Chemistry 10: Introductory Chemistry

Winter 2022 De Anza College

Synchronous Zoom Hours:

Lecture:	M/W	12:30 PM – 2:20 PM	Canvas/Zoom
Lab-01 32222	M	2:30 PM – 4:20 PM (+1 Asyn h)	"
Lab-02 37725	W	2:30 PM – 4:20 PM (+1 Asyn h)	"

Instructor: Dr. Sol Parajon Puenzo **Email:** parajonpuenzosol@fhda.edu
Office Hours: M/W : 4:20 pm – 4:45 pm (Zoom) and F: 12 - 1 pm (Zoom)

Course Description

An Introduction to the discipline of Chemistry, including chemical laboratory techniques and methods and a survey of important chemical principles. This course emphasizes chemistry as a subject of scientific inquiry and is designed to give the student a general appreciation for chemistry as a science.

Pre-requisite:
Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273. Mathematics 212 or the equivalent.

Regular Communication:
Class updates are communicated during Zoom meetings, via canvas and email. Students have access to the instructor at class time, and office hours. Also, you can contact the instructor by email.

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.

Required Materials

1. **Textbook**: CHEM 10 Introductory Chemistry (Parajon Puenzo) an open-source book from Libretexts. Reading from this book will be assigned to prepare students for the upcoming lecture as well as to solidify the concepts presented in class. Lectures will not follow exactly the order of the book, but order of chapter is posted in the tentative schedule.

2. **Simple Scientific calculator** such as a TI30XA; a Casio 260FXSLR; a Sharp EL501X or comparable. Programmable calculators, cell phones, or other electronic devices are not allowed during exams.

3. **Laboratory Textbook**: Not required. At home activities will be implemented, Lab instructions will be on Canvas.

4. **Laboratory Supplies**: Lab Kit: goggles, 4 graduated test tubes w/holder, 2 pipets, 7 clear cups, funnel, baking soda, Citric acid, food coloring, measuring spoons, 15 balloons, plastic rod, plastic ball. Other household materials listed in Canvas.

5. **Software**: Chrome, Word processor, Graphing data (both can be cover with google), PDF reader and convert pictures to PDF.

Winter 2022 Important Dates

January 1	First day of winter quarter
January 15	Last day to add classes for spring quarter
January 16	Last day to drop classes for spring with no record of "W"
January 17	No classes - Campus Closed
February 21	No classes - Holiday - Campus Closed
February 25	Last day to drop classes with a "W"
March 23	Final exam Wednesday from 11:30 AM to 1:30 PM
March 26	Last Day of winter quarter

General Information

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. The success in this class depends heavily on attendance to lecture.
- Participation in class is encourage. After a year of zoom classes, most students feel more engage when they participate with camera/audio or chat during lecture or lab meetings.
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Participation points are awarded for:

- Be present and on time for Lab Meetings.
- Active participation in lab or group work.

Participation points are deducted for:

- Absence from Lab Meetings.
- Lack of participation in lab or group work.
- Attendance is not marked by your physical presence in a classroom, but rather by your **participation and engagement** with the course activities and assignments.

Policies

- Students should arrive on time for Lab meetings: after 5 minutes it is considered late and more than 20 minutes late to any lab session will be counted absent for that lab session.
- Missing participation will result in a zero for work done during the lab session.
- A student missing two unexcused lab sessions can not receive a passing grade, the student may be dropped from the course or receive a non-passing grade.
- If you foresee an absence, you are advised to contact the instructor.

Canvas:

- The course site will be available through canvas.
- Mark due dates, midterms dates and the final exam date on your calendar. There are no “make-ups.”
- Homework and aids will be found in canvas.

Student Resources

Information about tutoring can be found at the Math Science and Technology Resource Center https://www.deanza.edu/studentsuccess/mstrc/. Additionally, you are encouraged to email me with class questions. Academic support can be found at the Learning Resources Division https://www.deanza.edu/learningresources/.

Disability Service Support:

De Anza is committed to providing support for students with disabilities. Please contact me as soon as possible if you require special accommodations and I will be happy to do what I can to help. For more information, visit Disability Service Support at https://www.deanza.edu/dsps/.

Grading

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)

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

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

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**.

***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.

Exams: The instructor reserves the right to require alternative and/or additional forms and/or locations of assessments. Including oral examination. 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.

