



# CHEM 1A

## General Chemistry

De Anza College

Dr. Puenzo

**Instructor:** Dr. Sol Parajon Puenzo**email:** parajonpuenzosol@fhda.edu

Please note that Canvas Messages are the most reliable way to get in touch with me.

**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.

**Class Schedule:**      **Lecture:** Monday to Thursday from 3 to 4:50 pm. Canvas/ConferZoom  
                                   **Problems:** Monday to Thursday from 5:00 to 5:25 pm. Canvas/ConferZoom  
                                   **Lab:** Monday to Thursday from 5:30 to 6:45 pm. Canvas/ConferZoom  
 One more hour per day of lab activity will be necessary to complete the activities.

**Zoom Meeting Room:** Using Canvas ConferZoom

\*\*\*Due to the compact nature of summer classes, this course requires 30+ hours of outside study and homework each week for success\*\*\*

**Regular Communication:**

- During class and office/student hours via Zoom
- Class updates will be communicated via canvas using announcements.
- General questions about resources or actives will be discussed in Q&A of the current week in Canvas.
- For personal questions: e-mail me via canvas.

**Required Materials:**

- **Textbook:** Chemistry: The Molecular Nature of Matter and Change, 8<sup>th</sup> edition by Silberberg and Amateis. I encourage you to buy a used copy of an older edition. You may purchase only the online edition if you want. More information about online option in Canvas.
- **laboratory notebook:** for recording your experimental procedures and results (a plain composition book)
- **CHEM101:** We will use Chem101 as an online homework platform through the course. Class code will be published in Canvas. you may to download the app to your phone or tablet.
- **Simple Scientific calculator**

**Recommended Materials**

- Calculations in Chemistry an Introduction, 2nd edition by Dahm and Nelson. Available at many online retailers
- OpenStax Chemistry, 2nd edition. Available free online or on the OpenStax app (iPhone/iPod).

**I expect you to use the resources available to you, share resources with your classmates, and ask**

for help when needed.

## General Information

### Syllabus Statement

One purpose of this syllabus is to provide you with the guiding principles upon which the class runs. Another purpose is to make sure that you have, at your fingertips, answers to common questions that might arise. This document is available at all times on the class website. Make sure you read it in its entirety before you ask me any questions about the course schedule, requirements, grading, etc... It is also a contract between you the student, and I, the instructor of record. Make sure that you understand its contents fully, especially the parts that pertain to testing and the computation of your grade, because so long as you remain enrolled in the course, you are implicitly agreeing to abide by these terms. All corrections and changes to this syllabus will be announced through Canvas.

### Academic Dishonesty:

Cheating or plagiarizing another student's work, in whole or part, will result in a zero for the assignment, a referral to the dean and my immense displeasure. Any case where you attempt to gain unfair advantage over other students or attempt to pass off another's work as your own is cheating. Please see me if you have any questions.

You implicitly agree to abide by the Honor Code as a condition of enrollment in this class:

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

Common forms of academic dishonesty are: plagiarism, upload material from the class to any website seeking answer or providing answers, having a 3er person to tutor you or do your activities and cheating. Any student found pursuing any form of academic dishonesty will be subjected to disciplinary action according to the guidelines described in the College Catalog.

### Attendance Requirements:

- Attendance to lecture is strongly advised. New material is covered daily. Practice problems are given daily. The success in this class depends heavily on attendance to lecture.
- **Attendance to every laboratory session is required.** Laboratory work cannot be made up. All experiments will be completed in the lab session.
- It is the responsibility of students to withdraw from the class by the published deadline, if they choose to do so, to either receive no credit or a W. Students who do not withdraw will receive a letter grade.
- Cell phones, tablets, computers, and similar devices may be used in class during lecture, so long as no form of assessment is being given, and so long as their use does not cause any disruption to any students or to me – specifically, while lecture is in progress, you may not carry on any conversations out-loud on such devices, and they must be in silent mode.

### Wait lists:

If a particular section has already been filled at the time you register for the course, you may be automatically added instead to the wait list (space permitting). Open spaces in each section will be filled in order according to the official wait list of the active students up until the add deadline. Active students are those that did not miss any class at the moment that the space opened. If you are added to a section from the wait list, you will not be assigned a laboratory locker until you verify that you have officially enrolled in the class. Any assessments that you may have missed while attempting to add the class will be addressed on an individual basis once you are successfully added to the course.

