Eiteneer-Chem-1A-44Z-W21 Course Outline

INSTRUCTOR: Dr. Daria Eiteneer

Email: eiteneerdaria@fhda.edu
Lab meeting: Section 44Z meets 4:30-5:20pm on Tuesdays and Thursdays via Zoom
(Note: Lecture on Tues/Thurs 6:00 – 7:15PM is taught by Dr. Billie Lo)
Credit: 5 units

PREREQUISITE:
Chem. 25 with a C or better or high school chemistry with a B or better, Math C or higher.

ACCEPTABLE FOR CREDIT:
University of California, California State University and Colleges.

COURSE DESCRIPTION:
Chem 1A is a pre-professional chemistry preparation for students planning a scientific or science related career field. A rigorous study of the fundamentals of chemistry at the first year level combines the study of atomic and molecular structure, quantum theory, thermochemistry, solutions, and stoichiometric calculations of product and reactant amounts and the classical study of properties of atoms and molecules and their reactivities.

The course includes both lecture and lab work designed to prepare students to enter as chemistry, engineering, medicine, dentistry as well as biological science.

Due to corona virus situation, this class will be an online class for the Spring quarter, which means you do not have to be on campus to complete any portion of it. You will participate in the course using De Anza college CANVAS and Zoom. Student should have access a computer, or a smart phone with internet connection, Refer to Student Hub the De Anza Online Resources for Students on the De Anza web site, http://www.deanza.edu/online-Spring Student Resource Hub to see how to join the Zoom lecture or the lab sessions.

For more information about Chem 1A, please refer to the Lecture syllabus (Dr. Billie Lo)

Course Materials:
Chemistry, The Molecular Nature of Matter and Change, Martin Silberberg, McGraw Hill,9th edition.
Hands-On-Lab kit
Simple Scientific Calculator (non-programmable)
Safety goggles are required for the class.

Laboratory -HOL/Virtual Labs
HOL (Hands-On-Lab) will be used for this quarter. The HOL kits will be supplied by De Anza College free of charge to all enrolled students including shipping cost; however, you need to wait until after the Census Day (1/21) when the enrollment is finalized to order your HOL kits from the de Anza Bookstore. For international students, make sure you request expedite shipping and you are responsible for custom clearance in your country. All chemicals are less than 5 ml. Because of the uncertainty of arrival date of your kit, the experiment schedules are still tentative. We will

adjust it as needed. Backup virtual labs are listed in the lab schedule in all cases. We are trying our best to provide some lab work during this Covid-19 pandemic.

Additional reference can be found in the De Anza Lab manual which would be our lab manual if this were an in-person class, https://www.deanza.edu/chemistry/pdf/1A/Experiments Click on the Experiments and download the details for each experiment for reference when needed. Details will be posted in Canvas.

Academic Integraty is strictly observed; dishonesty will be ground for dismissal from the course. This is an online class. The zoom meeting room is equivalent to your in-person classroom. Attending the zoom session is a must. All the exams must be taken in the zoom meeting room.

Grading

The lab grade composes 30% of your overall grade in Chem 1A, and will be as follows:

Lab Grade: 30%

Lab Midterm and Lab Final	140 points
Lab Reports	120
Lab Participation	40
Total	300 points

The schedule on the next page reflects both the lecture and the lab schedule and is identical to the one posted in the lecture syllabus.

Wk	Date	Text	Lecture	Lab
1	1/5/21 Tue	Chapter 1	Measurement, Units, Uncertainty, Precision and Accuracy, Scientific Notation	Orientation, CONNECT sign in, Canvas,
	1/7/21	Chapter 1 Chapter 2	Mathematical Treatment of Measurement Results, Atomic Theory, Atomic Structure	Scientific Notation, Unit Analysis. (Report 1)
2	1/12/21	Chapter 2	Atomic Theory, Atomic Structure	Nomenclature (Report 2)
	1/14/21	Chapter 2 Chapter 3	continue Stoichiometry of Formula and Equations	Nomenclature (Report 2)
3	1/19/21	Chapter 3	Formula Mass and the Mole Concept, Empirical Formula and Molecular Formula, Molarity and Other Units for Concentration	ORDER YOUR HOL KIT Conductivity(Report 3) https://www.youtube.com/watch?v=ABAqtFPfVos
	1/21/21	Chapter 4	Writing and Balancing Chemical Equations, Classifying Chemical Reactions	HOL1 Getting Started (Report 4)
4	1/26/21		**Exam 1**(Chapters 1-3)▪	Types of Reactions (Report 5)
	1/28/21	Chapter 4	Reaction Stoichiometry, Yields, Quantitative	Types of Reactions (Report 5)
5	2/2/21	Chapter 6	Thermochem: Internal energy, Calorimetry, Enthalpy	HOL2 Lab Lab Safety (Report 6)
	2/4/21		Thermochem: Calorimetry,Enthalpy Hess's Law	HOL3 Lab Techniques and Measurement (Report 7)
6	2/9/21	Chapter7▪	Radiation-Energy ,electromagnetic Waves, the Bohr Model	HOL4 The Mol/Hydrate (Report 8)
	2/11/21		**Exam 2 (C**hapter 4,6,7**)**	HOL4 Hydrate (Report 8)
7	2/16/21	Chapter 7	Radiation- Energy, Electromagnetic Waves, the Bohr Model	HOL5 Hess's Law (Report 9)
	2/18/21	Chapter 7	Quantum Theory, Quant # & sublevel-orbitals	HOL5 Hess's Law (Report 9)
8	2/23/21		**Exam 2**	HOL5 Hess's Law (Report 9)
	2/25/21	Chapter 8	Electron Configuration & Chem. Periodicity (Trends in Ionization Energies, Electronegativities	**Atomic Absorption and Emission** PhET Simulation Neon Lights and other Discharge Lamps (Report 10) :https://phet.colorado.edu/en/simulation/legacy/ discharge-lamps
	2/26/21		Last day to drop classes with "W"	)
9	3/2/21	Chapter 8	Continue	HOL6 Titration of Acetic Acid and Vinegar (Report 11
	3/4/21	Chapter 9	Energies, Electronegativities	HOL6 Titration of Acetic Acid and Vinegar (Report 11)
10	3/9/21	Chapter10	Molecular Structure, VSEPR, Shape	Molecular Geometry (Report 12
	3/11/21	Chapter 10	**Exam 3**	Molecular Geometry (Report 12)
11	3/16/21	Chapter 10	VSEPR, Shape and polarity	Lab Final
	3/18/21	Chapter 11	Valence Bond Theory and Orbital Hybridization	
12	3/23/213	Final	Final	
	3/25/21			

Student Learning Outcome(s):

*Identify and explain trends in the periodic table.

*Construct balanced reaction equations and illustrate principles of stoichiometry.

*Apply the first law of thermodynamics to chemical reactions.