

# ***Chemistry 25, Preparation of General Chemistry: Fall 2017***

**Instructor: Arthi Srinivasan**

**Lecture MTWR 8:30 am – 9:20 am, Room SC1102**

**Lab**

**Section 03: Tuesdays 11:30 am -2:20 pm SC2208**

**Sectoin 04: Thursdays 11:30 am -2:20 pm SC2208**

**Email: [srinivasanarthi@fhda.edu](mailto:srinivasanarthi@fhda.edu) [cheenu\\_arthi@yahoo.com](mailto:cheenu_arthi@yahoo.com)**

**Office hours: Tuesdays and Thursdays from 2:30 pm-3:30 pm. Room: TBD**

## **Course Description:**

Prerequisite: Mathematics MATH 114 or equivalent. Advisory: English EWRT 1A or EWRT 1AH or ESL 5.

An introduction to the core theory and problem-solving techniques of chemistry as preparation for CHEM 1A and other science related fields. An introduction to gravimetric and volumetric analysis, rudimentary laboratory equipment and operations, and the preparation and maintenance of a laboratory notebook.

**Prerequisites:** Advanced algebra (Math 151 or equivalent) with a grade of “C” or higher

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## **Student Learning Outcome Statements (SLO)**

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.

## **Course Objectives**

- A. Explore the core concepts of modern atomic and molecular theory.
- B. Assess the importance of the mole concept in stoichiometric calculations.
- C. Apply fundamental mathematical concepts to the proper collection and evaluation of experimental data.
- D. Explore the various gas laws and understand the relationships between pressure, temperature, and volume of a gas.
- E. Differentiate between standard classes of chemical reactions.
- F. Acquire an elementary understanding of thermochemistry

## **Required Materials:**

Scientific Calculator

Lab Goggles (ONLY chemistry type)

Textbooks:

McGraw Hill, Create. De Anza College Chemistry. Laboratory Manual for General, Organic and Biological chemistry. (Applegate Neely Sakuta) 1st Edition, ISBN 13: 978-1-308-68037-8 ISBN 10: 1-308-68037-6

Richard C. Bauer. Introduction to Chemistry. A Conceptual Approach textbook with Connect, 4th Edition, McGraw Hill Higher Education ISBN 13: 978-1-260-2073-8-5

## **Dates to Remember (Please note: mm/dd)**

09/25

10/08

11/10

11/23-11/26

12/08

**12/13, Wednesday: 7-9 a.m**

Classes begin

Last day to drop with refund

Holiday: Veteran’s Day

Holidays: Thanksgiving

Last day of instruction before final exam

**Final exam**

**Attendance:**

Attendance is expected during all lectures, all lab lectures, and all laboratory periods. Students are expected to be prompt and to leave only when lecture or lab is concluded. Arriving late to lecture is disruptive to the class and **strongly** discouraged. **If you miss lecture, laboratory lecture, or a laboratory period for any reason within the first two weeks of class, you will be dropped from the course.**

**Dropping the Course:**

If you choose to drop the course **at any point** during the quarter, it is **your** responsibility to withdraw from the course through Admissions and Records by the appropriate deadline. You are required to officially check out of your lab locker whether you remain in the course or drop the course. Failure to check out of lab by the scheduled check-out date will result in an administrative fee and a block will be placed on your future registration.

**Lab:**

You have to be on time for the lab. ***You can come no later than 10 minutes once a lab begins. Once the door is closed, you will not be allowed to enter the class.***

You are expected to write a detailed procedure of each lab on a lab notebook before coming to the lab, and get it signed by me. Failure to do so will result in loss of two points. This is to encourage you to read up on the procedure before coming to the lab.

There will be a lab final at the end of the quarter. It will be a written test with questions based on labs that you will be doing this quarter.

