-or-less the same, although some practice problems may vary in numbering or content. This is likely your least expensive option for this quarter; however, you will not have future access to Connect or ALEKS.
  - eBook Access for Chemistry 1A chapters ($30). This option may be purchased using the ISBN **9781307600940** at http://create.mheducation.com/shop. This ISBN only includes the chapters that we are using for Chemistry 1A (1–4, 6–11). I encourage you to consider this option if Chemistry 1A is the only chemistry course you plan to take at De Anza College. Here are additional instructions to purchase this option: eBook_CreditCard_2015.pdf
  - eBook access + Connect + ALEKS for 365 days ($90). This is a good option if you plan to take Chemistry 1B and Chemistry 1C during the 2020–2021 academic year. You should find this purchase option at https://connect.mheducation.com/class/m-brophy-winter-2022-sections-03-and-04
  - eBook access + Connect for 90 days ($45). This probably isn't the most useful option for this quarter as we will not have any Connect homework.
  - Temporary 14-day access to Connect and eBook. No matter what option you are leaning towards, you can sign-up for temporary 14-day access at https://connect.mheducation.com/class/m-brophy-winter-2022-sections-03-and-04

- **Calculator** A scientific calculator with natural– and base 10– log functionality is necessary and sufficient for this class. Recommended models include:
  https://www.amazon.com/Texas-Instruments-MultiView-Scientific-Calculator/dp/B000PDFQ6K
  https://www.amazon.com/dp/B005QXO8J0/ref=dp_cerb_3
  You may not use a graphing calculator or other electronic device on exams. You must bring your own scientific calculator, and you are responsible for knowing how to use your calculator.

- **Computer and printer access.** All lecture content will be delivered online, and office hours will be held strictly over Zoom. You should have regular and reliable access to a computer. At times you will find it helpful to print materials (e.g. this syllabus, lab procedures) to bring and reference in class.

Recommended

- **Genius Scan** Throughout the quarter, you will turn in handwritten assignments by creating a PDF filed and uploading this file to Canvas. Recommended apps include GeniusScan and CamScanner. You may also import images into Word or Google Docs and save the resulting file as a PDF. *Do not use any Adobe apps to turn your assignments in—the files end up being too big for me to read!*

- **OpenStax** *OpenStax Chemistry*, 2nd edition. Available *free* online at https://cnx.org/contents/f8zJz5tx@9.18:DY-noYmh@9/Introduction or on the OpenStax app (iPhone/iPod).

- **Smartwork5** *Calculations in Chemistry: An Introduction, 2nd edition by Dahm and Nelson* Selected assignments from Calculations in Chemistry (SmartWork5 format) will be available on Canvas as extra practice. *These assignments are worth zero points and do not count towards your grade.* This workbook and related assignments provide valuable extra practice for fundamental quantitative skills. I particularly recommend this book if you would like extra practice or review for concepts covered in Chem25. There is a **free 21-day trial period** after which there are multiple purchase options.
  - *eBook + SmartWork5 (WW Norton) $35* You can purchase access to the eBook and SmartWork5 directly from the publisher. This option will be available to you when you click on the link to a SmartWork5 assignment in Canvas.

- *SmartWork5 only (WW Norton) $30* You can purchase access to SmartWork5 only directly from the publisher. The eBook in not included, but you will still be able to complete the practice assignments.
- *Digital ($35) or New ($48) from the De Anza College Bookstore.* You may purchase a new hard copy or digital version from the De Anza College bookstore. Either format should come with an access code for SmartWork5. Purchasing access from the De Anza College bookstore will allow you to use financial aid or other bookstore vouchers.

I do not recommend used copies or rentals because the digital access code has often been used and cannot be applied to a new account.

