

De Anza College
Chemistry Department
Summer 2017

COURSE TITLE

Chemistry 1C-01 General Chemistry

Class 07/03/17 to 08/10/17

Meeting times: Lecture 10:30 – 11:45 AM, MTWTh, Room S32

Lab 7:30 – 10:20 AM, MTWTh, Room SC2208

INSTRUCTOR

Dr. John Cihonski

Contact: School e-mail: cihonskijohn@fhda.edu

OFFICE HOURS

See me as needed during lab or after lecture

REQUIRED MATERIALS

1) Chemistry (Open Source) found at <https://openstax.org/details/chemistry>. Homework will be out of the Open Source text.

Alternative text option: Silberberg, Chemistry: The Molecular Nature of Matter and Change, any edition

Alternative text option: Zumdahl, Chemistry An Atoms First Approach, 2nd ed, 2016

2) General Chemistry Laboratory (De Anza 2015 edition) – see lab PDFs Course Studio or <http://deanza.edu/chemistry/Chem1B.html>

3) 8.5 x 11 permanent bound laboratory notebook with carbon copies.

4) Safety Goggles (must be approved by instructor)

6) Scientific calculator

Course Description: Aspects of the reactivity of aqueous solutions, including the application of equilibrium to investigate: colligative properties, such as boiling point elevation and freezing point depression; buffer solutions, which are solutions able to resist changes in pH due to small quantities of acid or base; solubility and the formation of precipitates, including the calculation of solubility through equilibrium constants; electrochemistry; and the formation of complex ions. The course will also cover the fundamentals of nuclear structure and radioactive decay

Learning Outcomes for Chem 1C:

1. Apply the principles of transition metal chemistry to predict outcomes of chemical reactions and physical properties.
2. Apply the principles of equilibrium and thermodynamics to electrochemical systems.
3. Understand nuclear principles, applications and predict isotopic decay pathways

Grading Scheme

Minimum Course Score Grade (%)	Grade	Course Score formula (3M + F + L)/580 = Grade	
92	A		
80	B		Possible points
65	C	3 Midterm Exam (M) scores	300
55	D	F = Final exam score	200
		L = Laboratory score	90
		Total Possible Points	590

Dropping - It is the responsibility of the student to drop the class and to check out of the laboratory.

Attendance - Attendance is required for **all** laboratory sessions and highly encouraged for lectures. The course is impacted; there is neither make-up time in the course nor space for you to work in other sections. If you miss a lab, you need to discuss the issue with the instructor (valid reason and written documentations will be required).

- The 1st and 2nd unexcused missed labs will result in zeros.
- The 3rd unexcused missed lab will result in failing the course.

Lecture - Each of the three exams will be worth 100 points and the comprehensive final exam will be worth 200 points. If a student is absent during any exam, he/she will receive a grade of zero. **At the discretion of the instructor, a makeup exam may be allowed for an urgent medical or legal situation** which prevents a student from attending class. In such cases, all of the following requirements will apply: 1) Student must present documentation of the reason for absence (letter from doctor or court official, including address and phone number) to the instructor on the day student returns to school, 2) Exam must be made up within two days of missed exam, 3) Only one make-up exam is allowed per quarter. Unethical behavior of any kind will result in dismissal from the course with an F grade. **Work must be shown on all problems (exam, homework, etc.) to receive credit.** Bathroom breaks during an exam are discouraged.

Homework – Homework as noted on the Lecture and Exam schedule is optional. However it is important for your learning the material and it will help if you are on the border of a grade. “Homework” constitutes the problems related to each lesson (excluding the Comprehensive Exercises) that addresses the material covered and are answered in the back of the text. Homework is due the day of the exam covering that material. Each “Homework” will be graded 0, +1 or +2. A 0 means not turned in, +1 means turned in but incomplete (must see effort for credit though), +2 means you have at least tried every assigned problem. For credit **WORK MUST BE SHOWN**. Simply copying answers from the back of the book does not count. There are 6 topics in this course, so 100% completion is worth 12 points or about the equivalent of one letter grade improvement on an exam.

Chemistry 1C: 10:30 – 11:45 AM, MTWTh, Room S32

	Topic	Chapter(OS)	Problems *
1	Solutions and Colloids	11	2 – 74
2	Ionic Equilibria in Aqueous Systems	14.6 & .7 15.1 & .3	86 – 110 2-30, 36-46, 54, 98, 110, 112
Exam 1			
3	Electrochemistry	17	2 – 42, 48 – 52
Exam 2			
4	Transition Metals	19	2-18, 26-38, 44-48
5	Nuclear	21	2-20, 26-38, 45-54
Exam 3			
Final Exam Thursday, August 10th			

* **Problems are from the Open Source (OS) Chemistry text.** Homework problems to be turned in are the even numbered problems at the back of the chapter. The problems of interest are indicated above.

Laboratory - All laboratories are expected to be completed (see Attendance). Lab reports are due the next lab period within the first five minutes of the scheduled lab period. If a lab report is late it will be penalized twenty percent per day. For all laboratory experiments, the advance study assignment sheet must be completed and initialed by the instructor prior to the beginning of the lab period. Laboratory data sheets must also be initialed by the instructor before leaving the lab. An incomplete report will receive a zero. Coming sufficiently late for a lab (as determined by the instructor) can result in your not being permitted to do the experiment.

Chemistry 1C: 7:30 – 10:20 AM, MTWTh, Room SC2208

Week Of	Monday	Tuesday	Wednesday	Thursday
July 02	Check-In	Holiday	Freezing Point Depression (1) 10 pts	Freezing Point Depression (2)
July 09	Buffers (1) 10 pts	Buffers (2)	K_{sp} & Common Ion Effect (1) 10 pts	K_{sp} & Common Ion Effect (2)
July 16	Electrochemistry (1) 10 pts	Electrochemistry (2)	Anions (1) 10 pts	Anions (2)
July 23	Cations (1) 40 pts	Group Cations (2)	Cations (3)	Cations (4)
July 30	Cations (5)	Cations (6)	Cations (7)	Cations (8)
Aug 07	Cations (9)	Cations (10)	Check Out	

Laboratory Safety

Laboratory safety is an everyday assignment. Being safe in the lab is a top priority. The importance of safety in the laboratory will be reviewed on the first day of lab. Any unsafe behavior, intentional or not, will be noted and may be cause for dismissal from the class. Under NO circumstance are shorts and sandals allowed in the laboratory. You will be dismissed from the laboratory if you are not wearing appropriate protective clothing.

For your protection, safety goggles with indirect ventilation and an ANSI minimum rating of Z87 must be worn at all times in the laboratory. One warning will be issued to any student that is observed wearing their goggles on their forehead, hanging them around their neck, etc. instead of wearing over their eyes. if the warning is disregarded, expulsion from the lab and a zero on the lab work may result.

Latex gloves will be provided for those experiments using chemicals that are hazardous to skin.