

# Introductory Chemistry

Chemistry 10 Spring 2020 Section 62 CRN 46842 De Anza College

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**Office Hours:** F: 4 - 5 pm (ConferZoom) and individual meetings TBD

## **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 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.

## 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: T/Th 5:30 - 7:20 pm / Lab: T 7:30 - 10:20 pm

### **Regular Communication:**

Class updates are communicated during Zoom meetings, via canvas and email. Students have access to the instructor at class time, office hours, and 10-min private office hours accomplished using Zoom. 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](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:** Not required. At home activities will be implemented. A program simulator will be used to account for the lab experiments. Labster provides a virtual version of the lab practical to use beforehand, teaching the techniques, skills, processes, protocols and underlying theory. You can learn from trial and error in the virtual lab.
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.

## General Information

### 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, mute your computer.
- 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 is published in Canvas.

## Electronic Devices

Cell phones, tablets, computers, and similar devices will 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.

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

## 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.

### 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/>.

## Spring 2020 Important Dates

APRIL 13	First day of spring quarter
APRIL 25	Last day to add classes for spring quarter
APRIL 26	Last day to drop classes for spring with no record of "W"
MAY 23-25	Memorial Day Weekend - Campus Closed

JUNE 5	Last day to drop classes with a "W"
JUNE 23	Final exam from 6:15 PM to 8:15 PM
JUNE 26	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.

### 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 will use several resources throughout the computer.
- Lab sessions meet once a week for 3 hours and a total of 10 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 2 grading parts: lab reports and an online post-lab quiz.
5. There will be a class discussion after completing every experiment.
6. **Lab report** are due at the beginning of the following lecture. For this course will be due on Thursdays at 5:30 pm.
7. 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.

## GRADING

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

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

In order to pass the class, you must to obtain a minimum of 58% from Lecture grading and a 58% of the Lab grading. Lab is mandatory. The final class grade will be determined by the following (subject to change):

Lecture Grading Item	%	Lab Grading Item	%
2 midterm exams (20%)	30	*9 laboratory Reports	9
Lecture Final exam	20	*10 post-lab quizzes (10 pts each)	9
*Chapter exams	15		
Online discussion	5	Lab Final Exam	12
<b>Lecture total (70%)</b>	<b>70</b>	<b>Lab total (30%)</b>	<b>30</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 the chapters not tested in the midterm. 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.

- All the students must be logged in ConferZoom with the cameras on to take the test.

### Chapters Quizzes:

- These quizzes are designed to test the understanding of concepts in between the exams.
- Material will be closely related to the homework for that section.
- Quizzes will generally take 10-20 minutes.
- The quizzes will be posted in Canvas at 7 pm on Thursdays and close at 7:20 pm. Accommodations will be in placed.
- All the students must be logged in ConferZoom with the cameras on to take the test.
- Some questions may involve calculations, so have your calculator on hand.
- You cause all the material on hand.
- There will be 7 quizzes through the semester.
- Missed quizzes earns zero points. There are no make-up quizzes.
- The lowest score quiz will be dropped.

### 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.

### 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.

**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.**

	Date	Lecture 5:30 - 7:20 pm	Lab: 7:30 - 10:20 pm	Examination due on Sunday
<b>Week 1</b>	04/14/20	Introduction to Lecture and Lab Chapter 1 - (1.1-1.2; 1.5-1.9)	Lab 1: Laboratory safety.	<b>Post Lab QUIZ 1</b>
	4/16/20	Chapter 2 - The Atom (2.1-2.6)		
<b>Week 2</b>	4/21/20	Homework Due Chapter 1 & 2 Chapter 3 -(3.5-3.8)	Lab 2: Measurements	<b>Post Lab QUIZ 2</b>
	4/23/20	Chapter 3 - (3.1-3.3) Chapter 11 (11.1; 11.3; 11.5; 11.6)		<b>QUIZ 1 - Chapters 1 &amp; 2</b>
<b>Week 3</b>	4/28/20	Homework Due Chapter 3 & 11 Chapter 4 - Chemical Bonds	Lab 3: Electron Dot Structures	<b>Post Lab QUIZ 3</b>
	4/30/20	Review Chapters 1-3 & 11 Chapter 4		<b>QUIZ 2 - Chapters 3 &amp; 11</b>
<b>Week 4</b>	5/5/20	Chapter 5 - Chemical Accounting	Lab 4: Molecular Shapes	<b>Post Lab QUIZ 4</b>
	5/7/20	Homework Due Chapter 4 Chapter 5		<b>Midterm 1 – Chapters 1-3 &amp; 11</b>
<b>Week 5</b>	5/12/20	Homework Due Chapter 5 Chapter 6 - IMFs	Lab 5: Solutions	<b>Post Lab QUIZ 5</b>
	5/14/20	Chapter 6 Chapter 14 Water (14.1 -14.2)		<b>QUIZ 3- Chapters 4 &amp; 5</b>
<b>Week 6</b>	5/19/20	Homework Due Chapter 6 & 14 Chapter 7 - Acids and Bases	Lab 6: Changes in the state of matter	<b>Post Lab QUIZ 6</b>
	5/21/20	Chapter 7		<b>QUIZ 4- Chapters 6 &amp; 14</b>
<b>Week 7</b>	5/26/20	Homework Due Chapter 7 Chapter 8	Lab 7: Acid and bases	<b>Post Lab QUIZ 7</b>
	5/28/20	Chapter 8		<b>QUIZ 5- Chapters 7</b>
<b>Week 8</b>	6/2/20	Homework Due Chapter 8 Chapter 9	Lab 8: Chemical Reactions	<b>Post Lab QUIZ 8</b>
	6/4/20	Chapter 9		<b>Midterm 2 – chapters 4-7 &amp; 14</b>
<b>Week 9</b>	6/9/20	Homework Due Chapter 9 Chapter 16	Lab 9: Organic Molecules	<b>Post Lab QUIZ 9</b>
	6/11/20	Chapter 16		<b>QUIZ 6- Chapters 8 &amp; 9</b>
<b>Week 10</b>	6/16/20	Homework Due Chapter 16 Chapter 17	Lab 10: DNA Capture - optional <b>Lab Final</b>	<b>Post Lab QUIZ 10 Lab Final</b>
	6/18/20	Lecture final review		<b>QUIZ 7- Chapter 16</b>
<b>Week 11</b>	6/23/20	<b>Final Exam</b>	<b>6:15 PM to 8:15 PM</b>	<b>Final Exam</b>

**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.