

## Introductory Chemistry

Chemistry 10 Spring 2019 Section 61 CRN 42703 De Anza College

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

**Office Hours:** M: 4:30 - 5:30 pm (place to be determined) and M: 7:30 - 8:30 pm in room SC2210

## 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.

### **Class Schedule:**

Lecture: M/W 5:30 - 7:20 pm in room SC2210 / Lab: W 7:30 - 10:20 pm in room SC2210

### **Regular Communication:**

Class updates will be communicated via canvas. Check it frequently. You can contact me by email too.

### **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](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:** CHEMISTRY for Changing Times, Pearson Custom Library, 14e, by Hill, McCreary, and Kolb. ISBN: 9780321972026. 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. Homework assignments will come from the problems at the end of each chapter in this book. MASTERING CHEMISTRY WILL NOT BE USED. DO NOT PURCHASE THE MASTERING CHEMISTRY ACCESS CODE.
2. **Laboratory Textbook:** Laboratory Manual Conceptual Chemistry. Suchocki and Gibson, 5ed. This lab book contains all the information for the experiments in the class with the lab report outline at the end of each chapter. Students are required to read through the lab procedure BEFORE the lab session starts to recognize experimental hazards and become familiar with the procedures.
3. **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.
4. **Goggles:** Proper eye protection is required for every lab. Without goggles, the lab cannot be performed and student receives a score of 0 for that day. Goggles must seal to the face (not safety glasses). Lab approved goggles are available at the bookstore.

## General Information - Lecture Section

### 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.
- Checking texts, email and social media posts on your cell phone is not allowed during class or lab sessions. In case of an emergency, step outside the room.
- 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. This will often times be a D or an F.

### Canvas:

- The course site will be available through canvas. This is a new course management system.
- Set up a weekly CHEM 10 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. Homework and aids will be found in canvas.

### Homework - Practice Problems:

Homework will be assigned per chapter and per section working on practice problems on a regular basis is an excellent way to keep up with lecture material and be ready for tests. Practice problems, homework problems and other assignments will be discussed during scheduled class sessions, review classes, and during office hours. Creating regular study groups is highly recommended for a successful semester. **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 may be adjusted throughout the quarter. This will be announced in class.

## Spring 2019 Important Dates

APRIL 8	First day of spring quarter
APRIL 20	Last day to add classes for spring quarter
APRIL 21	Last day to drop classes for spring with no record of "W"
MAY 25-27	Memorial Day Weekend - Campus Closed
MAY 31	Last day to drop classes with a "W"
JUNE 24	Final exam
JUNE 28	Last day of spring quarter

## Tips about studying for this course

1. Read each chapter carefully before coming to class. Not every detail will be covered in lecture, but you are still expected to understand the whole chapter. Students should plan to read between 1 and 2 chapters per week.
2. As you read the chapter, attempt to do the in-chapter sample and follow up problems and the corresponding end-of chapter practice problems. If you do not do all of the problems, at least try the ones whose solution are in the book. Try to first do these problems without looking at the solutions. This is very important since you will not have a solutions manual/answers on an exam!! Educational research tells us that it is just as important for your brain to see mistakes as it is for your brain to figure out the correct pathway. It also tells us that you must see the same information at least three times within 48 hours in order to retain that information.

3. DO NOT FALL BEHIND WITH THE READING OR HOMEWORK!! This is the number one mistake you can make. Concepts in chemistry are like building blocks. Initially, you learn one topic to build up to larger concepts. If you are shaky on a topic early on, your whole foundation will be unstable. To avoid this, try to read ahead of the scheduled lecture topics and keep up with the homework.

4. In addition to completing the homework, it is also recommended that you discuss ideas and concepts with your peers in study groups and come to office hours to discuss ideas with the instructor as well. There are usually several questions on the exam that will test your conceptual understanding and there will always be at least one type of problem on the exam that you have never seen before to determine how well you can integrate ideas and concepts.

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

### Electronic Devices

such devices, and they must be in silent mode. No form of electronic devices may be used on assessments except for approved, dedicated calculators (see academic accommodations).

Academic support can be found at the Learning Resources Division <https://www.deanza.edu/learningresources/>.

Information about tutoring can be found at the Math Science and Technology Resource Center <https://>

### Student Resources

[www.deanza.edu/studentsuccess/mstrc/](http://www.deanza.edu/studentsuccess/mstrc/). Additionally, you are encouraged to email me with class questions.

#### **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/>.

### Lab Section

#### **Laboratory Experiments:**

- The laboratory portion of this course is required and aims to connect the concepts learned in class with the experiments that support these ideas.
- Attendance to laboratory every session is required.
- Laboratory work cannot be made up. All experiments will be completed in the lab session.
- Lab sessions meet once a week for 3 hours and a total of 9 experiments will be performed throughout the quarter.
- Details of each lab component, including grade breakdown, and a list of safety procedures and general lab practices are given as follows.

