

**De Anza College**  
**Chemistry Department**  
**Winter 2018**

**COURSE TITLE**

Chemistry 25-01 & 25-02 Introductory Chemistry

Class 01/08/18 to 03/30/18.

Meeting times: Chem 25-01 & 25-02 Lecture 10:30 – 12:20 PM T, Th, SC1102  
Chem 25-01 Lab 7:30 - 10:20 AM T, SC2208  
Chem 25-02 Lab 7:30 - 10:20 AM Th, SC2208

**INSTRUCTOR**

Dr. John Cihonski

Contact: e-mail: [cihonskijohn@fhda.edu](mailto:cihonskijohn@fhda.edu)

**OFFICE HOURS**

T,Th: 12:30 – 1:30 PM in SC Chemistry Office Area

**REQUIRED MATERIALS**

1. Text: Bauer, Birk & Marks, "Introduction to Chemistry" any edition or a back-up option is Silberberg & Amateis, Chemistry: "The Molecular Nature of Matter and Change" editions 6, 7 or 8.
2. Lab Manual: Applegate, Neeley & Sakuta, "Preparation for General Chemistry" De Anza Edition
3. OSHA-approved Safety Goggles (Indirect Vent, Z87)
4. Scientific Calculator

## Grading Scheme

Minimum Course Score	Grade	Course Score formula	
90	A	$(M + F + L)/590 = \text{Grade}$	
75	B		Points
65	C	M = Three midterm exams	300
55	D	F = Final exam	200
		L = Laboratory (9 labs)	90
		Total Possible Points	590

**Attendance** - Students are expected to attend lectures. Attendance is required for all labs. If a student is not registered in the class by the first official roster they will not receive credit for the class.

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

**Lecture** – There will be three (3) exams worth 100 points each and a comprehensive final exam 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 can result in dismissal from the course with an F grade. Work must be shown on all exam problems 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 will help you learn the material. “Homework” constitutes the problems related to each topic covered in lecture and have answers in the back of the text.

Do in-chapter example problems and follow up problems yourself (pencil/paper), don't simply follow the book solution. Reading is not the same as actively doing - superficial vs deep learning and understanding.

**Laboratory** - All assigned labs must be completed in order to pass the course. The Final Lab Report format will be covered in detail in the laboratory. Final lab report is

due at the beginning of the next lab within the first ten minutes of the lab period. However, in some circumstances the entire lab must be completed before leaving the lab. A late lab report will be penalized twenty percent per day.

\* No sandals, flip-flops or opened toed shoes are permitted in the lab! You will be told to leave the lab with no credit. **No food, drinks or CELL PHONE/COMPUTER use in the lab.**

All students (officially registered, dropped, or withdrawn) must check out of the lab before the end of the semester (last lab day). If you do not check out of lab, a hold will be placed on your records, and no grades will be issued. Check out is through the stockroom and can be done any time stockroom personnel are present.

**In General, make-up labs will not be permitted (Due to space limitations).**

However, if you are unable to complete an experiment due to an EXCUSED absence, you might be able to satisfy the requirement for that experiment by doing an outside assignment. Any make up assignment must be agreed to with your instructor. A maximum of one missed lab experiment may be made up in this manner.

