Chemistry 25: Prep for General Chemistry

Async hours (1:45 hs) + Synchronous Zoom Hours:

Lecture:		M/W	11:30 PM – 1:20 PM
Lab-01	44008	M	2:00 PM – 3:15 PM
Lab-02	44009	W	2:00 PM – 3:15 PM

In Addition to the time scheduled sync, you will have to allocate a minimum of 15 h (13 + 1:45 async h) per week to complete all activities and study to pass the class

Instructor: Dr. Sol Puenzo **E-mail:** parajonpuenzosol@fhda.edu
Office Hours: M/W: 1:20 pm - 1:45 pm and 3:15 pm to 3:40 pm

This course syllabus is a contract: 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 Canvas page. 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.

Academic Integrity Policy

By enrolling in classes at De Anza College, you are agreeing to the academic integrity policy and are held to all standards. Specifics can be found at https://www.deanza.edu/policies/academic_integrity.html. Cheating will not be tolerated and will result in 0 for that quiz/exam or potentially removal from the class. Working in groups for homework is encouraged but copying is not allowed. Original work must be turned in for homework credit.

Course Description: Chemistry 25 is meant to serve as an introduction to and grounding in the core theory and problem-solving techniques of chemistry as a preparation for the General Chemistry course (Chem 1A) and other science-related fields. Conceptual topics include modern atomic and molecular theory, the mole and stoichiometry, behavior of gases, thermochemistry, and an exploration of the standard classes of chemical reactions. Laboratory topics covered include an introduction to gravimetric and volumetric analysis, introductory lab equipment and techniques, and keeping a laboratory notebook. Throughout all topics, we will stress both conceptual and mathematical problem-solving techniques.

Prerequisites: MATH 114A or equivalent

Course Materials (Required):

1. **Text Book**: *Introduction the Chemistry, 5e,* by Bauer, Birk, Marks (McGraw Hill: 2019; ISBN 978-1-307-23515-9). Ebook ISBN: 9781307601633 ($30/40). You can also try to find a used version of the book on Amazon or any used book retailer.
2. **Lab Textbook:** Not required.
3. **Lab Kit**, free from college.
4. **Household materials** for Lab activities are posted in Canvas
5. **Aktiv / Chem101** Subscription ($19.95) This is an on-line homework system that we will be utilizing for the course. Directions for logging into and purchasing a subscription are found in the Getting Started module.
6. A **scientific calculator** that has at least log and exponential functions is required (~ $25). Graphing calculators are fine also, but not required.
7. **Software**: Chrome, Word processor, Graphing data (both can be cover with google), PDF reader and convert pictures to PDF.

General Information

An in-person version of this course requires: 4 h of Lecture and 3 h of Lab per week. Additionally, students have to prepare for lecture and lab, do homework and reports on their own time. The calculation of outside time is 2-3 hours per class credit to pass with a C; this course is 5 credits, that would be between 13 h average.

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 absences during the first two weeks of class **will result in you being dropped. **

Regular Communication:

- From the Instructor: Class updates are communicated during Zoom meetings, and via Canvas announcements.
- From the students: Only after reading the syllabus and the WHOLE welcome module in Canvas! If you still have some questions, please use the Q&A on Canvas!
- If you have personal questions, you can reach me using inbox in Canvas once you have access to it, including your section in the subject, please. I respond to emails within 48 hours during weekdays only.

Resources Tutoring: This and many other campus services can be found as part of the student success center and 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/

Spring 2022 Important Dates

April 6 First day of spring quarter
April 16 Last day to add classes for the spring quarter
April 17 Last day to drop classes for spring with no record of "W"
April 17 No classes - Campus Closed
May 27 Last day to drop classes with a "W"
May 30 Holiday - no classes - Campus Closed
June 24 Final exam Friday from 11:30 AM to 1:30 PM

Attendance Requirements:

- When a class is listed as Synchronous, your attendance is expected. You must be present each day for the first two weeks of class, or you may be dropped.
- Attendance to lecture is strongly advised. New material is covered daily. Practice problems are given daily and in-class activities are not extended for students missing class or stepping out of the computer. The success in this class depends heavily on attendance to lecture.
- Active Participation in class is encourage if you plan to obtain a A+. After a year of zoom classes, most students feel part of the class when they participate with camera/audio or chat during lecture or lab meetings.

Passing the Class

Important!!!