Lab Materials
Required

- **Lab Notebook** You should have a bound composition notebook with quad ruling to use a dedicated chemistry laboratory notebook. Notebooks with spiral binding are not permitted.
  - https://www.amazon.com/National-53110-Notebook-Quadrille-Sheets/dp/B0016060LG/ref=zg_bs_490760011_16?_encoding=UTF8&psc=1&refRID=RHQBFM0AHQZR8D9XBW7F
  - https://www.amazon.com/Top-Flight-Composition-Squares-41320/dp/B003I869B0/ref=sr_1_6?keywords=composition+notebooks+quad+ruled&qid=1640639501&s=office-products&sprefix=composition+notebooks+qua%2Coffice-products%2C135&sr=1-6
- **Ball Point Pen with Black or Dark Blue Ink**

Academic Integrity
The process of learning requires physical changes to occur in your brain. Cognitive research demonstrates that consistent practice and learning to recognize mistakes are key aspects of the learning process. As such, all students should be aware of the De Anza College policy on academic integrity outlined at https://www.deanza.edu/policies/academic_integrity.html. The following text is reproduced from the De Anza College manual:

> *the college is committed to providing academic standards that are fair and equitable to all students in an atmosphere that fosters integrity on the part of student, staff and faculty alike. The student's responsibility is to perform to the best of his or her potential in all academic endeavors. This responsibility also includes abiding by the rules and regulations set forth by individual faculty members related to preparation and completion of assignments and examinations.*

I expect that all work submitted for this class will represent your own understanding of the material and must be written in your own words. Cheating, copying, plagiarizing, etc. will not be tolerated. Due to the "online" nature of the class, students must take extra care to abide by the policies and expectations set forth for each assignment. While it is tempting to use the full weight of the internet, some sources may provide misleading or corrupt information. Students should focus on the required reading and recommended resources for the class, and any other sources must be vetted by the instructor. Tutoring resources are allowed for homework assignments; however, using a paid, static resource is forbidden. This can be particularly challenging as some websites that profess to provide tutoring services are actually destructive to the learning process. A good rule-of-thumb is that any tutoring service will help you solve a problem and arise at an answer *on your own*—this means that your brain is making new physical connections between neurons, and you are learning! If an online source professes to offer tutoring, but instead provides you with answers, this is cheating. The websites Chegg, CourseHero, Reddit, as well as any similar site are explicitly forbidden for all class assignments. Posting class assignments on these websites is considered intent to cheat. I am happy to discuss appropriate resources with you, and I encourage you to *ask for permission.*

You may collaborate with your classmates on lecture homework assignments; however, the final work that you submit must reflect your own understanding of the material. Do not allow any other student to copy your work under any circumstance. If a student asks if they can copy your work or "just see it as an example", ask them to reach out to the instructor for help. If two students turn in the same work, both students will have participated in academic dishonesty.

Class assessments are used to measure an individual student's mastery of the material. They are all closed resource, and you will be provided with any physical constants or additional information as necessary. A common mistake that past students have made is to Google a question and copy an answer from the internet—this behavior is forbidden, and the consequences are described below. If I suspect cheating on a quiz, you will be required to meet with me face-to-face.

Any incident of cheating or plagiarism, no matter how minor, will be reported to the Dean of Student Development and the Dean of the Physical Sciences, Mathematics, and Engineering division. Administrative consequences are summarized in

the college manual. Additional consequences will be applied to your course grade. **The first incident of academic dishonesty will result in zero points on the assignment, a grade penalty of up to 8% to be deducted from your final grade, and loss of any extra credit points for the quarter.** Any subsequent instances of academic dishonesty *no matter how minor* will result in failing the class. In short, academic dishonesty will have a negative impact on your grade and may result in disciplinary probation or expulsion. If academic dishonesty is discovered within two-years of your completion of the course, your official grade will be changed.

I recognize that these consequences may sound scary. Unfortunately, I have had students who did not pass this class as a direct result of academic dishonesty. I *am* committed to supporting you and your learning process, and I expect you to display high ethical standards. If you require an extension on any assignment, please reach out to me to arrange appropriate accommodations. Our class meetings are dedicated to working through practice problems, and I encourage you to bring questions and utilize the discussion boards for additional feedback. If you are not sure if a resource is allowed, or if something feels "off" to you, alert your instructor right away. *I do reserve the right to make major changes to the class structure—including requiring an oral exam / exit interview—if there are widespread violations of the academic integrity policy*.

