

De Anza College
Chemistry Department
Fall 2018

COURSE TITLE

Chemistry 1B-61 General Chemistry

Class 09/24/18 to 12/14/18

Meeting times: Lecture 6:00 – 7:15 PM, MW, Room SC2204

Lab 7:30 – 10:20 PM, MW, Room SC2204

INSTRUCTOR

Dr. John Cihonski

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

OFFICE HOURS

MW 5:00-6:00 PM in Chem Faculty office area or catch me in the lab

REQUIRED MATERIALS

- 1) Silberberg, Chemistry: The Molecular Nature of Matter and Change, any edition.
- 2) General Chemistry Laboratory (De Anza 2015 edition) – see <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: Chemistry 1B is the second part of a year-long general chemistry sequence for science and engineering majors. The course covers the physical aspects of chemistry with an emphasis on problem solving. Topics: gas law, intermolecular forces, liquid and solid properties, kinetics, equilibrium, acid-base chemistry and equilibrium in aqueous systems, and thermodynamics.

Grading Scheme

Minimum Course Score Grade (%)	Grade	Course Score formula (3M + F + L)/570 = 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	70
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Total Possible Points			570

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 with documentation is 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 a zero for the exam. **Work must be shown on all problems to receive credit.** Bathroom breaks during an exam are discouraged.

Homework – Homework is important for your learning the material and it will help if you are on the border of a grade. You are encouraged to do the recommended homework and text example problems. “Homework” constitutes the text problems with answers in the appendix related to each chapter (excluding the Comprehensive Exercises) that address the material covered and are answered in the back of the text.

Chemistry 1B: Lecture 6:00 – 7:15 PM, MW, Room SC2204

	Topic	Chapter	Problems
1	Gases and the Kinetic Molecular theory	5	5.1 to 5.80*
2	Intermolecular Forces	12	12.1 to 12.71*
Exam 1 (Covers Chem 1A & Gas Topics)			
3	Kinetics	16	16.1 to 16.78*
4	Equilibrium	17	17.1 to 17.73*
Exam 2			
5	Acid-Base Equilibrium	18	18.1 to 18.144*
6	Thermodynamics	20	20.1 to 20.83*
Exam 3			
Final Exam		Monday, December 10 th	6:15 – 8:15 PM

* Homework is from the Silberberg and constitutes the indicated problems with answers in the appendix (marked by color – red, blue, green and is edition dependent).

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. Coming sufficiently late for a lab (as determined by the instructor) can result in your not being permitted to do the experiment.

Chemistry 1B: Lab 7:30 – 10:20 PM, MW, Room SC2204

Week of	Monday	Wednesday
Sept 23	Check-in	B1 - Molar volume (1)
Sept 30	B1 - Molar volume (2)	Open
Oct 7	Open	B7 - Green Salt (1)
Oct 14	B7 - Green Salt (2)	B7 - Green Salt (3)
Oct 21	B7 - Green Salt (4)	B3 - Kinetics (1)
Oct 28	B3 - Kinetics (2)	B3 - Kinetics (3)
Nov 4	B3 - Kinetics (4)	B4 - K_c by Spec 20 (1)
Nov 11	Holiday	B4 - K_c by Spec 20 (2)
Nov 18	B5 - K_a of a weak acid(1)	B6 - pK_a of indicator (1)
Nov 25	B6 - pK_a of indicator (2)	B8 - Calcium hydroxide (1)
Dec 2	B8 - Calcium hydroxide (2)	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.

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.

Student Learning Outcome(s):

- *Evaluate the principles of molecular kinetics.
- *Apply principles of chemical equilibrium to chemical reactions.
- *Apply the second and third laws of thermodynamics to chemical reactions.