

**Preparation Course for General Chemistry
Winter 2021 (CHEM-25-05Z & 06Z) Syllabus**

Lecture (Sections 05Z & 06Z): Monday & Wednesday -9:30 AM - 11:20 AM Online

Lab Section-05Z(CRN:35685): Monday- 11:30 AM - 12:20 PM - Online

Lab Section-06Z(CRN:35686): Wednesday- 11:30 AM - 12:20 PM - Online

Instructor: Dr. Hema Ramakrishna

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Office Hours: Monday & Wednesday- 2:30 PM -3:30 PM Online

Description: An Introduction to core theory and problem solving techniques of chemistry as preparation for Chemistry 1A at De Anza College. The course will include an overview of many of the most important topics in general chemistry, including stoichiometry, atomic and molecular structure, solutions, scientific measurement, the periodic table, and chemical reactions. The course material will be approached from both a conceptual and mathematical standpoint.

Required materials:

1. Lecture TextBook: Introduction to Chemistry (McGraw Hill 5e) by Bauer, Birk, Marks.
(ISBN - 9781307601633)
2. Lab Text: Will be posted online and listed in Canvas for each lab.
3. A scientific calculator that has at least log and exponential functions is required.

De Anza Tutoring:

Students can get help online with tutors at <http://www.deanza.edu/studentssuccess/>

Evaluation: Your grade will be based on your performance in the following:

Lecture Exams: There will be three midterm exams and one final exam. All the three midterm exam scores will be used in determining your final grade. Each exam counts for 100 points. **No early, late or make-up exams will be given.**

Lab assignments: All 9 lab assignments count towards your grade. **No make-up labs.** Instructions to complete the experiments, calculations, analyze the results and submit the lab assignments will be given during the regular Lab meetings.

Lab final Exam: There is one lab exam worth 95 points. The lab final exam will be given during your regularly assigned laboratory sessions. **No early, late or make-up lab exams will be given and lab final exam score will count toward your overall course grade.**

Final Exam: A comprehensive lecture final exam will be given. Students who miss or fail the final exam will not receive a grade C or better. No early, late or make-up Final exams will be given.

9 Lab assignments (15 pts each)	135 points
1 Lab Final	95 points
3 Exams (100 pts each)	300 points
1 Final exam	200 points

Total 730 points

Letter grades will be assigned according to the following grade scale:

90-100% = A
87-89.9% = A-
84-86.9% = B+
79-83.9% = B
76 -78.9% = B-
72-75.9%= C+
60-71.9% = C
50-59.9% = D
Below 50% = F

Dr. Ramakrishna reserves the right to change exam dates as well as modify the grade scale at any point during the quarter.

Attendance: Your attendance is urged for all lectures and required for all the exams and labs.

Exams and lab assignments which are not submitted in the assigned time will score zero. It is the responsibility of the student to contact the instructor regarding missed work. If an absence is anticipated, the student should make arrangements to complete the missed assignments prior to the absence. If you miss lecture, laboratory lecture, or a laboratory period for any reason within the first two weeks of class, you will be dropped from the course.

Homework: As this is a college-level course, homework will not be collected or graded, it is entirely up to you to discipline yourself to do as many problems as may be necessary for you. The suggested problems are **not** necessarily an indicator of the types of problems that will be found on quizzes or exams. Recommended problems are posted below.