Campus Resources

Study Resources

- **De Anza College Library** The library remains closed as of this writing; however, online resources can be found at https://www.deanza.edu/library/
- **Math, Sciences, and Technology Resource Center (MSTRC) Tutoring.** The MSTRC offers online tutoring over Zoom for the Chemistry 1 sequence. https://www.deanza.edu/studentsuccess/mstrc/
- **Online Tutoring** Please visit https://www.deanza.edu/studentsuccess/onlinetutoring/ for more information.
- **Disability Support Programs Services** The mission of DSPS is to ensure access to the college's curriculum, facilities, and programs. In particular, DSPS can help you get extended time on examinations. https://www.deanza.edu/dsps/
- **Resources for Students** Additional resources may be found at https://www.deanza.edu/services/

I expect you to use the resources available to you and ask for help when needed.

Syllabus Statement

This course syllabus is a contract. Please read it carefully and completely in its entirety before asking me any questions regarding the course schedule, content, requirements, grading, etc. You are expected to adhere to the De Anza College Student Code of Conduct Administrative Policy 5510 at all times. This syllabus is a living document, and ***all corrections and changes to this syllabus will be announced through Canvas.***

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. Everyone will have the same lecture period, but a different lab period depending on which section you are enrolled in. At De Anza College, the lab and lecture may not be taken as separate courses under any circumstances. For online delivery during the summer 2021 quarter, we will have one class meeting that will cover both lecture and lab material.

Official Course Description

An introduction to the structure and reactivity of matter at the molecular level. Application of critical reasoning to modern chemical theory and structured numerical problem solving. Development of molecular structure from rudimentary quantum mechanics, including an introduction to ionic and covalent bonding. Chemical problem solving involving both formula and reaction stoichiometry employing the unit analysis method. An introduction to thermochemistry and a discussion of the first law of thermodynamics.

Prerequisites

CHEM 25 or CHEM 30A or satisfactory score on Chemistry Placement Test; MATH 114 or equivalent.

Hours

The labs for this class will meet in-person, and lecture content will be delivered asynchronously through Canvas. In addition to these hours, you should ***expect to spend an additional 30–40 hours a week studying and working on class assignments in order to master the material***.

Course Objectives

A. Examine contributions by investigators of diverse cultures and time to the body of chemical knowledge, with an emphasis on physical and chemical conceptual frameworks.
B. Investigate critical aspects of measurement.
C. Explore the historical development of understanding the structure of the atom.
D. Assess the development of the periodic table of elements in light of modern atomic theory.
E. Differentiate the causes and types of chemical bonding.
F. Appraise the effect of quantum mechanics on formulation of molecular structure.
G. Employ systematic nomenclature to the identification of molecules.
H. Utilize the principles of stoichiometry to analyze compounds, chemical mixtures, and reactions.
I. Examine the prominent characteristics of solutions.
J. Classify the major types of chemical reactions.
K. Apply the essential principles of thermodynamics to chemical systems.

Active Course Outline

The active course outline for this class may be found online at
https://www.deanza.edu/catalog/courses/outline.html?cid=CHEM1A Please save a copy of the active course outline.

General Attendance Policy

Your *punctual* attendance is expected at all lecture and laboratory sections of the course. In order to be counted "present" and receive credit for that day's activities, you must arrive during the first 5 minutes of class. If you will have to miss a class session for any reason, let me know by e-mail or phone as soon as possible. Notifying your instructor of absences or tardiness shows that you take your responsibility towards yourself and your fellow students seriously.

Canvas Attendance Policy

Consistent and sustained effort is expected throughout the asynchronous component of the course. Assignments must be completed accurately and submitted on time in order to receive full credit. Late submissions will be allowed for 1 week with an automatic 10% grade deductions for each day (or fraction thereof) late. In the case of a documented emergency (e.g. hospitalization, court appearance, car crash), I may reduce the late penalty. These instances will be handled and decided on a case-by-case basis. Please write an explanation on the assignment submission, and I will consider your request. Travel does ***not*** constitute an emergency or excused absence. Plan ahead and submit assignments in advance.

Lab Attendance Policy

All lab assignments are mandatory, and make-up labs are not offered at De Anza College under any circumstances. You are permitted ***three*** excused absences from lab due to an illness or documented emergency. I recommend that you schedule a test immediately if you feel sick. Santa Clara County has been experiencing an increase in demand for tests, and it may take many days to secure a test and get results. Official testing is important for epidemiological tracking as well facilitating appropriate contact tracing. The three excused absences may be used consecutively or nonconsecutively during the quarter. If you cannot commit to the laboratory schedule, you should not take this class. If you miss class due to illness, I will also let student services know so that they can follow up with you regarding current policies and the return to campus protocol.