Getting a passing grade is more than a final percentage:
You have to achieve the 3 requirements to obtain a passing grade

- Be present on 9 of 10 laboratory activities, and complete 9 of 10 lab reports submitted on time.
- You must obtain a minimum of 55% in ALL of the 3 sections of the course.
- Obtain 56% or more as the final percentage

Grading: This class is not graded on a curve. Grade cut offs are as follows:
A+ (98), A (92), A- (89), B+ (85), B (82), B- (79), C+ (75), C (68), D+ (64), D (60), D- (56), F (56-0).
A+ grades will be given to students who demonstrate academic excellence and strong class participation.
Special Note: If your average percentage is failing (<55%) in any ONE or more of the following portions of the course, you will not receive a passing grade: Lecture, lab or Evaluation portion.

Grading Scheme:	Percentage
Lecture portion	
*Homework & in-class activities	20
*Online Discussions	10
Lab portion	
*Pre-Lab Work	10
*Lab Activities/Participation	20
Evaluation portion	
Midterm Exams (2)	20
Final Exam	20 .
Total	**100%**

*Note on Extension: All the activities in Lecture and lab portion, except for in-class activities, have an automatic extension of 24 h. The total points that you can collect during this extension is 75% of the original amount. It is the student's responsibility to know when the activities are due based on the provided class schedule.

Dr. Puenzo reserves the right to change exam and quiz dates as well as modify the grade scale at any point during the quarter.

Attendance and Participation points:

ATTENDANCE

Attendance is required at all scheduled laboratory sessions. NEVER plan on missing a lab. *You will receive a zero on the second lab you miss and will fail the course on the third.* These absences include those in which you arrive too late for lab lecture and are thus not allowed to complete the experiment.
If you foresee an absence, you are advised to contact the instructor. I may allow for emergencies and other complications in life for you to switch between my own sections.

LABORATORY Meeting

During this quarter, the lab experience will be developed on computer and **LABORATORY LECTURE is mandatory.**

The beginning of each laboratory session is designated as a laboratory lecture period for which you **must be on time** in order to perform the scheduled experiment. The instructor will use this lecture period to outline important details of the procedure, overview theory and calculations, and to emphasize safety hazards and proper chemical disposal.

*If you are more than **10 minutes** late for lab lecture, you will receive a late.* More than 20 minutes late to any lab session will be counted absent for that lab session.

2 lates = 1 absence. 2 absences = 1 zero on one report.

*A student **missing two unexcused lab sessions cannot receive a passing grade**, the student may be dropped from the course or receive a non-passing grade.*

Participation points are awarded for:	**Participation points** are deducted for:
• Be present and on time for Lab Meetings. • Active participation in lab or group work. • Share answers or data collected, as requested before sign off	• Absence from Lab Meetings. • Lack of participation in lab or group work. • Attendance is not marked by your name on a Zoom box, but rather by your participation and engagement with the course activities and assignments.

Description and polices of assignments

***Lecture (30%)**	**Homework (20%)**	Homework will consist of problems around each chapter. Homework will consist of problems around per assignment and will be posted on the Canvas/CHEM 101. Homework will be graded based on completeness and accuracy.
	Discussions on Canvas (10%)	Active participation in discussion, will require for you a meaningful participation of at least 3 times per discussion. First, presenting your answer to the topic before the due date and 2 more meaningful interactions with your classmates due on the closing date. These are NOT free points and must be earned but if you keep up with them, they will help you to increase your grade.

Homework: Working on homework will benefit you for the exams.

Note: Homework problems could be an indicator of the types of problems that will be found on quizzes but **not** necessary on exams. In fact, you may encounter problems on exams that have not been directly addressed either in class or in the suggested problems. I believe it is important to not simply regurgitate material, but to extend the skills you have mastered – in a reasonable way – to the unfamiliar, as you will undoubtedly encounter such challenges in your future studies or careers.

***Lab (30%)** you must complete **9** of the **10** lab experiments and **submit the reports in order to pass the class.**	**Pre-Lab (10%)**	You will be expected to be prepare for Lab activities before the meeting. Pre-lab assignments should be completed prior to your arrival in class and turned in at the beginning of the lecture period.
	Laboratory Participation/ Assig/Reports (20%):	**Lab activities in this course are at-home hands-on experiments, with reports, pictures, videos and/or Discussion submissions.** Activities will be perform using the lab kit provided by the college and household items. Procedures and list of material will be published in Canvas the previous week. it is responsibility of the students to have all items on time. Pictures or videos will be required on the report for a lab activity be considered done.

Laboratory Work: You will be expected to use the lab kit that the college and providing. Some hand-ons activities will require for you to obtain household items. The list of materials is published in Canvas and it is your responsibility to have those items on time. Contact me for special situations.