If you miss a laboratory period during the first week of the quarter, you will be dropped from the course. **THERE AFTER TWO OR MORE UNEXCUSED ABSENCES FROM LAB WILL RESULT IN AN AUTOMATIC "F" FOR THE ENTIRE COURSE.**

**IF YOU ARE DROPPED FROM THE COURSE DURING THE FIRST WEEK OF CLASS YOUR LOCKER WILL BE INSPECTED AND MAY BE REASSIGNED TO ANOTHER STUDENT. YOU WILL BE HELD RESPONSIBLE FOR ANY BROKEN OR MISSING LAB EQUIPMENT PRIOR TO REASSIGNMENT.**

**IF YOU FAIL TO CHECK OUT OF LAB YOU WILL ALSO BE CHARGED AN ADMINISTRATIVE FEE AND A BLOCK WILL BE PLACED ON YOUR REGISTRATION.**

When you are working in the lab, you must wear **Safety GOGGLES. No SHORTS or OPEN TOE SHOES will be allowed in the lab. NO FOOD OR DRINKS ARE ALLOWED IN THE CHEMISTRY LAB. Hair longer than the bottom of your neck must be securely tied back.**

You may not be in the laboratory unless an instructor is present.

Notify the instructor immediately in cases of illnesses while in the lab.

Personal headphones, cell phones or i-phones may not be used while in the lab or lectures.

Dispose off waste material and broken glassware as per instructions from your instructor.

The first part of class will be lecture and discussion. The remaining class time will be experiments

**Reading**

A tentative lecture schedule is provided with the syllabus. You will see, due to the rapid pace of this class, that we will not be able to cover all the material contained in the text during lecture. Thus, it is vital that reading for the current chapter be completed before you come to class. This will make following class discussions much easier.

**Canvas**

Registered students will automatically get access to my Canvas account. My Canvas account contains lecture power points, practice chapter assignments (not graded), and other important information pertaining to the course. Please let me know if for some reason you are unable to access it.

**Testing**

There will be two 1-hour exams worth a total of 200 points (100 each). The exams will be closely modeled after the Supplement practice problems (not graded) uploaded on Canvas. There will also be 3 quizzes, each worth 50 points; ***the lowest quiz score will be dropped.***

***Quizzes are multiple choices. But exams (midterm and final) will be a mix of free-response style (written, with couple multiple choice and fill-up the blanks. style questions) and multiple choice.***

If you must miss an exam for legitimate reasons (documented proof required), inform me as soon as you are aware of the conflict- hopefully, in advance of the conflict- and arrange a make-up exam within one week of its scheduled date. If you fail to arrange a make-up within that time, you will receive a zero on the exam. Only absences due to documented circumstances will be granted this privilege and only one exam can be made up in the semester. There is no make-up policy for missed quizzes.

**Grading:** This is the split up:

<i>Data collection, prelab and postlab assignments</i>	<i>80</i>
<i>Lab Final</i>	<i>50</i>
<i>2 Quiz scores</i>	<i>100</i>
<i>2 Exams</i>	<i>200</i>
<i>1 Final Exam</i>	<i>150</i>
<i>Total Points Possible</i>	<i>580 points</i>
<i>+ Extra credit</i>	

The score will be converted to percentage, and your grade will be assigned according to the grading scale (scroll down for the grading scale).

**Extra credit:**

I will be asking questions during each lecture from time to time. This is to have you actively participate in class to make the lectures more interesting and to ensure you are following whatever is being taught to you. This is extra credit, and hence is in addition to the total score mentioned above. You **WILL NOT** lose points for non-participation in class.

**Grading Scale:**

<u>% of Total Points Possible</u>		<u>Grade</u>	
<b>98-100</b>		<b>A+</b>	
	<b>92-97</b>		<b>A</b>
<b>89 - 91</b>		<b>A-</b>	
	<b>85 - 88</b>		<b>B +</b>
<b>82 - 84</b>		<b>B</b>	
	<b>79 - 81</b>		<b>B-</b>
<b>75 - 78</b>		<b>C +</b>	
	<b>68 - 74</b>		<b>C</b>
<b>64 - 67</b>		<b>D +</b>	
	<b>61 - 63</b>		<b>D</b>
<b>58 - 60</b>		<b>D-</b>	
	<b>less than 58%</b>		<b>F</b>

**Dr. Srinivasan reserves the right to change exam dates as well as modify the grade scale at any point during the quarter.**

**Punctuality in labs:**

You have to be on time for the lab. ***You can come no later than 10 minutes once a lab begins. Once the door is closed, you will not be allowed to enter the class.***

**Classroom Courtesy:**

As a courtesy to your classmates and to me, please refrain from talking to other students during lecture (except if it pertains to the lecture), and please remember to turn off your cell phones, pagers, etc before entering the classroom. If you do behave in a manner that seems disruptive to me or to other students, I will ask you to stop. If such behavior persists, I will ask you to leave the class and not return without written authorization from the math/science dean. Information on student behavior and the Ohlone College suspension policy is available from the office of the Vice President of Student Services.

