

De Anza College
Chemistry 1B (General Chemistry)
Spring 2016

Course Syllabus

Instructor: Dr. David Feiler
E-mail: feilerdavid@fhda.edu
Office Hours: Monday and Wednesday 5:35 to 6:00 PM in SC2204
Tuesday and Thursday 9:00 to 9:25 PM via e-mail

1. Content and Goals:

Continuation of an introduction to the principles of chemistry. Investigation of intermolecular forces and their effects on chemical and physical properties. Investigation of reversible reactions from the standpoints of kinetics, thermodynamics, and equilibrium. Investigation and application of gas laws and kinetic molecular theory.

Student Learning Outcomes:

- 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.

2. Prerequisites:

Prerequisite: Chemistry 1A with a grade of C or better.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

3. Required Materials:

- Chemistry: The Molecular Nature of Matter and Change, 7th edition by Silberberg and Amateis (McGraw-Hill: 2015; ISBN 978-0-07-351117-7)
- Lab manual (online at <https://www.deanza.edu/chemistry/Chem1B.html>)
- Lab notebook for recording laboratory data
- Safety goggles (approved by OSHA) for working in the chemistry lab: available at the bookstore.
- Scientific calculator (smartphone calculators will not be allowed during exams)
- Stapler (no unstapled assignments will be accepted)

4. Basis of Evaluation:

a. Midterm Exams:

Two midterm exams will be given during the lecture period. Exams will cover all lectures up to the time of exam including the homework assignments. No make-up exams shall be given. For the exam schedule, see the lecture schedule attached.

b. Final Exam:

A comprehensive final exam will be given during finals week. The final is

scheduled for **Monday June 20th, 2016 from 6:15 to 8:15PM in room SC2204.**

c. Homework:

Homework for each chapter will be due the week after the lecture material is completed. No late homework will be accepted. Homework will be graded on a basis of completeness and must be **hand written**. You will not receive credit by copying the answers. You are welcome to work with your classmates but you are required to do your own work. The homework assignments are designed to help you learn and retain course material; it would not be helpful to you to copy answers without investing any effort. See the attached homework assignment sheet for the assigned problems.

d. Lab Reports:

Lab reports are due one week after the completion of the experiment. Lab report "Format" will be discussed by your lab instructor at the beginning of the quarter. Lab reports will be graded on clarity, completion of work assigned, and accuracy and precision of your results. To get a perfect score on your lab report, you will have to meet ALL of the above criteria. No late lab reports will be accepted.

e. Lab Exam:

A final lab exam will be given at the end of the quarter testing the student on various aspects of the experiments.

5. Grading:

The course grade earned will depend on the sum total points earned in lecture and lab. The following weighting factors will be used:

<u>Lecture</u>		<u>Laboratory</u>	
2 Midterm Exams	40%	8 Lab Reports	20%
1 Final Exam	30%	1 Lab Exam	<u>5%</u>
6 Homeworks	<u>5%</u>		
Subtotal	75%		25%
Total = 100%			

The grade, which you will earn, depends on your achievements in relation to the minimum performance standard. The following table provides an approximate guide to correlating an accumulated total point % with an earned course grade.

<u>Letter Grade</u>	<u>Total Point (%)</u>
A+	97% 100%
A	94% 96%
A-	89% 93%
B+	85% 88%

B	81%	84%
B-	77%	80%
C+	73%	76%
C	65%	72%
D+	60%	64%
D	55%	59%
D-	50%	54%
F	0%	49%

6. Academic Honesty:

The instructor deems academic honesty essential for personal integrity. Anyone caught cheating in quiz or exam or copying other's work in the lab will have his work voided and upon repeated violation, will fail the course. Conduct yourself accordingly to remove any suspicion in the instructor's eyes all together.

Best wishes for a successful quarter in chemistry.

Dr. Feiler

Chemistry 1B Lecture Schedule (Lecture meets in SC2204 @ 6:00PM)

Spring 2016 Lecture Schedule

<i>Week of</i>	<i>Monday</i>	<i>Wednesday</i>
Apr 4	Gases (Ch. 5)	Gases (Ch. 5)
Apr 11	Gases (Ch. 5)	Intermolecular Forces (Ch. 12)
Apr 18	Intermolecular Forces (Ch. 12)	Intermolecular Forces (Ch. 12)
Apr 25	Exam #1 (Ch. 5 and 12)	Kinetics (Ch. 16)
May 2	Kinetics (Ch. 16)	Kinetics (Ch. 16)
May 9	Equilibrium (Ch. 17)	Equilibrium (Ch. 17)
May 16	Equilibrium (Ch. 17)	Exam #2 (Ch. 16 and 17)
May 23	Acid-Base Equilibria (Ch.18)	Acid-Base Equilibria (Ch.18)
May 30	MEMORIAL DAY (No Class)	Acid-Base Equilibria (Ch.18)
Jun 6	Thermodynamics (Ch. 20)	Thermodynamics (Ch. 20)
Jun 13	Thermodynamics (Ch. 20)	Review
Jun 20	Final Exam 6:15 to 8:15 PM (Chapters 18,20,5,12,16,17)	

Chemistry 1B Laboratory Schedule (Lab meets in SC2204 @ 7:30PM)

Spring 2016 Lab Schedule

<i>Week of</i>	<i>Monday</i>	<i>Wednesday</i>
Apr 4	CHECK-IN	GASES (Part 1)
Apr 11	GASES (Part 2)	VAPORIZATION (Part 1)
Apr 18	VAPORIZATION (Part 2)	KINETICS (Part 1)
Apr 25	KINETICS (Part 2)	KINETICS (Part 3)
May 2	KINETICS (Part 4)	Kc (Part 1)
May 9	Kc (Part 2)	Ka Kb
May 16	INDICATOR (Part 1)	INDICATOR (Part 2)
May 23	GREEN CRYSTAL (Part 1)	GREEN CRYSTAL (Part 2)
May 30	MEMORIAL DAY (No Lab)	GREEN CRYSTAL (Part 3)
Jun 6	GREEN CRYSTAL (Part 4)	CALCIUM HYDROXIDE (Part 1)
Jun 13	CALCIUM HYDROXIDE (Part 2)	LAB EXAM AND CHECK-OUT
Jun 20		

HOMEWORK ASSIGNMENT SHEET:

CHAPTER 5

EXERCISE PROBLEMS STARTING ON PAGE 241: 1 TO 86 BUT ONLY THE RED ONES

CHAPTER 12

EXERCISE PROBLEMS STARTING ON PAGE 509: 1 TO 107 BUT ONLY THE RED ONES

CHAPTER 16

EXERCISE PROBLEMS STARTING ON PAGE 721: 1 TO 125 BUT ONLY THE RED ONES

CHAPTER 17

EXERCISE PROBLEMS STARTING ON PAGE 768: 1 TO 110 BUT ONLY THE RED ONES

CHAPTER 18

EXERCISE PROBLEMS STARTING ON PAGE 817: 1 TO 145 BUT ONLY THE RED ONES

CHAPTER 20

EXERCISE PROBLEMS STARTING ON PAGE 912: 1 TO 111 BUT ONLY THE RED ONES

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