Chapters	Problems
Ch:1- Matter and Energy	1.4, 1.8, 1.12, 1.14,1.18, 1.22, 1.28, 1.34, 1.40, 1.46, 1.52, 1.58, 1.60, 1.68, 1.74, 1.76, 1.80, 1.86, 1.90, 1.96, 1.108
Ch:2- Atoms, Ions and the Periodic Table	2.2, 2.10, 2.14, 2.22, 2.24, 2.28, 2.30, 2.34, 2.38, 2.40, 2.48, 2.50, 2.54, 2.74, 2.78, 2.86, 2.92, 2.94, 2.98, 2.104, 2.106, 2.108
Ch:3-Chemical Compounds	3.2, 3.4, 3.8, 3.10, 3.12, 3.14, 3.18, 3.20, 3.22, 3.30, 3.32, 3.34, 3.36, 3.38, 3.40, 3.42, 3.44, 3.46, 3.48, 3.50, 3.54, 3.60, 3.62, 3.66, 3.68, 3.70, 3.82, 3.84, 3.86, 3.88, 3.90
Ch:4- Chemical Composition	4.4, 4.8, 4.10, 4.12, 4.16, 4.18, 4.20, 4.22, 4.24, 4.28, 4.30, 4.34, 4.36, 4.38, 4.40, 4.42, 4.44, 4.46, 4.48, 4.54, 4.56, 4.58, 4.60, 4.68, 4.70, 4.72, 4.74, 4.76, 4.78, 4.80, 4.84, 4.86,4.88, 4.100, 4.102, 4.104, 4.106, 4.108, 4.112, 4.114
Ch:5-Chemical Reactions and Equations	5.6, 5.8, 5.12, 5.18, 5.24, 5.28, 5.30, 5 38, 5.40, 5.42, 5.46, 5.48, 5.52, 5.56, 5.58, 5.60, 5.64, 5.70, 5.74, 5.78, 5.82, 5.88,5.92, 5.96, 5.104, 5.106, 5.110, 5.112
Ch-6- Quantities in Chemical Reactions	6.4, 6.8, 6.10, 6.12, 6.14, 6.16, 6.18, 6.20, 6.22, 6.24, 6.26, 6.28, 6.32, 6.34, 6.36, 6.38, 6.40, 6.44, 6.46, 6.48, 6.50, 6.56, 6.58, 6.60, 6.62, 6.64, 6.68, 6.72, 6.74, 6.76, 6.78, 6.84, 6.86, 6.90, 6.92, 6.94.
Ch:7- Electron Structure of the Atom	7.2, 7.8, 7.12, 7.14, 7.16, 7.18, 7.24, 7.28, 7.30, 7.32,7.36, 7.40, 7.44, 7.46, 7.48, 7.50, 7.52, 7.54, 7.62, 7.64, 7.66, 7.68, 7.72, 7.76, 7.78, 7.80, 7.82, 7.84.
Ch:8-Chemical Bonding	8.2, 8.4, 8.6, 8.8, 8.10, 8.14, 8.16, 8.20, 8.22, 8.24, 8.26, 8.30, 8.32, 8.34, 8.46, 8.48, 8.50, 8.52, 8.54, 8.56, 8.58, 8.60, 8.62, 8.64, 8.66, 8.68, 8.70, 8.86, 8.88, 8.90, 8.92, 8.94,8.100, 8.114, 8.120, 8.122, 8.134.
Ch:9-The Gaseous State	9.14, 9.16, 9.20, 9.22, 9.24, 9.26, 9.30, 9.38, 9.40, 9.42, 9.44, 9.50, 9.52, 9.58, 9.60, 9.62, 9.64, 9.66, 9.68, 9.70, 9.72, 9.86, 9.88, 9.90, 9.92, 9.94,9.100, 9.102, 9.116
Ch:10-The Liquid and Solid States	10.2, 10.6, 10.10, 10.14, 10.22, 10.34, 10.36, 10.42, 10.46, 10.48, 10.54, 10.58, 10.62, 10.68, 10.70, 10.74, 10.78, 10.82,10.84, 10.88.
Ch:11-Solutions	11.4,11.6,11.10,11.14,11.42,11.46,11.48,11.50,11.52,11.58,11.62,11.64,11.68,11.72,11.74, 11.76,11.80.
Ch:13- Acids and Bases	13.12,13.16,13.18,13.20,13.22,13.24,13.28,13.30,13.34,13.36,13.38,13.44,13.46,13.52,13.54,13.56,13.58,13.62,13.66,13.68,13.70,13.72,13.74,13.78,13.80,13.82,13.86,13.92,13.96, 13.98,13.106,13.108,13.110,13.112.
Ch:14-Oxidation-Reduction Reactions	14.4,14.8,14.10,14.12,14.14,14.16,14.18,14.20,14.24,14.26,14.28,14.30,14.32,14.36,14.46, 14.48.