If you are sick for an extended period of time and you are not able to keep up with lecture material, you may be able to apply for an Excused Withdrawal (EW). Please contact the Admissions & Records office for more information.

Your *punctual* attendance is expected at each lab. The first few minutes of lab are used to communicate essential safety information. If you are late to lab you may not be able to perform the day's experiment.

Grading Breakdown and Expected Grade Scale

To succeed in this course, you will need to exhibit consistent and sustained effort throughout the quarter. This will be demonstrated through in-class practice problems, laboratory analysis, and examinations. Assignment types are assigned a weight; not all points are created equally!

Assignment Category	Percentage of Final Grade[1,2,3]
CHEM101	5%
Other Lecture Assignments and Homework	10%

Pre-lab Assignments	10%
Laboratory Notebook Records	10%
Post-lab Assignments	15%
Exams (Three total)	30%
Final Exam	20%

[1] If you end the quarter with less than 50% in any assignment category, including the lab final and/or final project, you may receive an F in the class.
[3] The weights of these assignment categories may change. For example, if there are repeat violations of the academic integrity policy on homework, this scale will be adjusted such that the final will be worth a larger portion of your grade.

The grade scale is as follows. A minimum grade of 70% is required to pass the class, and your final grade must be at least 93% in order to receive an A. A grade of C indicates that you have sufficiently mastered the skills and material necessary to take Chemistry 1B. *My goal is for everyone who takes and completes Chemistry 1A to pass the class with a C or higher*. Passing this class is an excellent accomplishment, and something to be proud of. I will not artificially or selectively change grades at the end of the quarter.

Percentage in Class	**Grade[1]**
≥ 93%	A
90 – 92.9%	A–
87 – 89.9 %	B+
83 – 86.9%	B
80 – 82.9%	B–
77 – 79.9%	C+
70 – 76.9%	C
65 – 69.9%	D+
60 – 64.9%	D
<60%	F

NOTE: Dr. Brophy reserves the right to alter the grade scale at any point in the quarter. Any changes will be announced through Canvas.

Late Work Policy
Late submissions on assignment will be accepted through Canvas with an automatic deduction of 10% per day. No late work will be accepted after **March 16th**. While I will make every effort to grade your work in a timely manner, late work may not be graded until the end of the quarter. If you believe you have compelling reason to reduce the late penalty for a given assignment, please include a **submission comment**. I will consider your request with grading.

Regrade Policy
Grades for all assignments are final once they have been posted to the class gradebook. If you believe I made a clear and obvious error in grading your assignment, please notify me through the Canvas Submission Comments. I will review these submission comments through the quarter and prior to submitting final grades for the class.

Study Tips
1. Complete the assigned reading before coming to class. Write down any vocabulary words that you do not understand as well as their definitions.
2. Take *handwritten* notes during class and review your notes regularly. Write down any questions you have and bring them to office hours or e-mail your instructor.
3. Read the instructions for each assignment ***carefully***. You are responsible to turning in complete assignments in the correct format.
4. *Do a little bit every day*. After every lecture, review the reading assignment and complete in-chapter and end-of-chapter exercises.
5. Join a study group. Work on problem sets together. The best way to learn the material is to teach it to somebody else.

6. If you feel that you are a poor test-taken, *complete and turn in all assignments on time* in order to pass the class.
7. Take care of yourself! Stay well-rested and drink water.

Assignment Descriptions

Your attendance and active participation is expected at every lecture period. ***Due to the high number of students wishing to enroll in the course, any unjustified absences during the first two weeks of class will result in you being dropped from the course.*** Absences may be excused in case of a verified emergency (e.g. doctor's note or police report). If you know that you will not be able to attend lecture for any reason, let me know by email right away (even if only 5 minutes before class). Late arrivals and early departures are distracting for the whole class (and me!), so arrive on time and stay for the whole class period. I strongly encourage taking your own notes in lecture. Put your phone on silent or Do Not Disturb while you are in class.

CHEM101 Homework and In-Class Activities

We will use Chem101 as our online homework and "clicker" system during the quarter. You must sign up for a Chem101 account on the first day of class. The cost of Chem101 is ~$23 through the De Anza College bookstore. Once you sign up for an account, there is a two-week grace period before you must purchase access for the remainder of the quarter.