**Chemistry 25 Sec 01 &02: Lecture 10:30 – 12:20 PM T, Th, SC1102**

<b>Topic</b>	<b>Topic</b>	<b>Readings/Chapter*</b>	<b>Homework</b>
1	Matter & Energy	B: C1 + Exp 1 Worksheet S: 1.1 to 1.3	#
2	Measurement & Dimensional Analysis	B: Math Tool Box 1.1 to 1.3 S: 1.4 & 1.5	#
3	Theory & Structure of the Atom	B: C2 & C7 S: 2.1 to 2.6 & 8.2	#
<b>Exam 1</b>			
4	Bonding, e Structure & Molecular Geometry	B: C8 S: 2.7, C9 (x-9.4), C10	#
5	Nomenclature	B: C3 + Worksheet S: 2.8 (x-Organic)	#
6	Molecular Stoichiometry	B: C4 S: 3.1, 3.2	#
7	Gases, Liquids & Solids	B: 9.1 & C10 (x-10.3) S: 12.1, 12.3, 12.6	#
8	Chemical Reaction	B: C5 S: 3.3 & 4.2 to 4.6	#
9	Reaction Stoichiometry	B: C6 (x-6.6 & 6.7) S: 3.4	#
<b>Exam 2</b>			
10	Gases, Ideal Gas Law & Applications	B: C9 (x-effusion & diffusion) S: 5.2 to 5.5	#
11	Solutions & Solution Stoichiometry	B: C11 (x-11.5 & 11.6) S: 13.1, 13.4, 13.5	#
12	Acid-Base Reactions & Stoichiometry	B: C13 (x-13.3 & 13.6) S: 18.1 to 18.3	#
13	Oxidation-Reduction & Electrochemistry	B: C14 (x-14.5) S: C21 (x-21.4)	#

**Exam 3****Final Exam** on March 29<sup>th</sup>, 9:15 – 11:15 AM

\* Reading assignment chapters and sections are “B” for Burk, et al and “S” for Silberberg

# Homework for “B” read sections includes all the odd problems (answers in back of text).

Homework for “S” read sections includes all problems highlighted in color (answers in the back of the text).

**Chemistry 25: Sec 01** Chem 25-01 Lab 7:30 - 10:20 AM T, SC2208  
**Sec 02** Chem 25-02 Lab 7:30 - 10:20 AM Th, SC2208

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<b>Week of:</b>	<b>Experiment</b>		
Jan 7	01 & 02	Check-in	
Jan 14	01 & 02	Exp 2	Measurements
Jan 21	01 & 02	Exp 3	Density and Gravity
Jan 18	01 & 02	Exp 4	Atomic Structure
Feb 4	01 & 02	Exp 5	Ionic Compounds
Feb 11	01 & 02	Exp 6	Covalent Compounds
Feb 18	01 & 02	Exp 7	Empirical Compounds
Feb 25	01 & 02	Exp 8	Chemical Reactions
Mar 4	01 & 02	Exp 9	Gas Laws
Mar 11	01 & 02	Exp 10	Analysis Acid Content of Vinegar
Mar 18	01 & 02	Check-out	

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## Chem 25 Introduction, Format, Check-in

### Introduction:

- Review course syllabus – text, lab book, safety glasses, lab schedule, attendance, grading, lab procedures & **safety rules** (safety glasses, food, drink, clothing [slacks, shirts, shoes related] penalties). **No cell phones/computers out in the lab, result is a zero for the lab.**
- Lab/Report format:
  - Before lab: The **Prelab Questions** for the lab must be completed and attached to a copy of the experiment data and post lab sheets (original or photocopy). This packet must be initialed/dated by the instructor prior to the beginning of the lab. The purpose of this packet is to convince your instructor that you are prepared to perform the lab. No hand written copies permitted. No **Prelab Packet – no lab (as in zero).**
  - Lab data collection – **ALL experimental data will be recorded directly on the data sheets in ink.** No notes on notebook paper and copying over later.
  - After you complete the lab work, have your completed data pages checked by the instructor before you leave the lab.
  - The rest of the lab report – calculations, results, discussion, conclusions and any postlab Q's may be completed outside of the lab. If there is not sufficient room on the lab pages then perform the calculations on a separate sheet of paper.
  - **Final Laboratory Report** – The complete lab report consists of the Prelab Questions (initialed/dated), Data sheets (checked) , calculation pages and postlab Q's associated with the lab – stapled together in that order.
  - Final lab report is due at the beginning of the next lab.
  - All work will be clearly, logically and legibly presented – or it won't be graded.

### Today:

- Lab check in. Sign/turn in Safety forms (in back of Syllabus) and obtain a locker.
- **Do Exp 2 Prelab Lecture – Measurements**

Next Week: Prepare Exp 2 Prelab Questions and data sheet packet (mentioned above) and submit for initial/date before the lab. Be ready to complete the lab (meaning have a lab book or photocopy of the lab with you).

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

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Date



**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.