Academic integrity: Academic dishonesty is a serious offense. Students are also expected to abide by the Academic Integrity policy of De Anza college. Details can be found at, <http://www.deanza.edu/studenthandbook/academic-integrity.html>. Copying another student's data, paper, exam, quiz or use of technology devices to exchange information during class time and/or testing is never tolerated and results in **dismissal** from the course with **Grade F**.

All the assignments and exams must be submitted on time only on the Canvas site. Any late submissions will not be graded or counted towards the final grade.

Changes to Syllabus: This syllabus may change according to the needs of the class. Please check with the syllabus posted.

Tentative Laboratory, Lecture, and Exam Schedule

Date Monday	Lecture Lab-Section-05Z(CRN:35685)(Online)	Date Wednesday	Lecture Lab-Section-06Z(CRN:35686)(Online)
04 Jan	Lecture: Introduction ;Ch.1: Matter and Energy Section-05Z-Lab-01: Check-In & Math Module	6 Jan	Lecture: Ch.1-Cont., Ch.2: Atoms, Ions and the Periodic Table Section-06Z-Lab-01: Check-In & Math Module
11 Jan	Lecture :Ch.2:Cont,Ch.3: Chemical Compounds Section 05Z-Lab-2 : Measurements Section 05Z-Lab-3: Density	13 Jan	Lecture: Ch.3:cont,Ch.4: Chemical Composition Section-06Z-Lab-2: Measurements
18 Jan	Martin Luther King Jr. Holiday	20 Jan	Lecture : Ch.4. Cont.;Ch.5: Chemical reactions & Equations Section 06Z-Lab-3 : Density
25 Jan	Lecture:Ch:5 cont, Section 05Z-Lab-4:Ionic Compounds	27 Jan	Lecture: Exam-1(Ch.1-4) Section 06Z-Lab-4: Ionic Compounds
01 Feb	Lecture : Ch.6: Quantities in Chemical reactions Section 05Z-Lab-5 :Hydrates	03 Feb	Lecture:Ch.6: cont, Ch.7: Electron Structure of the Atom Section 06Z-Lab-5 : Hydrates
08 Feb	Lecture: Ch:7,Cont Section 05Z-Lab-6:Chemical Reactions Section 05Z-Lab-7:Atomic structure & Periodic Table	10 Feb	Lecture: Ch:7.Cont,Ch:8:Chemical Bonding (8.1-8.3, 8.5) Section 06Z-Lab-6: Chemical Reactions
15 Feb	Presidents' Holiday	17 Feb	Lecture:Ch.8: Cont, Ch:9:The Gaseous State Section 06Z-Lab-7 :Atomic structure & Periodic Table.
22 Feb	Lecture: Exam-2(Ch.5-8) Section 05Z-Lab-8: Covalent Compounds	24 Feb	Lecture: Ch.9 Cont,Ch:10:The liquid & Solid States,(10.1-10.3) Section 06Z-Lab-8: Covalent Compounds
01 Mar	Lecture:Ch.10 Cont; Ch:11:Solutions, (11.1,11.4, 11.5) Section 05Z-Lab-9: Gas Laws	03 Mar	Lecture: Ch:11:Cont Section 06Z-Lab-9: Gas Laws
08 Mar	Lecture :Ch:13:Acids and Bases(13.1-13.6) Section 05Z-Lab-10:Vinegar Analysis	10 Mar	Lecture:Ch.13:Cont: Ch:14:Oxidation-Reduction Reactions(14.1, 14.2, 14.4) Section 06Z-Lab-10:Vinegar Analysis
15 Mar	Lecture: Ch:14:Cont, Section 05Z-Lab- Lab Final exam	17 Mar	Lecture: Exam-3(Ch.9-11, 13 &14) Section 06Z- Lab - Lab Final exam
22 Mar	Lecture Final Exam; 9:15 am -11:15 am Cumulative (Ch.1-11 & Ch.13-14)	24 Mar	-----

Student Learning Outcome(s):

*Assess the fundamental concepts of modern atomic and molecular theory.

*Evaluate the standard classes of chemical reactions.

*Demonstrate a fundamental understanding of mathematical concepts pertaining to chemical experimentation and calculations.