Lab Assignments

All work that you submit must be handwritten unless other specified. Submissions containing typed submissions or computer-generated images will automatically receive a score of zero.

Labs		Assignment (Due Dates will Vary Based on Lab Group)		
		Pre-lab	**Records**	**Post-Lab**
1	Measurements	Lab safety contract	Worksheet	Density Graph
2	Hydrate	Schematic of the lab Chemical safety	Lab notebook pages	Calculations summary
3	Precipitation Lab	Schematic of the Lab Chemical safety	Lab notebook pages	Calculations Summary
4	Reactions Lab	"How to identify reactions" flow chart Chemical safety	Worksheet	Balanced equations Summary
5	Acid-base Titration	Schematic of lab Chemical safety	Lab notebook pages	Calculations Literature search
6	Calorimetry	Schematic of procedure Chemical safety	Lab notebook pages	Calculations Diagrams Summary
7	Redox Titration	Schematic of lab Chemical safety	Lab notebook pages	Calculations Summary

Exams

There will be three 50-minute midterm exams (100 points each) and one 2-hour cumulative final exam (200 points total) in this class. The final exam will be 50% previously tested material (100 points) and 50% new material (100 points). Exams will be administered during in-person class meetings and make-up exams are not allowed under any circumstances. Please refer to your group's lab schedule for your exam time. Your lowest midterm will be dropped at the end of the quarter to account for any illnesses or emergency absences.

The final exam times are determined by the college and cannot be moved under any circumstances. The times for the final exam are as follows:

Section 03Y: Monday, March 21 from 7:00 am – 9:00 am
Section 04Y: Monday, March 21 from 11:30 am – 1:30 pm

You must attend your scheduled final exam time. If you will not be able to take the final, you should not enroll in this class.

Lab

Chemistry is an experimental science, and the laboratory is a major component of the course. De Anza College does not offer make-up labs, and ***you must attend the laboratory section that you are registered for*** to complete the required labs. Your timely attendance is expected at every lab. The beginning of each lab period is reserved for lab lecture. The lab

lecture is a required component of the laboratory section and will include essential safety information. ***If you miss lab lecture, you will not be permitted to complete that lab and you will receive a zero for all related assignments***.

You must clean up your work area before leaving each lab. Failure to do so will result in a loss of points for that lab. Before you leave lab, check-out with me. You will not receive credit for the lab unless I have signed your data.

Lab Assignments
Lab assignments will consist of pre-labs, completion of laboratory experiments and accurate data collection, and analysis of data.

Pre-lab assignments will vary by lab; however, they will generally include assigned reading, safety preparation, and an introduction to the lab experiment. I expect you to come to lab prepared to complete each experiment with minimal delays.

Data collected during the lab period must be recorded directly in your laboratory notebook. You will not receive credit for any data written on a worksheet or separate piece of paper. Before you leave lab for the day, have me check off on your data in your lab notebook for the available points.

Data analysis worksheets will be posted on the course webpage. The precise nature of the assignment and the number of points available will vary. Due dates will be announced in class and on Canvas.

Lab Tickets
Before each lab day, you will complete a "lab ticket" that demonstrates that you are prepared to complete the lab procedure in a safe manner. You are required to read the lab manual, watch any recommended technique videos, and look up required safety information in the days before class. The Lab Ticket assignment should be completed on a lose piece of paper (not in your lab notebook!!) and handed to your instructor at the beginning of class. If you don't have it ready at the beginning of class, you will not be permitted to complete that day's lab and it will count as an unexcused absence for the lab.

Lab Notebook
During the lab, you must record data and observations in your lab notebook. You may prepare your lab notebook ahead of time with any tables. Your lab notebook must be submitted to the instructor for grading 20 minutes prior to the end of class. I will grade notebooks and return them to you before you leave for the day.

Post Lab Assignments
While the precise nature of each post-lab assignment will vary based on the nature of the lab, they will typically involve worksheets of calculations. Please use your lab notebook for practice calculations and turn in only the final version of your work.

In addition to post-lab assignments for individual labs, there will be a cumulative asynchronous lab quiz during the final week of class.

Laboratory Safety

All chemistry laboratories inherently come with associated risks and hazards. It is inevitable that some accidents will occur during your chemistry course work. 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:

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.