### Diversity:

Each of us is born into different cultures, raised speaking different languages, driven to follow different beliefs, compelled to preserve different traditions. But we breathe the same air, we drink the same water, we are warmed by the same sun, we are made of the same atoms. Beneath our skin there is less than a 1% variation in our genetic composition. To discriminate on the basis of race, color, national or ethnic origin, age, gender, religion, language, marital status, sexual orientation, physical ability, economic disposition, or appearance is to focus on these insignificant differences between us and ignore the fact we are all human. Any kind of discrimination will be considered a violation to the code of conduct.

### Equity:

In simplest form, equity is being provided an equal opportunity to succeed. Since each of us has different strengths and weaknesses, the tools we each need to succeed are different as well. Please do not hesitate to let me know if there is some mode of instruction that may better address your needs that is not already being employed in class.

### Resources

**Tutoring:** This and many other campus services can be found as part of the student success center and they are in zoom: <http://www.deanza.edu/studentsuccess>

**Disability Support Program and Services:** DSPS can help you get the right tools to succeed. Their website is <http://www.deanza.edu/dsps/>

### Summer 2020 Important Dates

Monday June 30 -	First day of Summer Session
Tuesday July 1 -	Last Day to DROP w/ refund
Wednesday July 2 -	Last Day to ADD the class.
Sunday July 6 -	Last Day to drop w/o "W"
Monday August 4 -	Last Day to drop with a "W"
Thursday August 6 -	<b>Final Exam at 3 pm. If you cannot make this time, you should not enroll in this class.</b>

### Assessment schedule:

The assessment schedule for this class is given in the following Table. It is not feasible to coordinate the assessments for this class to be accommodating to the schedules of all other classes, since every course runs at its own individual pace. Part of being an adept student is having the ability to balance the demands of several different classes simultaneously. Since you have been given this schedule at the beginning of the summer, you have ample forewarning to properly manage your time. Exams will not be given on alternate days due to the workload in other classes.

### Class Work

- Set up a weekly CHEM 1A study/work schedule to help you keep organized and on track to submit all assignments by the due date. Late submissions are not accepted.
- Mark post-lab quizzes due dates, midterms dates and the final exam date on your calendar. There are no "make-ups."
- Check canvas daily for class updates. assignments and aids will be found in canvas.

### Pre-Lab work:

These pre-lab work include reading, watching videos and questions in form of quizzes in Canvas. In addition, you will be responsible for the preparation of your notebook. Those are designed to expand the understanding of the lab concepts. Some questions may involve calculations. The Pre-lab sheet are due at 3 pm of the lab activity day. Late presentations will reduce the grade 20% every 24 hours.

**Lab Notebook must include list and rules will be displayed in Canvas.**

### Laboratory Activities:

Hands on Experiments, virtual Laboratory Experiments, and simulations will be performed through several platforms: Canvas, Labster (integrated into Canvas), ChemCollective/OLI (integrated into Canvas), molview, and PhET. Associated assignments may include, but are not limited to, recordings using flipgrid, worksheets, calculations, and screenshots of virtual lab benches. The number of points available for each experiment and due date will vary throughout the quarter.

### Report:

Every lab experiment will be concluded with a report. All lab reports must be typed (except in cases in which an academic accommodation has been approved). All tables and graphs in your report must also be electronically generated. *For some experiments you may be collecting and sharing data with a partner, however you must do your own calculations and formulate your own conclusions for each experiment.* Duplicated reports will be considered plagiarism. You will find the format and requirements of this reports in Canvas.

**Homework - Practice Problems:**

There will be online homework assignments facilitated through a program called CHEM 101. There will be Chem101 assignments per chapter. CHEM101 assignments will be due on Sundays at 11:59 pm. Additionally, uncollected recommended problems will be assigned from your text. As we learn by doing, "practice makes perfect" and as exam questions may be similar to the homework, it is obviously to your advantage to take the homework seriously. Completing another student's online homework problems is grounds for receiving a score of zero on ALL homework assignments for the quarter for all involved students. Practice problems, homework problems and other assignments can be discussed during scheduled class review sessions and during office hours. Creating regular study groups is highly recommended for a successful class.

**Graded Discussion**

To encourage interaction and class discussion, graded discussion posts will be opened on Canvas every week. discussion will be typed and/or using flip grid integrated in Canvas.

**Tests/Quizzes/Exams:**

There are no make-up quizzes/midterms/finals. There will be a total of two midterms. The final exam covers all the material of the course. Midterm and Final exam will include questions from the lab activities and conclusions. The format of all tests can vary and may include multiple choice, true or false, fill in the blank, definitions, essay problems, critical thinking, and any other assessment tool appropriate for the given lecture and laboratory topic being tested. **The instructor reserves the right to require alternative and/or additional forms and/or locations of assessments.** Webcam and open mic are mandatory for lecture quizzes/midterms/and Final. The instructor reserves the right to do not include a grade of student taking test without webcam or open mic.

