

Preparation for General Chemistry, CHEM 25, Summer 2016

Instructor

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SC 2210

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Lecture

M,T,W,Th: 4:30 PM – 6:20 PM Room SC 2210

Lab

M,T,W,Th: 3:00 PM – 4:15 PM Room SC 2210

Textbook

Introductory Chemistry: Concepts and Critical Thinking, Charles H. Corwin, Seventh Edition, Prentice Hall ISBN-13: 978-0-321-80490-7 ISBN-10: 0-321-80490-2

Note: Older editions of this book are acceptable. If you have an older edition, follow the topics of the lessons instead of the chapters indicated.

Other Supplies

Lecture notebook, laboratory notebook, goggles, and scientific calculator

Course Description

This class is meant as a preparation for the General Chemistry classes (CHEM 1 series) and is also a pre-requisite for some Biology classes. No previous chemistry knowledge is required for this class. There are two components to this class- a lecture and a laboratory. In the lecture, following a brief review of scientific measurements, we will discuss various simple chemical concepts such as model of an atom and the periodic table. We will learn to write some simple chemical reactions as well as perform calculations based on these reactions. We will then study some basic properties of solids, liquids, and gases, and finally conclude with a discussion of acids and bases. Several sections from chapters 1-15 of your text will be covered during this quarter. In the laboratory we will learn to make various measurements, examine some simple chemical reactions, and learn various common laboratory techniques.

Learning Outcomes

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

Academic Integrity

Please refer to the De Anza College Student Handbook:

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

To summarize the policies provided in the handbook- 1) no cheating will be tolerated 2) consultation of any form must be authorized by the instructor 3) cheating will be reported to appropriate officials 4) cheating will result in an automatic "F" in the class.

Class Policies

Daily Homework: Homework assignments consist of the odd-numbered exercises in the back of the textbook chapters. You are assigned 14 homework assignments, and you are required to complete any 10 of the 14 chapter exercises throughout the quarter. Please turn your assignment in at the beginning of the indicated class period. Homework assignments will be graded for completion. Late homework will not be accepted.

Note: The answers to the odd-numbered exercises are given in the back of your text. Use these to check your work and correct your mistakes. The answers that you turn in should show work or provide more of an explanation than the answers in the back of the text. It should be clear to the instructor that you completed the assignment before checking your work.

Note: Even though you will be graded on 10 assignments, my suggestion is to complete and turn in every assignment. Do not shy away from the more challenging material, since completing the homework problems will help you to succeed on the exams. The best time to complete the homework assignment is immediately after class when the material is still fresh in your mind!

Mid-term Exams: There will be four mid-term exams during the quarter. The mid-term exams will be held during the first hour of the lecture. You will have 1-hour for the exams. The exams will contain numerical problems and short answer questions. Please bring a SCANTRON (Form No. 882-E) form that you purchase from the bookstore to each of the exams.

Attendance Policy

You are expected to attend all lecture and laboratory classes. Strong data exist that indicate that the success of a student is directly related to her/his class attendance. You will be given an "F" grade for unexcused absences in THREE or more lectures and/or TWO or more lab periods. If you have an unexcused absence during the first week of the quarter, you will be dropped from the class.

Excused Absence: If you know in advance that you will need to miss a class, please notify the instructor and provide proof of the excuse. If you have already missed a

class, please follow up with the instructor as soon as possible and provide a proof of a valid excuse. Valid excuses are: birth/death in the family, work-related travel, illness/medical emergencies, conference travels, jury duty, accidents, legal issues, or traveling to represent De Anza College at meetings/other events. Other excuses will be considered on a case-by-case basis. Please note that verifiable documented proof of the excuse is essential in order to grant a make-up.

Cell Phone Policy

Use of cell phones is strictly prohibited during class. There is to be no text messaging, browsing the Internet, or voice conversations. If you must take a call or text, please step outside the class to do so.

Grading

Lecture

Homework	10 × 5	50
Midterm	4 × 100	400
Final	1 × 200	200
Total		650

Lab

Experiments	9 × 15	135
Exam	1 × 100	100
Total		235

Grading Scale

In order to obtain the final letter grade for the class, your total lecture score will be added to your lab score and a percentage score will be computed based on the total. This percentage score will be rounded to the nearest whole number and a letter grade will be assigned as per the following table. Grades will not be based on a curve. Please note that regardless of your overall score, if you do not complete all the lab assignments you will receive an F grade in the class.