You will be assigned to work with parters, however you must do your own experiment, calculations and formulate your own conclusions for each experiment

You must complete **9 of 10** of the lab experiments and submit the reports in order to pass the class. I am clearly know that you may found answers on the internet, for that reason only lab reports that include pictures or real experiments or videos will be considered done. More details can be found on Canvas.

Missing lab meeting: In cases where a student was unable to assist to the lab meeting, you should show up to the very next office hours to receive instruction to complete the assignment.

Lab Reports: 9 of 10 lab reports must be completed and turned in to receive a passing grade in this class.

Using another person's data or making up data is plagiarism and data falsification and will result in a zero for the assignment and referral to the dean.

Missing a report submission: If you missed the due date of a lab report, you still need to submit a quality report in order to receive a passing grade. No other grade than zero will be assigned. Each assignment in Canvas has a comment area at the right side of the page where you can add pdf files. That will be the only other form of submission accepted in the class. Late submissions are accepted when show a quality level proper for the class and no later than 6/15/22.

Your lowest homework, discussion, pre-lab and report grade will be dropped from your grade at the end of the quarter.

Evaluations **(40%)** **Student is required to be on Zoom with open camera and mic.**	**Midterm Exams (20%)**	There will be 2 midterm exams. Exams will be a combination of any of the following: multiple choice, short sentences, and vocabulary questions. Show your work will be required for any math question. Early and late exams are not administered. Missing an exam **will result in a zero** for that exam without proof of an excused absence (doctor's note, police report, etc…) please ensure to mark your calendar with the exam days and times.
	Final Exam (20%)	The Final Exam is cumulative and may have the same format as the chapter exams or be an oral exam. The exam will be given **Friday, June 25th from 11:30 AM – 1:30 AM.** If you cannot make this time, you should not enroll in this class.

Exams: Missing an exam **will result in a zero** for that exam without proof of an excused absence (doctor's note - a valid one, police report, etc…)

Note: **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 disregard a grade of student taking test without a webcam or open mic.

Plagiarism

Copying for the internet, a tutor or another student is counterproductive. **Plagiarism of assignments will result in a score of Zero** being assigned to all involved students and it be reported to the college.

Feel free to work in groups but be sure to understand the work and use your own words for the answers.

Class Policies.

A. **Time Requirement:** This class includes appx. 4 hours of lecture and appx. 3 hours of lab per week (between Sync and Async). In order to receive a "C" or better grade, you should allow 10-15 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. Class Behavior: Be ready to start class at the scheduled time. Please show up on time and plan on staying the entire session as late arrivals and early departures 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.

D. **Please silence your cell phone during our zoom meetings**. You may **NOT** take calls during either, except for emergencies and please silence your zoom.

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

F. Extra Credit: Extra credit assignments are offering in class, but not on an individual basis. It is unfair to allow some students to improve their grade while not allowing others that same opportunity. Some extra credit problems may appear at the end of exams and extra activities.

G. Dropping the Class: If you wish to drop the class after the first 2 weeks, it is your responsibility to do so. If you fail to drop the class you will be assigned a grade in keeping with your submitted work, usually an F.

H. Questions/Help: I am available to answer questions during office hours, by Canvas, or by appointment. Please feel free to contact me with any problems or concerns that you have. Also remember that your fellow students are great resource.