**Academic Integrity:**

Please refer to the De Anza College Student Handbook: <http://www.deanza.edu/studenthandbook/academic-integrity.html> To summarize the policies provided in the handbook- 1) no cheating will be tolerated 2) consultation of any form must be authorized by the instructor 3) cheating will be reported to appropriate officials 4) cheating will result in an automatic “F” in the class.

***Lecture, Quizzes and Exams Schedule (Tentative and subject to change)***

<b>Week</b>	<b>Date</b>	<b>Chapter schedule</b>	<b>Quizzes and Exams</b>
1	09/25	<b>Introduction to the course</b>	
2	09/26	<b>Chapter 1</b>	
3	09/27	<b>Chapter 1</b>	
4	09/28	<b>Chapter 1</b>	
5	10/02	<b>Chapter 2</b>	
6	10/03	<b>Chapter 2</b>	
7	10/04	<b>Chapter 2</b>	
8	10/05	<b>Chapter 3</b>	
9	10/09	<b>Chapter 3</b>	<b>Quiz 1 (ch 1, 2)</b>
10	10/10	<b>Chapter 3</b>	
11	10/11	<b>Chapter 4</b>	
15	10/12	<b>Chapter 4</b>	
	10/16	<b>Chapter 5</b>	
	10/17	<b>Chapter 5</b>	
	10/18	<b>Chapter 6</b>	
	10/19		<b>Exam 1 (ch 1, 2, 3, 4)</b>
	10/23	<b>Chapter 6</b>	
	10/24	<b>Chapter 6</b>	
	10/25	<b>Chapter 7</b>	
	10/26	<b>Chapter 7</b>	
	10/30	<b>Chapter 7</b>	
	10/31	<b>Chapter 8</b>	
	11/01	<b>Chapter 8</b>	<b>Quiz 2 (ch 5, 6)</b>
	11/02	<b>Chapter 8</b>	
	11/06	<b>Chapter 9</b>	
	11/07	<b>Chapter 9</b>	
	11/08	<b>Chapter 10</b>	
	11/09	<b>Chapter 10</b>	
	11/13	<b>Chapter 11</b>	
	11/14	<b>Chapter 11</b>	
	11/15	<b>Chapter 11</b>	
	11/16		<b>Exam 2 (ch 5, 6, 7, 8)</b>
	11/20	<b>Chapter 13</b>	
	11/21	<b>Chapter 13</b>	
	11/22	<b>Chapter 13</b>	
	11/27	<b>Chapter 14</b>	
	11/28	<b>Chapter 14</b>	
	11/29	<b>Chapter 14</b>	
	11/30		<b>Quiz 3 (ch 10, 11, 13))</b>

	12/04	<b>Finish unfinished chapters</b>	
	12/05	<b>Finish unfinished chapters</b>	
	12/06	<b>Final Exam Review</b>	
	12/07	<b>Final Exam Review</b>	
	<i>12/13</i>		<i>Final Exam, 7-9 am</i>

## Lab Schedule

Week	Starts on	Lab Experiment	Tuesdays	Thursdays
1	09/25	Check-in	✓	✓
2	10/02	Exp #2 Measurements, Significant Fig., Calculations	✓	✓
3	10/09	Exp #3 Density and Specific Gravity	✓	✓
4	10/16	Electronic Structure & Flame Tests	✓	✓
5	10/23	Atomic Structure and Periodic Properties	✓	✓
6	10/30	Dry lab: Ionic Compounds: Their names and Formulas	✓	✓
7	11/06	Empirical Formulas of Compounds	✓	✓
8	11/13	Chemical Reactions	✓	✓
9	11/20	Gas Laws	✓	<i>Holiday; no lab owing to thanksgiving</i>
10	11/27	Titration of the Acid Content in Vinegar	✓	
11	12/04	Lab Final; Check-out	✓	✓