

De Anza College
Chemistry Department
Summer 2015

COURSE TITLE

Chemistry 1C-01 General Chemistry

Class 01/05/15 to 03/27/15

Meeting times: Lecture 10:30 – 11:45 AM, MoTuWeTh, Room SC2208

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

INSTRUCTOR

Dr. John Cihonski

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

OFFICE HOURS

Catch me in the lab or after lecture

REQUIRED MATERIALS

- 1) Silberberg, Chemistry: The Molecular Nature of Matter and Change, 6th or 7th ed.
- 2) Szafran, et al, Microscale General Chemistry Laboratory
- 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 (3E + F + L)/580 = Grade	
92	A		
80	B		Possible points
65	C	E = Exam scores	300
55	D	F = Final exam score	200
		L = Laboratory score	90
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Total Possible Points			590

Dropping - It is the responsibility of the student to drop the class or a failing grade will be assigned.

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 must discuss the issue with the course 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 strongly 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 General 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.

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. The initialed Advance Study Assignment sheet and the initialed lab data sheet must be turned in with the final lab report. An incomplete report will receive a zero.

Chemistry 1C: Lecture 10:30 – 11:45 AM, MoTuWeTh, Room SC2208

	Topic	Chapter (7th)	Problems *
1	Solutions and Colloids	13 (x13.2) 13.7 is read only	13.2 – 13.111 (x 13.18 & 21)
2	Ionic Equilibria in Aqueous Systems	19 19.4 is read only	19.1 – 19.91
Exam 1			
3	Electrochemistry	21 (x21.6 & .7)	21.1 – 21.76
Exam 2			
4	Transition Metals	23	23.2 – 23.97
5	Nuclear	24	24.1- 24.88
Exam 3			
Final Exam August 6th			

* All relevant problems from the end of the chapter that are marked as having answers (#s in red) and apply to the lecture notes but NOT including the Comprehensive Problems. Chapter and problem numbering is very similar for earlier editions of the text.

Chemistry 1B: Lab 7:30 – 10:20 AM, MoTuWeTh, Room SC2208

Week Of	Monday	Tuesday	Wednesday	Thursday
Jun 28	Check-In	Freezing Point Depression (1)	Freezing Point Depression (2)	K_{sp} & Common Ion Effect (1)
Jul 5	K_{sp} & Common Ion Effect (2)	K_{sp} & Common Ion Effect (3)	Electrochemistry (1)	Electrochemistry (2)
Jul 12	Anions (1)	Anions (2)	Group A Cations (1)	Group A Cations (2)
Jul 19	Group B Cations (1)	Group B Cations (2)	Group B Cations (3)	Group C Cations (1)
Jul 26	Group C Cations (2)	Group D Cations (1)	Group D Cations (2)	Cobalt Synthesis (1)
Aug 2	Cobalt Synthesis (2)	Lab Final	Check Out	Final

Chemical Disposal and Clean-up

As a concern for the environment and to follow county, state and federal law, proper chemical disposal is essential. Students who do not comply with directed procedures may be expelled from the lab or failed in the course for repeated offenses. Check with the instructor if you have any questions. All students are requested to do a conscientious and thorough job of cleaning up after themselves, whether it is in their own work area in the lab, or shared areas such as the chemical supply table and balance room.

From the American Chemical Society Safety In Academic Laboratories Guidelines, 7th Ed., the following mandatory minimum safety requirements must be followed by all students and be rigorously enforced by all Chemistry faculty:

- 1) Chemistry Department-approved safety goggles purchased from the De Anza College bookstore (NOT safety glasses) must be worn at all times once laboratory work begins, including when obtaining equipment from the stockroom or removing equipment from student drawers, and may not be removed until all laboratory work has ended and all glassware has been returned to student drawers.
- 2) Shoes that completely enclose the foot are to be worn at all times; NO sandals, open-toed, or open-topped shoes, or slippers, even with socks on, are to be worn in the lab
- 3) Shorts, cut-offs, skirts or pants exposing skin above the ankle, and sleeveless tops may not be worn in the lab: ankle-length clothing must be worn at all times
- 4) Hair reaching the top of the shoulders must be tied back securely
- 5) Loose clothing must be constrained
- 6) Wearing "...jewelry such as rings, bracelets, and wristwatches in the laboratory..." should be discouraged to prevent "...chemical seepage in between the jewelry and skin...".
- 7) Eating, drinking, or applying cosmetics in the laboratory is forbidden at ALL times, including during lab lecture
- 8) Use of electronic devices requiring headphones in the laboratory is prohibited at ALL times, including during lab lecture
- 9) Students are advised to inform their instructor about any pre-existing medical conditions, such as pregnancy, epilepsy, or diabetes, that they have that might affect their performance.
- 10) Students are required to know the locations of the eyewash stations, emergency shower, and all exits
- 11) Students may not be in the lab without an instructor being present
- 12) Students not enrolled in the laboratory class may not be in the lab at any time after the first lab period of each quarter.
- 13) Except for soapy or clear rinse water from washing glassware, NO CHEMICALS MAY BE Poured INTO THE SINKS; all remaining chemicals from an experiment must be poured into the waste bottle provided.
- 14) Students are required to follow the De Anza College Code of Conduct at all times while in lab: "horseplay", yelling, offensive language, or any behavior that could startle or frighten another student is not allowed during lab;
- 15) Strongly recommended: Wear Nitrile gloves while performing lab work; wear a chemically resistant lab coat or lab apron; wear shoes made of leather or polymeric leather substitute.

By signing below, I, _____,
First Name Family Name

acknowledge that I fully understand and agree to abide by the laboratory safety rules listed above. Further, I acknowledge that my failure to abide by these rules will result in my being dropped from this chemistry class immediately.

Signature Date