Tips for Success

- **Develop a calendar system or use an agenda. I will not extend any activity because you did not remember to submit an assignment or show up in class the day of a midterm. True story!**
- **Come to class having read the assigned chapter, some videos and short explanations are in Canvas modules,** and be ready with questions about the concepts you didn't understand.
- In case you didn't read the first one, **really**, come to class with the assigned chapter already read. I cannot stress how big a difference this will make for you.
- **Take notes during class and reread your notes before the next class**. If something is still unclear, write down your question so you can ask about it during the next class or in office hours or via email.
- **Work every day.** The longer the time that passes between doing chemistry problems, the more knowledge you have to rebuild. Do some homework problems and some problems from the book every day as this will help you understand where you need help, and it will help prepare you for the exams. Schedule some time each day to work on chemistry. Treat this subject like a foreign language. Use it or lose it.
- **Do the chapter problems in the book**, particularly for concepts you're having trouble with.
- **Don't try to memorize EVERYTHING.** This is a common trap that many students fall into. While there are certain topics that must be committed to memory, strive to develop an intuitive understanding of the underlying framework of the material. Once you have that you will often be able to derive answers from a much smaller pool of "memorized" data.
- **Join a study group**, exchange phone numbers/emails of classmates whom you can call or meet by internet for help. In the group, take time to present concepts to one another. The BEST way to solidify a topic in your mind is to have to teach it to someone else.
- **Don't wait** until the night before to finish that lab report or homework assignment. You'll get more out of it (and do better) if you give yourself the time to understand the concepts and ask questions when you get stuck.
- Start studying for the exams **at least a week before**. Cramming for an exam is like playing Russian Roulette! Cramming is superficial knowledge only, and when you are nervous, superficial knowledge is very unreliable. Work through old quizzes and homework problems before exams.
- **Give yourself TIME!** Plan on spending at least 2 hours studying outside of class for each hour we spend together in class or lab lecture. Do this every week, not just the week before the exam. Start early and it will be much easier later.
- If you consider yourself a poor test-taker, then you should complete and turn in all of the labs on time in order to pass the class. Also, utilize any practice exams or chapter reviews as they contain the same types of questions which you will encounter on the exams.
- **Stay well rested and healthy.** This is always a challenge in college specially in this quarantine, but do not neglect your basic needs. Poor sleep and diet have been shown to have a temporary negative impact on I.Q. Schedule study breaks as needed to keep up your mental health as well. Sometimes a night off is the right answer. Just don't make blowing off your studying a habit.
- As you listen, take notes, read, or work problems, try to keep an open mind, be curious, and think about the implications of the concepts and problems. Chemistry makes the world around us work and understanding why the world works will impress your friends at parties and help you grasp the material. The more connections you can make between the material in the book and the world around you, the more sense this class will make.

Tentative Schedule

The following is a listing of the major topics that will be covered each day in the lecture. Please note that this list should not be interpreted as the exclusive set of topics to be covered on a quiz or exam or a fixed schedule; instead, it should be viewed as a set of milestones to be reached in your studying or as key concepts around which to organize your notes.

PLEASE NOTE. All dates and facts listed are subject to change. In the event of an important date change, I will inform in class, but please also look for updated versions of the syllabus online as the quarter progresses.

Week	Dates	**Lecture Monday 11:30 - 1:20 pm**	Dates	**Lecture Wednesday 11:30 - 1:20 pm**	**Lab: 2:00 - 3:15 pm**
1	4/04	**No Classes**	4/06	Introductions Chapter 1: 1.1-1.2	Asynchronous Lab 1: Laboratory safety.
2	4/11	Chapter 1 (1.3-1.4) Intro Chapter 2	4/13	Chapter 2 - (2.2-2.5)	Lab 2: Measurements, Units, and Conversions (Math Toolbox 1.2 & 1.3)
3	4/18	Chapter 3 (3.1-3.3)	4/20	Chapter 3 (3.4-3.7)	Lab 3: Density Async. Activity: KIT Getting Started & Laboratory Safety on HOL
4	4/25	Chapter 4 (4.1- 4.4)	4/27	**Review - Midterm 1** Chapters 1-3	Lab 4: KIT-Laboratory Techniques and Measurements – Exercise 1& 2
5	5/02	Chapter 5 (5.1-5.3)	5/04	Chapter 5 (5.4-5.5)	Lab 5: Demonstrating the Law of conservation of mass
6	5/09	Chapter 6 (6.1-6.3)	5/11	Chapter 6 (6.4-6.5)	Lab 6: KIT The Mole: Conversions, Mass Determination, and Hydrates.
7	5/16	Chapter 6 (6.6-6.7)	5/18	Chapter 7 (7.1-7.3)	Lab 7: KIT Stoichiometry of a Precipitation Reaction
8	5/23	Review for Midterm 2	5/25	**Midterm 2** Chapters 4-6	Chapter 7 (7.4-7.7) (Sync and Async)
9	5/30	**Holiday - No Classes**	6/01	Chapter 8 (8.1-8.3)	Async. Lab 8: Acid and bases using Cabbage juice.
10	6/06	Chapter 8 (8.4-8.5) - Balloons	6/08	Chapter 11 (11.1-11.4)	Lab 9: Solutions and Dilutions (var. Exercise 3)
11	6/13	Chapter 13 (13.1-13.5)	6/15	Lecture final review	Lab 10: Titration for Acetic Acid in Vinegar
12	6/25	**FRIDAY 06/24: Final Exam comprehensive 11:30 am – 1:30 pm**			

Student Learning Outcome(s):

*Assess the fundamental concepts of modern atomic and molecular theory.
*Evaluate the standard classes of chemical reactions.
*Demonstrate a fundamental understanding of mathematical concepts pertaining to chemical experimentation and calculations.