<i>Percentage points</i>	<i>Grade</i>
97-100	A+
93-96	A
89-93	A-
86-88	B+
83-85	B
80-82	B-
76-79	C+
72-75	C
68-71	D+
63-67	D
60-62	D-
0-59	F

Date	Lecture Topic	HW Due	Exam	Lab
6-27	Ch. 1: Introduction / Measurements			Check In
6-28	Ch. 2: The Metric System	Ch.1		Check In
6-29	Ch. 3: Matter and Energy	Ch. 2		Metric System (E2)
6-30	Ch. 4: Models of the Atom	Ch. 3		Metric System (E2)
7-4	<i>Holiday - No Class</i>			<i>No Lab</i>
7-5	Ch. 4: Models of the Atom		Exam 1	Density of Liquids and Solids (E3)
7-6	Ch. 5: Periodic Table	Ch. 4		Density of Liquids and Solids (E3)
7-7	Ch. 6: Language of Chemistry	Ch. 5		Physical and Chemical Properties (E5)
7-11	Ch. 6: Language of Chemistry		Exam 2	Physical and Chemical Properties (E5)
7-12	Ch.7: Chemical Reactions	Ch. 6		Periodic Table (E7)
7-13	Ch. 7: Chemical Reactions			Periodic Table (E7)
7-14	Ch. 8: The Mole	Ch. 7		Analysis of Alum (E13)
7-18	Ch. 8: The Mole		Exam 3	Analysis of Alum (E13)
7-19	Ch. 9: Chemical Equations	Ch. 8		Analysis of a Penny (E10)
7-20	Ch. 9: Chemical Equations			Analysis of a Penny (E10)
7-21	Ch. 10: Gasses	Ch. 9		Decomposing Baking Soda (E14)
7-25	Ch. 11: Liquids and Solids	Ch. 10	Exam 4	Decomposing Baking Soda (E14)
7-26	Ch. 11: Liquids and Solids			Electrical Conductivity of Aqueous Solutions (E21)
7-27	Ch. 12: Chemical Bonding	Ch. 11		Electrical Conductivity of Aqueous Solutions (E21)
7-28	Ch. 13: Solutions	Ch. 12		Analysis of Vinegar (E20)
8-1	Ch. 14: Acids and Bases	Ch. 13		Analysis of Vinegar (E20)
8-2	Ch. 14: Acids and Bases			Review
8-3	Review	Ch. 14		Lab Exam
8-4	Comprehensive Final Exam			Check Out

Lab

Safe lab practices are of utmost importance. Please read the section in your laboratory on safety issues carefully. The following rules are applicable while in the lab:

- You may not be in the laboratory unless an instructor is present
- Notify the instructor immediately in cases of illnesses while in the lab
- Eating and drinking are strictly prohibited inside the lab
- Open-toed shoes and shorts are not permitted inside the lab
- Personal headphones may not be used while in the lab
- Dispose off waste material and broken glassware as per instructions from your instructor
- Safety goggles must be worn at all times

Lab Notebook & Pre-Lab

*All work that you turn in for lab must be done in ink. Please do not use pencil or crayon.

Required Goggles:

<http://books.deanza.edu/MerchDetail.aspx?MerchID=1341936&num=4&start=1&end=12&type=1&CategoryName=GENERAL%20MDSE&CatID=5322&Name=GENERAL%20MDSE&Catalog=966>

Required Notebook:

http://www.amazon.com/Student-Lab-Notebook-Spiral-duplicate/dp/1930882742/ref=sr_1_3?ie=UTF8&qid=1435345737&sr=8-3&keywords=lab+notebook

Pre-Lab Notebook – *to be completed before lab and signed by lab instructor at the beginning and end of each lab:*

- 1) Write down the objective of the experiment.
- 2) Write down the outline of the procedure.
- 3) Write down blank data tables.
- 4) *Proper keeping of a lab notebook will be explained and demonstrated by the instructor.*

Prelaboratory Assignment Sheet - *to be completed before lab and turned in at the beginning of each lab:*

- 1) There will be no time to complete this assignment during lab hours.
- 2) You must show your work for any problems on the pre-lab assignment. No credit will be given for just the answer.
- 3) Please remove the rigid edges from the sheet before turning it in.
- 4) You will get your graded assignment returned to you at the beginning of lab on the following day.

Lab Reports

*All your answers and calculations must be written legibly. If you do not have handwriting that others can easily read, please use a computer to type your Lab Reports.

During lab, you will generate data tables in your lab notebooks. These will not be the product that you turn in for a grade. Your graded reports will consist of the following:

- 1) Data Table from Lab Manual
These are to be filled out at home, in ink, with no white-out or erasing. If you must cross out an answer, please cross it out with a single line. Do not include calculations on this sheet.
- 2) Calculations
All calculations must be shown in detail on a separate sheet of paper.
- 3) Post-Lab Worksheet from Lab Manual
All problems must be worked out in detail. No credit will be given for just the answers.

Due dates of Lab Reports

Lab reports are due at the beginning of the lab period following completion of the experiment (your next lab class). Any late reports may be graded for half credit up to two days late. All lab reports must be turned in to pass the class. Any reports turned in after two days will receive no points. No reports may be turned in after four days from the due date.

Loss of Lab Credit

The following will result in ZERO credit for a particular experiment.

1. Improper lab attire (no shoes or no long pants/skirts or tank-tops)
2. Lack of lab preparation
3. Being late by more than 10 minutes
4. Absences that do not have a documented excuse
Note: Each lab exercise is divided into more than one day. You must come to lab every day. Please do not rush to finish an exercise in a single day.

POLICY CHANGES

All the information contained in this document is subject to change at the discretion of the instructor. Changes will be noted in class.