

GENERAL CHEMISTRY, CHEM-1C, SPRING 2017
INSTRUCTOR: DR. RAM SUBRAMANIAM

Instructor Contact Information

Dr. Ram Subramaniam
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Office Hours: Monday to Thursday- 10:30 to 11:20 a.m.

Class Meeting

Lecture: Monday & Wednesday- 4:30 to 5:45 p.m., MLC 103
Lab: Section 01 Monday & Wednesday, Section 02 Tuesday & Thursday- 11:30 to 2:20 p.m., SC 2208

Textbook

Lecture- Chemistry - <https://openstax.org/details/chemistry>
Lab- <http://deanza.edu/chemistry/Chem1C.html>

Course Content

General Chemistry at De Anza College is presented as a three-part class. This is the third and final quarter in the yearlong General Chemistry sequence. The class will begin with a discussion of colligative properties and other aspects of solutions. In this class, advanced equilibrium concepts pertaining to solubility and buffers will be discussed. This will be followed with an introduction to electrochemistry, the chemistry of transition metals, and nuclear chemistry.

Student Learning Outcomes

1. Combine principles of equilibrium and thermodynamics and solve problems related to electrochemical systems.
2. Analyze unknown inorganic salts qualitatively and identify the cations and anions present in them.

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	April 10	Colligative Properties	11.4
1	April 12	Acid Base Equilibrium	14.1-14.3
2	April 17	Acid Base Equilibrium	14.4-14.6
2	April 19	Exam 1	11.4, 14.1-14.4
3	April 24	Acid Base Equilibrium	14.6-14.7
3	April 26	Acid Base Equilibrium	14.7
4	May 1	K _{SP} & Solubility	15.1
4	May 3	Exam 2	14
5	May 8	K _{SP} & Solubility	15.1
5	May 10	Electrochemistry	17.1
6	May 15	Electrochemistry	17.2
6	May 17	Exam 3	15.1
7	May 22	Electrochemistry	17.3
7	May 24	Electrochemistry	17.4
8	May 29	Memorial Day Holiday	
8	May 31	Exam 4	17
9	June 5	Transition Metals	19.1
9	June 7	Transition Metals	19.2
10	June 12	Transition Metals	19.3
10	June 14	Exam 5	19
11	June 19	Nuclear Chemistry	21.1-21.2
11	June 21	Nuclear Chemistry	21.3-21.4
12	June 28	Final Exam: 4:00 to 6:00 p.m.	Comprehensive

Important Dates

Date	Activity
April 22	Last day to add quarter-length classes
April 23	Last day to drop for a full refund or credit
April 23	Last day to drop a class with no record of grade
June 2	Last day to drop with a "W."

Grading

<i>Lecture: 750 points</i>	
<i>Exams</i>	$4 \times 125 = 500$ points
<i>Homework</i>	$5 \times 20 = 100$ points
<i>Final Exam</i>	$1 \times 150 = 150$ points

<i>Lab: 250 points</i>	
<i>Lab report</i>	$5 \times 10 = 50$ points
<i>Pre-Lab</i>	$5 \times 5 = 25$ points
<i>Cations (PL)</i>	$1 \times 25 = 25$ points
<i>Cations</i>	$1 \times 50 = 50$ points
<i>Lab exam</i>	$1 \times 100 = 100$ 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.

<i>Percentage points</i>	<i>Grade</i>
97-100	A+
93-96	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
76-79	C+
70-75	C
67-69	D+
64-66	D
60-63	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 01)	Date (Section 02)	Topic
April 10	April 11	Introduction and Check-in
April 12	April 13	Experiment C1: Freezing Point
April 17	April 18	Experiment C1: Freezing Point
April 19	April 20	Experiment C2: Buffers
April 24	April 25	Experiment C2: Buffers
April 26	April 27	Experiment C3: Common Ion
May 1	May 2	Experiment C3: Common Ion
May 3	May 4	Experiment C3: Common Ion
May 8	May 9	Experiment C4: Electrochemistry
May 10	May 11	Experiment C4: Electrochemistry
May 15	May 16	Experiment C5: Anions
May 17	May 18	Experiment C5: Anions
May 22	May 23	Experiment C6: Cations
May 24	May 25	Experiment C6: Cations
May 29	May 30	No Lab
May 31	June 1	Experiment C6: Cations
June 5	June 6	Experiment C6: Cations
June 7	June 8	Experiment C6: Cations
June 12	June 13	Experiment C6: Cations
June 14	June 15	Experiment C6: Cations
June 19	June 20	Lab Exam
June 21	June 22	Check Out

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 announced in class.

Items to Purchase

Check the bookstore: <http://books.deanza.edu/CourseMaterials.aspx>

Be sure to obtain 1) Student Lab Notebook 2) Goggles 3) Calculator 4) Box of disposable gloves and 5) (optional) textbook

Homework Assignment

HW 1: Due at 4:30 p.m. on April 19th

Chapter 11: 30, 31, 32, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 52, 54, 55, 56, 59, 60, 63, 64, 65

Chapter 14: 9, 10, 18, 19, 35, 36, 56, 57, 58, 59, 70, 71, 72, 73, 74, 76, 80

HW 2: Due at 4:30 p.m. on May 3rd

Chapter 14: 82, 83, 85, 87, 88, 89, 90, 91, 92, 93, 94, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 115

HW 3: Due at 4:30 p.m. on May 17th

Chapter 15: 1, 2, 8, 9, 10, 11, 12, 13, 14, 15, 16, 20, 22, 24, 25, 30, 31, 32, 34, 34, 36, 37, 38, 40, 47, 53, 54

HW 4: Due at 4:30 p.m. on May 31st

Chapter 17: 3, 4, 6, 7, 8, 9, 13, 14, 15, 16, 17, 18, 23, 24, 25, 29, 30, 31, 32, 33

HW 5: Due at 4:30 p.m. on June 14th

Chapter 19: 1, 2, 3, 8, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 37, 38, 41, 45, 46

HW 6: Optional (no credit)

Chapter 21: 1, 2, 3, 4, 5, 11, 13, 14, 15, 20, 21, 29, 30, 32, 33, 34, 40, 47