#### **Laboratory Rules:**

1. Be on time: Questions about Pre-labs and experimental will be discussed at the beginning of the laboratory period.
2. Pre-labs have to be made before coming to the lab.
3. Read the experiment before coming to the lab.
4. Each lab comprehends of 3 grading parts: pre-lab quizzes (5 p), a lab report (10 p), and a online post-lab quiz (5 p).
5. **In-Lab Quiz:** These in-lab quizzes are designed to test the understanding of the pre-lab and experiment steps of that class. A in-lab quiz will be held at the beginning of the lab period on the designated day and will generally take 10-15 minutes. Some questions may involve calculations, so bring a calculator on quiz

- days. Quizzes will only be accepted during the allotted time so late arrival will receive a 0 for that quiz.
- Place back-packs, sweaters, coats, purses, etc. away from the working area. Keep cell phones in back-packs. The use of cell phones in the lab is not allowed.
  - There will be a class discussion after completing every experiment.
  - Lab report** is due at the beginning of the lab session in the following week and the outlines for each lab report can be found at the end of the experiment in the course lab text. I will only ask for 4 of your lab reports. If you do not have it, the report earns zero points.
  - Lab comprehension and skills will be evaluated via online **post-lab quizzes** scheduled after the completion of lab experiments and it will be a **final evaluation** at the end of the quarter. Refer to quizzes schedule.

### Basic Laboratory safety and Procedures:

- Goggles must be worn at all times while in the lab room.
- For your safety, no eating, drinking, smoking or chewing gum is permitted in the lab.
- All equipment, balance area, fume hoods, benches and chemical bottles or containers need to be left in the same condition as they were found.
- Make sure you put lids back (tightly) on to corresponding chemical containers to avoid contamination and spills.
- Dispose of paper and solid waste in waste baskets. If contaminated with chemicals, dispose as instructed by the instructor.
- Dispose of liquid chemicals as instructed. Usually not down the sink.
- Keep your lab bench and common areas clean. Wipe spills immediately.
- Clean all glassware immediately after use before storing it in the lab drawers.
- Do not leave you drawer equipment in the fume foods, by the balances or instruments.
- Take care of computers and equipment.
- Hot plates, magnetic stirrers, spectrophotometers, and computers must be turned off before you leave.
- Wipe you working area clean every time immediately before leaving the lab room.
- report any accident to the instructor immediately.

Thank you for keeping the chemistry laboratory clean and safe!

## GRADING

Students will be graded on both class work and laboratory work, using the following grading scale:

84-86.9% = B <sup>+</sup>	90-100% = A	87-89.9% = A <sup>-</sup>
73-76.9% = C <sup>+</sup>	81-83.9% = B	77-80.9% = B <sup>-</sup>
61-63.9% = D	68-72.9% = C	64-67.9% = D <sup>+</sup>
	58-60.9% = D <sup>-</sup>	< 57.9% = F

In order to pass the class, you must to obtain a minimum of 68% from Lecture grading and a 68% of the Lab grading. The final class grade will be determined by the following (subject to change):

Lecture Grading Item	Points	Lab Grading Item	Points
3 midterm exams (150 pts each)	450	*4 laboratory Reports (10 pts each)	30
Lecture Final exam	210	*10 Pre-lab quizzes (5 pts each)	45
*6 chapter quizzes (25 pts each)	125	*10 post-lab quizzes (5 pts each)	45
3 online discussion (5 pts each)	15	Lab Final Exam	85
<b>Lecture total (80%)</b>	<b>800</b>	<b>Lab total (20%)</b>	<b>205</b>

\*Lowest score dropped

- There will be extra credit questions in the exams. They will require critical thinking.
- There are no make-up tests. All midterms and the final count towards the final grade.
- Making-up labs is not possible.
- There will be a timed post-lab quiz per every experiment on canvas.

**Tests:**

Midterms and Final only include Lecture material, no lab material is evaluated in those tests. Lab Final include Lab material and lecture material related to the lab experimental. There are no make-up midterms. There will be a total of three 60-minute long midterms. Only one 90-minute long lab final. The final exam covers all the chapters. 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 topic being tested.

**In-Class Chapters 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 10-20 minutes.
- Some questions may involve calculations, so bring a calculator on quiz days.
- There will be 6 quizzes through the semester.
- Missed quizzes earns zero points. There are no make-up quizzes.

**In-Lab Quizzes:**

These in-lab quizzes are designed to test the understanding of the pre-lab and experiment steps of that class. A in-lab quiz will be held at the beginning of the lab period on the designated day and will generally take 10-15 minutes. Some questions may involve calculations, so bring a calculator every lab days. Quizzes will only be accepted during the allotted time so late arrival will receive a 0 for that quiz.

**Canvas Post-Laboratory Quizzes:**

A 10-point post-lab quiz 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. There will be 10 quizzes through the semester. Missed quizzes earns zero credit. There are no make-up quizzes. The lowest score quiz will be dropped.

