GENERAL CHEMISTRY, CHEM-1A, FALL 2015
INSTRUCTOR: DR. RAM SUBRAMANIAM

Instructor Contact Information

Dr. Ram Subramaniam
Office: SC 1222
De Anza College, Cupertino, CA
Email: subramaniamram@deanza.edu
Phone: 408-864-8517
Office Hours: Monday to Thursday 10:30 to 11:30 a.m.

Class Meeting

Lecture: MLC 105
Lecture time: MW 4:30 to 5:45 p.m.
Lab: SC 2202
Lab time: Section 05- MW 11:30 to 2:20 p.m. and Section 06- TTh 11:30 to 2:20 p.m.

Textbook

Lecture- Chemistry - The Molecular Nature of Matter & Change, Silberberg, M., 6th edition, McGraw Hill
Lab- http://deanza.edu/chemistry/Chem1A.html

Course Content

General Chemistry at De Anza College is presented as a three-part class. In Chem-1A, we will start with a discussion about the structure of an atom. We will then learn about the various types of chemical compounds and the different types of reactions they can participate in. We will then discuss energy changes in chemical reactions and learn about enthalpy. At this time, we will refocus on the atom, this time introducing the concepts of quantum chemistry. This will lead to a more in depth discussion about the periodic table and the properties of the elements. We will conclude the quarter with a discussion about the various theories that describe how a chemical compound is formed. This will give us many useful insights such as the shape and geometry of chemical compounds and the nature of the bond that forms between two elements.

Student Learning Outcomes

1. Identify and explain trends in the periodic table.
2. Construct balanced reaction equations and illustrate principles of stoichiometry.
3. Apply the first law of thermodynamics to chemical reactions.

Academic Integrity

All graded assignments must be completed without any consultation (people, books, internet) unless otherwise permitted by the instructor. Any student that violates this policy will receive a failing grade (F) in the class and reported to appropriate administrative authorities such as the Dean. Please refer to the Student Handbook for detailed information: http://www.deanza.edu/studenthandbook/academic-integrity.html

Attendance Policy

Failure to attend any of the lectures or laboratory classes during the first two weeks will result in you being dropped from the class. You are expected to attend all lecture and laboratory classes. Strong evidences exist that indicate that student success is directly related to class participation. You will be given an "F" grade for unexcused absences in TWO or more lecture and/or laboratory periods.

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. Violation of this policy will bar you from attending office hours and may result in failure in the class.

Evaluation

The lecture portion of the class is weighted at 75% and the laboratory portion is 25%. You must complete all the lab experiments and pass the lab in order to pass the class. The evaluation for the laboratory part will consist of lab reports, lab exams, attendance, and notebook.

Lecture Schedule

The following is a tentative schedule for the lecture portion of the class. It is highly recommended that you read the relevant sections in the book prior to the lecture. Periodically, the instructor may assign certain sections of the book to be read on your own and these will not be covered in the lecture. You will receive appropriate instruction for such readings during the lecture. Some laboratory periods may be used for lectures.

Week	Dates	Topic	Chapter
1	September 21	Stoichiometry	3
1	**September 23**	**EXAM 1**	**1, 2**
2	September 28	Stoichiometry	3
2	September 30	Stoichiometry	3
3	October 5	Chemical Reactions	4
3	**October 7**	**EXAM 2**	**1, 2, 3**
4	October 12	Thermochemistry,	6
4	October 14	Thermochemistry,	6
5	October 19	Thermochemistry	6
5	**October 21**	**EXAM 3**	**6**
6	October 26	Quantum Theory	7
6	October 28	Quantum Theory	7
7	November 2	Quantum Theory	7
7	**November 4**	**EXAM 4**	**7**
8	November 9	Veteran's day Holiday	
8	November 11	Periodic Trends	8
9	November 16	Chemical Bonding	9
9	**November 18**	**EXAM 5**	**7, 8, 9**
10	November 23	Shapes of molecules	10
10	November 25	Covalent Bonding	11
11	November 30	Covalent Bonding	11
11	**December 2**	**EXAM 6**	**10, 11**
12	**December 7**	**Final Exam: 4 to 6 p.m.**	

Important Dates

Date	Activity
October 3	Last day to add quarter-length classes
October 4	Last day to drop for a full refund or credit
October 4	Last day to drop a class with no record of grade
November 13	Last day to drop with a "W."