In addition to the standard safety guidelines above, the De Anza College chemistry depart has adopted additional safety guidelines for the Winter 2022 quarter.

Guiding Principles

The chemistry department faculty are committed to offering in-person labs in a manner that minimizes the risk of spread and infection of COVID-19. We will apply best practices, including PPE and social distancing, to facilitate a safe and healthy laboratory environment.

Essential College Materials

The college is providing sterilizing wipes, gloves (non-latex), and extra masks (3-ply blown-melt center) for students, faculty, and staff currently. These can be found in all lab rooms.

The fume hoods must be operating properly to provide sufficient ventilation for the laboratory rooms. In the case of malfunctioning or inoperable ventilation, class activities will be canceled.

Personal Protective Equipment and Hygiene

Every student, faculty, and staff who enters a lab during the winter 2022 quarter must wear a mask that fully covers the nose and mouth. This is a department policy for the entirety of Winter Quarter. Students who do not

comply with the mask policy will be asked to leave the building. If a student refuses to wear their mask and will not leave, this constitutes disruptive behavior and should be reported to the PSME dean.

Students, faculty, and staff must wear disposable gloves (preferably nitrile, **provided**) when handling glassware, chemicals, and equipment.

Students, faculty, and staff are also expected to wear department-approved goggles (Indirect Vent, Z87), closed-toed shoes, and long pants or skirt. Students will be provided with a pair goggles, which will remain in their locker when not in use. Instructors may also request a new pair of goggles for Winter Quarter.

Students should wipe down their work area with a sterilizing wipe **(provided)** (e.g. isopropyl alcohol or bleach) at the beginning and end of each class.

Extra gloves and masks will be kept behind the whiteboards or near the instructor station.

Exposure Notifications and Contact Tracing
The chemistry department will follow all county and campus policies with regards to exposure notifications and contact tracing. The campus policy can be found here:
COVID-19 Response Team (https://hr.fhda.edu/_downloads/COVID Response Team CRT.pdf)

Summary of response plan:
De Anza has recently stopped using OptimumHQ health reporting app. In its place, students, faculty, and staff will perform a self-health check using posted guides outside the lab room prior to entering the lab room. These steps can also be conducted at home prior to arrival. Instructors should email this checklist to students at the start of the quarter. Students should not enter the lab room prior to the start of their lab period and not before their instructor is present.

In the event that the self-check raises any concerns, that individual should not attend class that day. Students are not permitted to attend lab if they are ill **(**Flu, cold, or Covid symptoms**)**. Faculty should make reasonable accommodations for sick students. In accordance with District policy they will be considered presumptively contagious irrespective of whether the person actually has COVID-19. Any student who comes to lab and appears symptomatic for COVID-19 or the flu should be sent to Student Health Services (Hinson Campus Center, Lower Level).

Building and room access
Students should enter the labs through the exterior doors only. The door that opens into the stockroom area / lobby should not be used by students and they will not be able to reenter the lab through that door.

Students will not check out equipment (including goggles) from the stockroom due to congestion concerns. Common glassware will be provided for each lab, and faculty should ensure that students clean their glassware before returning it.

Lab meetings in SC 2202, 2204, and 2208 will be limited to 15 students in lab at a time. Some exceptions may be made to facilitate check-in and check-out days. Students not in lab on a given day due to health reasons will have an alternative assignment that they can complete at no penalty. Based on the increased air flow and hood arrangements, labs held in SC2210 will meet with up to 26 students at each meeting.

The balance room between SC2202 and SC2204 will be off-limits to students. One balance should be placed on each lab bench in both rooms for students to use. Students in room 2210 will have access to a balance room. No more than 5 students should be in the room at a time, and students must remain masked.

All students should *leave the lab room* promptly at the end of class (typically 20 minutes after the hour). Students should start cleaning up and storing items 30 minutes before the end of class to ensure a timely departure. If students do not have time to finish the experiment, they may be provided with data for analysis.

Reckless behavior will not be tolerated. If your actions endanger the health and safety of yourself or anyone else in the class 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 and fail the class

Student Learning Outcome(s):

*Identify and explain trends in the periodic table.
*Construct balanced reaction equations and illustrate principles of stoichiometry.
*Apply the first law of thermodynamics to chemical reactions.