***Lecture (30%)**	**Homework (20%)**	Homework will consist of problems around each chapter. Homework will be graded based on completeness and accuracy. Working on homework will benefit you for the exams. Copying another student's homework problems is counterproductive. **Plagiarism of homework assignments will result in a score of Zero** being assigned to all involved students. Feel free to work in groups but be sure to understand the work and not just copy answers. *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. Problem set is published in Canvas.Your lowest homework assignment and in-class activity will be dropped from your grade at the end of the quarter.
	Discussions on Canvas (10%)	Active participation in discussion, will require for you to participate at least 3 times per discussion. First presenting your answer to the topic due on Wednesdays and 2 more interacting meaningfully with your classmates due on Friday. These are NOT free points and must be earned but if you keep up with them, they will help you to increase your grade. Your lowest discussion assignment will be dropped from your grade at the end of the quarter.
***Lab (30%)** you must complete **9** of the 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 in your notebook prior to your arrival in class and turned in at the beginning of the lab period. Any changes to the procedure will be announced in advance. Your lowest pre-lab will be dropped from your grade at the end of the quarter.
	Laboratory Assig/Reports (20%):	**Lab activities in this course are at-home experiments, with Worksheets and Discussion submissions.** Laboratory reports are due before the following lab meeting. Please see the Lab Report guide for tips on this as well. *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.* **If students are found to have copied from one another, points will be deducted from the grade or a grade of zero will be given for ALL students involved!** Your lowest lab report will be dropped from your grade at the end of the quarter.
Evaluations (40%)	**Midterm Exams (20%)**	There will be 2midterm 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 **Wednesday, March 23rd from 11:30 AM – 1:30 AM.** If you cannot make this time, you should not enroll in this class.

Class Policies.

- **Time Requirement:** This class includes appx. 4 hours of lecture and appx. 3 hours of lab per week (between Sync and Async). To receive a "C" or better grade, you should allow 8-12.5 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.*
- **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.
- **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 silence your cell phone during our zoom meetings**. You may **NOT** take calls during either, except for emergencies and please silence your zoom if you need.
- **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
- **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.
- **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.
- **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.

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.*

For quarters when there is students wishing to enroll in this class, any unjustified absences during the **first two weeks of class **will result in you being dropped.

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 suggested 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 12:30 - 2:20 pm**	Dates	**Lecture Wednesday 12:30 - 2:20 pm**	**Lab: 2:30 - 4:20 pm**
1	1/3	Introduction to Lecture and Lab Chapter 1 - (1-2; 5-9)	1/5	Chapter 2 - The Atom (1-6)	Lab 1: Laboratory safety.
2	1/10	Chapter 3 -(5-8)	1/12	Chapter 3 - (1-3) Chapter 4 (1-3, 5, 6)	Lab 2: Measurements and density. (From CHEM 410)
3	1/17	**Holiday - No Classes**	1/19	Chapter 5	Async. Lab 3: demonstrating the Law of conservation of mass
4	1/24	**Midterm 1** Chapters 1-4	1/26	Chapter 5	Lab 4: Molecular Shapes and Polarity - Balloons
5	1/31	Chapter 6	2/2	Chapter 6 - Chemical Accounting	Lab 5: Solutions and Dilutions
6	2/7	Chapter 7 - IMFs	2/9	Chapter 7 Chapter 12 Water (12.1)	Lab 6: Limiting and Excess Reactants
7	2/14	Chapter 8 - Acids and Bases	2/16	Chapter 8 - Acids and Bases Chapter 11.6: Acid Rain	Lab 7: Acid and bases using Cabbage juice.
8	2/21	**Holiday - No Classes**	2/23	**Midterm 2** Chapters 5-7 & 12	No Lab
9	2/28	Chapter 10	3/2	Chapter 10	Lab 8: Factors affecting the rate of reaction
10	3/7	Chapter 13	3/9	Chapter 13	Lab 9: DNA Capture
11	3/14	Chapter 14	3/16	Lecture final review	Lab 10: Fermentation and sugars
12	3/21	No Classes – Finals Week.	3/23	**Final Exam 11:30 am – 1:30 pm**	

Student Learning Outcome(s):

*Develop problem solving techniques by applying the \Scientific Method\" to chemical data."
*Analyze and solve chemical questions utilizing information presented in the periodic table of the elements.
*Evaluate current scientific theories and observations utilizing a scientific mindset and an understanding of matter and the changes it undergoes.