**Lecture Quizzes:**

- These in-class quizzes are designed to test the understanding of concepts in between the exams.
- Material will be closely related to the homework for that section and are worth 20 points each.
- Quizzes will generally take 10-15 minutes.
- Some questions may involve calculations, so bring a calculator on quiz days.
- There will be 3 quizzes through the semester.
- Missed quizzes earns zero points. There are no make-up quizzes.

**Post-Lab Quizzes;**

A post-lab Quiz/Activity will be posted on canvas from Friday to Sunday each weekend. The lab quiz will be primarily based on the theory; the experimental techniques; the expected outcome; the experimental procedure and the findings of the corresponding experiment. Students can prepare for the quiz by reading the experiment's background, reading the suggested textbook readings, paying attention to instructor's demonstrations; actively participating in the experiment; thoroughly analyzing experimental findings and understanding the follow up post-lab questions during laboratory discussions. Missed quizzes earns zero credit. There are no make-up quizzes. The lowest score quiz will be dropped.

**Grading:** Students will be graded on both class work and laboratory work. Grade cut offs are as follows:  
A+ (97) A (93), A- (90), B+ (87), B (83), B- (80), C+ (76), C (69), D+ (65), D (60), D- (56), F (56-0)

You must to obtain a minimum of **55% in the 4 main portions** of the course in order to receive a passing grade. The final class grade will be determined by the following (subject to change):

<b>Grading Scheme:</b>	<b>Percentage</b>
<b>Lecture Work</b>	<b>30</b>
Homework	(15)
Online Discussions	( 5)
*Lecture Quizzes	(10)
<b>Lab Work</b>	<b>30</b>
*Pre-Lab Work	( 5)
*Laboratory Work	( 5)
*Post-Lab Quizzes	(10)
*Reports	(10)
<b>Midterm Exams (2)</b>	<b>20</b>
<b>Final Exam</b>	<b>20</b>
<b>Total</b>	<b>100%</b>

\*Lowest score dropped

- There will be extra credit questions in the exams. They will require critical thinking.
- There are no make-up for **any activity**.
- All midterms and the final count towards the final grade.
- There will be a timed post-lab quiz per every experiment on canvas.

**Note on dropped assignments:** Every student gets one excused absence. To reflect this, your lowest pre-lab, data page, and lab report are dropped at the end of the quarter (the qualitative analysis lab cannot be dropped). Missing a 2<sup>nd</sup> lab will result on a score of zero on that lab. **Missing a third may result in failing the overall course and will necessitate a meeting with your instructor.** Please never plan on missing lab sessions and discuss any absences as soon as possible with your instructor.

#### Evaluation Schedule

<b>Week</b>	<b>Midterms /Lecture Quizzes Monday 3:00 pm</b>	<b>Canvas Post-Lab Quiz Friday 5 pm to Sunday 11:59 pm</b>
#1		Lab 1, 2 & 3
#2	<b>QUIZ 1 - Ch.1 &amp; 2</b>	Lab 4, 5 & 6
#3	<b>Midterm 1 - Ch.1, 2, 3, &amp; 4</b>	Lab 7 & 8
#4	<b>QUIZ 2 - Ch. 6 &amp; 7</b>	Lab 9 & 10
#5	<b>Midterm 2 - Ch. 6, 7, 8 &amp; 9</b>	Lab 11 & 12
#6	<b>QUIZ 3 - Ch. 10 &amp; 11 Thursday 08/6 - FINAL EXAM</b>	

**PLEASE NOTE. All dates and facts listed are subject to change. In the event of an important date change, look for updated versions of the syllabus on CANVAS as the summer progresses.**

**Expectations:**

Self-reliance:

It is only through your own effort and dedication that you will ever truly master the material presented in this course. I can teach in every way imaginable, but I can do nothing to make you then take over the burden to learn – I can only act as a guide. You have to dedicate yourself to your own future.

**Time:**

To excel in this course, you will have to commit a substantial amount of time. Although the quantity of time needed to master the material varies widely from person to person, a standard guideline is to expect that – between reading, reviewing notes, and working problems – you will need to set aside at least two hours for studying for every hour of lecture or lab lecture.

