

# Chemistry 1B, General Chemistry: Summer 2018

**Instructor:** Arthi Srinivasan

**CRN:** 00213

**Section:** 61

**This class runs from** 7<sup>th</sup> July 2018 to 12<sup>th</sup> August 2018

**Lecture:** MTWH 2:30 – 3:45 pm Room S32

**Lab:** MTWH 11:30- 2:20 pm Room SC2204

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**Office hours:** MW 10:15-11:15 Faculty offices

## **Regarding the course:**

The course is divided into a lecture period and a lab period. One registration code automatically enrolls you in both periods. At De Anza College, the lab and lecture cannot be taken as separate courses under any circumstances. Once you are enrolled you may not switch lab lecture or lab periods whether on a temporary or on-going basis.

## **Prerequisites:**

Mandatory: Chem 1A with a C or better grade

Advisory: EWRT 211 and READ 211 (or LART 211), or ESL 272 and 273.

## **Required Materials:**

- Scientific Calculator
- Carbonless copy Lab notebook: 100-page carbonless copy spiral bound notebook. ISBN: 1429224541
- ANSI approved laboratory safety goggles from the De Anza Bookstore. Other types of goggles will *not be* permitted.
- Lab Manual location: <http://www.deanza.edu/chemistry/Chem1B.html>
- Lecture Textbook:

*Chemistry: The Molecular Nature of Matter and Change, 8th edition by Martin Silberberg (McGraw-Hill)*

*Or you can buy the e-book at <http://connect.mheducation.com/class/a-srinivasan-summer2018>*

## **Connect:**

You need to register at Connect in order to buy the e-book (optional) and do the assignments (mandatory) by clicking on the link below:

<http://connect.mheducation.com/class/a-srinivasan-summer2018>

I will be uploading a Powerpoint on Canvas soon that will give you instructions on how to register into Connect. You will get two-week grace period (you can use Connect for free during this time) to try out Connect. If you are planning to continue with the course beyond these two weeks, you need to pay to be able to use Connect further.

## **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 week 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:**

### **Laboratory check-in and check-out**

Locker check-in will take place the first day of lab. It is your responsibility to make sure that all glassware is present and unbroken at the time you check in. If at any point after the first day of lab you need to replace an item in your locker, your student account will get charged for it. If you drop this course, then you must arrange to check-out your locker with your instructor during your regularly scheduled lab period. The stockroom technician or other instructors WILL NOT check-

out lockers for any students. Any person who has not checked out by the end of the last scheduled lab period for the quarter will have an administrative fee added to their student account and a hold put on their registration. 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.**

### ***Laboratory procedure and policies***

***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 need to come to the lab prepared to carry out the experiment scheduled for that session. This means that you have studied the experiment for the day, have a basic understanding of its purpose and procedure, the chemistry involved and have prepared your laboratory notebook for the experiment prior to the start of lab. I ask that all students 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.

### ***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 the first day of lab. Any unsafe behavior, intentional or not, will be noted and may be cause for dismissal from the class.

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 assignment may result.

**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.

### ***Attendance in the lab***

***If you miss a laboratory period during the first week of the quarter, you will be dropped from the course.***

Each lab is done over a course of 2-3 lab days. **All labs are technically mandatory. There are no make-up labs. If you are unexcused from a lab period or fail to perform any part of a laboratory experiment, you will receive zero credit for that day, and points will be deducted from that particular lab's total accordingly. Missing two labs will result in you losing 10 points straight from your final lab total. Quizzes missed on the days you are absent cannot be made up and you will receive zeroes on those quizzes. Missing three labs or more is an automatic "F" for the entire course.**

If you have a medical emergency or some other emergency that prevents you from attending lab, you will be asked to supply written documentation in order for the absence to be excused. Be sure to contact the instructor as soon as possible if you miss a lab session.

### ***Chemical disposal***

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 offences. Check with the instructor if you have any questions.

When you are working in the lab, you must wear **Safety GOGGLES**.