Grading

Lecture: 750 points	
Exams	5 × 100 = 500 points
Homework	5 × 20 = 100 points
Final Exam	1 × 150 = 150 points

Lab: 250 points	
Lab report	11 × 10 = 110 points
Pre-Lab	11 × 3.64 = 40 points
Lab exam	1 × 100 = 100 points

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.

Percentage points	***Grade***
97-100	A+
92-96	A
88-91	A-
85-87	B+
82-85	B
78-81	B-
74-77	C+
70-73	C
66-69	D+
60-65	D-
0-59	F

Other Options

Pass/No Pass: A grade of "C" or higher is considered "Pass" in the course and lower than "D+" is considered "No Pass" in the course.

Audit: If you do not need any credit for this course, you may elect to audit the course.

Note: You are not permitted to attend this class if you are not officially registered.

Lab

The following is a schedule of experiments that will be performed this quarter. Prior to start of a particular lab, you must complete the pre-lab exercise and must have read the lab manual completely. Failure to comply may result in not being able to complete the lab experiment at the assigned time.

Date (section 05)	Date (section 06)	Topic
9/21	9/22	Introduction and Check-in
9/23	9/24	Experiment A1: Measurements
9/28	9/29	Experiment A2: Nomenclature
9/30	10/1	Experiment A3: Hydrate
10/5	10/6	Experiment A3: Hydrate
10/7	10/8	Experiment A4: Precipitation
10/12	10/13	Experiment A4: Precipitation
10/14	10/15	Experiment A4: Precipitation
10/19	10/20	Experiment A5: Reactions
10/21	10/22	Experiment A5: Reactions
10/26	10/27	Experiment A6: Conductivity
10/28	10/29	Experiment A6: Conductivity
11/2	11/3	Experiment A7: Titration
11/4	11/5	Experiment A7: Titration
11/9	11/10	No lab
11/11	11/12	Experiment A8: Calorimetry
11/16	11/17	Experiment A9: Redox
11/18	11/19	Experiment A9: Redox
11/23	11/24	Experiment A10: Hydrogen
11/25	11/26	No lab
11/30	12/1	Experiment A11: Structures
12/2	12/3	Check out & Lab Exam

Lab Notebook: You are required to maintain a detailed laboratory notebook. Pre-lab assignments and all data obtained in the lab must be carefully documented in your notebook. All entries in the lab notebook must be in PEN.

Pre-lab Assignment: Prior to coming to lab, you must complete a numbered outline of the procedure for the experiment that will be performed on the particular day. You must also enter a blank data table for the data to be obtained in the laboratory. Failure to complete the pre-lab assignment will result in no credit for that experiment. Additionally, you will not be permitted to be present in lab that day.

Lab report: Complete the calculations and data analysis sections for each experiment and submit them by the due date given below.

Lab Report Due Dates:

	Section 05	**Section 06**
Experiment A1	9/28	9/29
Experiment A2	9/28	9/29
Experiment A3	10/5	10/6
Experiment A4	10/14	10/15
Experiment A5	10/21	10/22
Experiment A6	11/2	11/3
Experiment A7	11/11	11/12
Experiment A8	11/16	11/17
Experiment A9	11/23	11/24
Experiment A10	11/23	11/24
Experiment A11	11/30	12/1

Items to Purchase

1. Textbook: Silberberg 6th edition
2. Notebook for lecture notes
3. Laboratory notebook: http://www.amazon.com/Student-Lab-Notebook-Spiral-duplicate/dp/1930882742/ref=sr_1_6?ie=UTF8&qid=1441219297&sr=8-6&keywords=laboratory+notebook
4. Safety goggles: http://books.deanza.edu/MerchDetail.aspx?MerchID=1341936&num=4&start=49&end=60&type=1&CategoryName=GENERAL%20MDSE&CatID=5322&Name=GENERAL%20MDSE&Catalog=966
5. Scientific calculator