**Evaluation Schedule**

We ek	Test	In-Class Quiz	Lab	In-class Pre-Lab Quiz	Canvas Post-Lab Quiz
#1			Lab 1	04/10	4/12- 4/14
#2		4/15 - <b>QUIZ 1</b> - Ch.1 & 2	Lab 2	04/17	4/19 - 4/21
#3		4/22 - <b>QUIZ 2</b> - Ch. 3 & 11	Lab 3	04/24	4/26 - 4/28
#4	4/29 - <b>Midterm 1</b>		Lab 4	05/01	5/3 - 5/5
#5		5/6 - <b>QUIZ 3</b> - Ch. 4 & 5	Lab 5	05/08	5/10 - 5/12
#6		5/13 - <b>QUIZ 4</b> - Ch. 6 & 14	Lab 6	05/15	5/17 - 5/19
#7	5/20 - <b>Midterm 2</b>		Lab 7	05/22	5/24 - 5/26
#8			Lab 8	05/29	5/31 - 6/2
#9		6/3 - <b>QUIZ 5</b> - Ch. 7 & 8	Lab 9	06/05	6/7 - 6/9
#10		6/10 - <b>QUIZ 6</b> - Ch. 9 & 13	Lab 10	06/12	6/14 - 6/16
#11	6/17 - <b>Midterm 3</b>			<b>6/19 Lab Final Exam</b>	
#12	<b>6/24 - FINAL EXAM</b>				

## Tentative Schedule

The following is a listing of the major topics that will be covered each day in lecture. Please note that this list should not be interpreted as the exclusive set of topics to be covered on a quiz or exam neither a fix 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.

	Date	Lecture 5:30 - 7:20 pm	Examination during Lecture	Lab: 7:30 - 10:20 pm
<b>Week 1</b>	Mon. Apr 8	Introduction to Lecture and Lab Chapter 1 - (1.1-1.2; 1.5-1.9)		-
	Wed. Apr 10	Chapter 2 - The Atom (2.1-2.6)		Lab 1: Laboratory safety.
<b>Week 2</b>	Mon. Apr 15	Homework Due Chapter 1 & 2 Chapter 3 - Atomic Structure (3.5-3.8)	<b>QUIZ 1 - Chapters 1 &amp; 2</b>	-
	Wed. Apr 17	Chapter 3 - (3.1-3.3) Chapter 11 (11.1; 11.3; 11.5; 11.6)		Lab 2: Taking Measurements
<b>Week 3</b>	Mon. Apr 22	Homework Due Chapter 3 & 11 Chapter 4 - Chemical Bonds	<b>QUIZ 2 - Chapters 3 &amp; 11</b>	-
	Wed. Apr 24	Review Chapters 1-3 & 11 Chapter 4		Lab 3: (4) Percent Water in Popcorn
<b>Week 4</b>	Mon. Apr 29	Chapter 5 - Chemical Accounting	<b>Midterm 1 – Ch. 1-3 &amp; 11</b>	-
	Wed. May 1	Homework Due Chapter 4 Chapter 5		Lab 4: (9) Electron Dot Structures
<b>Week 5</b>	Mon. May 6	Homework Due Chapter 5 Chapter 6 - IMFs	<b>QUIZ 3 - Chapters 4 &amp; 5</b>	-
	Wed. May 8	Chapter 6 Chapter 14 Water (14.1 -14.2)		Lab 5: (10) Molecular Shapes
<b>Week 6</b>	Mon. May 13	Homework Due Chapter 6 & 14 Chapter 7 - Acids and Bases	<b>QUIZ 4- Chapters 6 &amp; 14</b>	-
	Wed. May 15	Review Chapters 4- 6 & 14 Chapter 7		Lab 6: (11) Solutions
<b>Week 7</b>	Mon. May 20	Chapter 8 - Oxidation and Reduction	<b>Midterm 2 – ch. 4 - 6 &amp; 14</b>	-
	Wed. May 22	Homework Due Chapter 7 Chapter 8		Lab 7: (17) Upset Stomach
<b>Week 8</b>	Mon. May 27	MEMORIAL DAY - No Class		-
	Wed. May 29	Homework Due Chapter 8 Chapter 13		Lab 8: (13) How Much Fat?
<b>Week 9</b>	Mon. Jun 3	Homework Due Chapter 13 Chapter 9	<b>QUIZ 5- Chapters 7 &amp; 8</b>	-
	Wed. Jun 5	Chapter 9		Lab 9: (20) Organic Molecules
<b>Week 10</b>	Mon. Jun 10	Homework Due Chapter 9 Chapter 16	<b>QUIZ 6- Chapter 9 &amp; 13</b>	-
	Wed. Jun 12	Homework Due Chapter 16 Review Chapters 7- 9; 13 & 16		Lab 10: (21) DNA Capture
<b>Week 11</b>	Mon. Jun 17		<b>Midterm 3 – ch 7 - 9; 13 &amp; 16</b>	-
	Wed. Jun 19	Lab final & Lecture final review		LAB final - CHECK-OUT

Week 12	Mon. Jun 24		FINAL EXAM (6:15-8:15 pm)	-
	Wed. Jun 26	no classes		

**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.**

**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.