**Reading:**

It is impossible to conduct a lively class discussion if only I am prepared; as such, I expect that you will read all assigned passages before coming to class. I do not expect you will understand everything that you read – otherwise there would be no need for you to take this class – but you will be far more able to participate in and benefit from class discussions by reading ahead of time. If English is not your primary language, reading in advance is even more crucial, since it provides you the opportunity to familiarize yourself with new vocabulary or terminology first and thereby enable you to far more easily understand a lecture. Even common English words can have completely different meanings in a chemistry-related context; for example, a hood is normally something worn over the head, but in the lab it is a safety system for mitigating the release of hazardous gases.

**Participation:**

I am not a video to be viewed passively at your discretion; I am a living, breathing, feeling creature that will reach out and interact with you in class. As will become evident, I am able to talk indefinitely in lecture, so when I do ask a question or request some other form of participation from class, I do not expect that you, individually, will always have the right answers, but I do expect that you, as a class, will be engaged.

**Problems:**

Working problems is often an effective means of mastering a concept. I only have a limited quantity of time in lecture to present a broad range of material, thus I frequently will be unable to cover every single conceptual or mathematical detail. You must therefore take it upon yourself to work as many problems as you deem necessary in order to master the material. I will cover the essential framework; you have to fill in the details yourself. Note: Resist the urge to refer to a solution manual or answer key until you are completely stuck on a problem. It is (comparatively) easy to work backwards from the correct answer; it is far more beneficial (but, of course, more difficult) to run into the proverbial brick wall first and learn from your mistakes.

**Proficiency:**

Assessments for this course are designed presuming you reach a level of proficiency in a skill or concept that enables you to then use it to efficiently solve a problem. If you take too long to solve a particular problem due to lack of practice, you will be unable to complete the assessments. Likewise, you are also expected to be able to address the core of a problem with concise yet complete answers. If you answer in several paragraphs what requires just a few sentences, you will never finish an assessment; likewise, if you answer in just a few words what requires a few sentences, you are unlikely to receive full credit.

**Promptness:**

All assessments will begin promptly at the beginning of lecture or lab. No extra time will be given if you are late, so plan to show up early if you are regularly stuck in traffic or if you have a habit of tardiness.

**Class Policies:**

A. Time Requirement: This class includes appx. 8 hours of lecture and appx. 8 hours of lab per week. In

- order to receive a "C" or better grade, you should allow 30+ hours of studying, reading, and preparing outside of class PER WEEK. Help yourself to do your best by making time to keep up with the reading and homework. If this time commitment is not possible given your current situation, please consider taking this class at a later date when you do have more time available.
- B. Lecture Attendance: Attendance is a critical component of the learning process, and the lecture will cover material that may not appear in your text and help clarify the material that is. Learning Chemistry effectively depends on building up from a base of knowledge. If you do not set a firm foundation, you will not be able to build your understanding of the field effectively. In other words, miss too many classes and you'll likely fail the class.
  - C. Zoom meeting Behavior: Be ready to start class at the scheduled time, for that you will need to log in at least 5 min before of the starting time. Please show up on time and plan on staying the entire session. If you arrive late try not to distract everyone. I would always prefer you show up a little late as opposed to skipping the class entirely. Please do not disrupt class with irrelevant conversations, either in the form of inappropriate comments or private conversations on the chat.
  - D. Please silence your cell phone during our zoom meetings. You may take calls during the class, while you silence your microphone.
  - E. Academic Dishonesty: Cheating or plagiarizing another student's work, in whole or part, will result in a zero for the assignment, a referral to the dean and my immense displeasure. Any case where you attempt to gain unfair advantage over other students or attempt to pass off another's work as your own is cheating. Please see me if you have any questions.  
You implicitly agree to abide by the Honor Code as a condition of enrollment in this class.
  - F. Grading: This class is not graded on a curve. Grade cut offs are as follows: **A+ (97), A (93), A- (90), B+ (87), B (83), B- (80), C+ (76), C (69), D+ (65), D (60), D- (56), F (56-0)**. This grade scale is approximate and may be adjusted at the end of the quarter to the benefit of the student.
  - G. Extra Credit: Extra credit assignments are offered for the whole class. Some extra credit problems may appear at the end of exams and extra activities.
  - H. Dropping the Class: If you wish to drop the class, it is your responsibility to do so.
  - I. Questions/Help: I am available to answer questions during office hours, by Canvas Q&A, or by appointment on Zoom. Please feel free to contact me with any problems or concerns that you have. Also remember that your fellow students are great resources.

### **Attendance Note**

You are responsible for all the material covered in this course, and it is expected that you attend and participate in all of the lecture and laboratory sessions. If you must be absent, then it is in your best interest to contact your instructor as soon as possible in order to find out what work you have missed.

\*\*Due to the high number of students wishing to enroll in this class, any unjustified absence during the first 3 days of class will result in you being dropped.

**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.