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

### ***Lab notebook and pre-lab assignment***

Lab notebooks will be collected at the beginning of lab lecture and pre-lab assignments will be checked off before the start of lab. Pre-lab assignments should include a title, purpose/objectives, short introduction (~1-2 paragraphs) to the experiment and a numbered procedure written in your own words. Late pre-lab assignments are not accepted for credit, but must be turned in before you are allowed to start the lab. See the Notebook Guide for formatting and style tips. **Lowest pre-lab assignment score will be not dropped.**

You are expected to enter the data, sample calculations, graphs, possible diagrams and observations for each lab in the lab notebook. Make sure to maintain an up-to-date lab notebook with all the information mentioned above since lab notebooks will be collected at the end of the quarter, and will be worth a total of 40 points. ***More details about the lab notebook format will be available on Canvas.***

### **Laboratory Reports**

Guidelines for writing a formal laboratory report are provided on Canvas; only your top 7 regular lab report scores will count as part of your overall course grade. No make-up labs or late lab reports will be allowed or accepted. Submitting lab reports will result losing points. Lab reports are due one week after the wet chemistry is completed unless otherwise noted. For instance, if you complete the entire sequence of a particular lab on a Wednesday, the report is due the following Wednesday. There are some exceptions to this deadline and those will be noted accordingly at appropriate times in the course. Each lab report is worth 20 points. ***Lowest lab report score will be dropped.***

### **Lab quizzes**

There will be a quiz for each lab. Each quiz will be worth 20 points. ***The lowest quiz score will be dropped.*** There will not be a lab final.

### **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 syllabus, lab notebook and lab report formats, lecture power points, practice chapter assignments (not graded), assigned book questions for practice (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 three 1-hour exams worth a total of 300 points (100 points each). The exams will be closely modeled after the Supplement practice problems (not graded) uploaded on Canvas and Connect assignments (graded).

***There will be a quiz during the first 10 minutes of most lecture sessions, except on the days we have exams. Each quiz will be worth 10 points. I will be dropping the lowest 3 quizzes at the end of the quarter. There WILL NOT be any quizzes the first week of the quarter.***

***Quizzes are multiple choices. But exams (midterm and final) will be a mix of free-response and multiple-choice questions.***

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.

### **Graded Assignments:**

Assignments will be frequently uploaded on Connect. Each assignment should be completed by the due date. ***It is your responsibility to keep track of all the deadlines.*** The lowest assignment score will be dropped. Rest of the assignment scores will be totaled, and converted to maximum points of 130 at the end of the quarter.

### **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:** This is the split up:

<i>Lab Reports</i>	<i>140</i>
<i>Lab quizzes</i>	<i>120</i>
<i>Prelab assignment</i>	<i>24</i>
<i>Lab notebook</i>	<i>40</i>
<i>Lecture Quiz Scores</i>	<i>Subject to change</i>
<i>3 Exams</i>	<i>300</i>
<i>1 Final Exam</i>	<i>120</i>
<i>Connect Assignments</i>	<i>130 (converted to 130 from original total)</i>

+ *Extra credit*

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

**Total points assigned for each category above are subject to change.**

**Grading Scale:**

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

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

**Exemption from final exam:**

If you get an A on each quiz (other than the three dropped quizzes) and exam individually, on Connect assignment (total), and on your lab (total), **you will be exempt** from the final exam, and your final grade will automatically be an A.

**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.

**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 of</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>
07/02	Introduction to the course	Ch 5	<i>Holiday- July 4th</i>	Ch 5
07/09	Ch 5, Ch 12*	Ch 12*	Ch 12	Exam 1
07/16	Ch 16*	Ch 16*	Ch 16	Exam 2
07/23	Ch 17*	Ch 17*	Ch 17*	Ch 18*
07/30	Exam 3	Ch 18*	Ch 18*	Ch 20*
08/06	Ch 20*	Ch 20	Review	Final exam

\* *There will be a 10-minute quiz at the beginning of a lecture on days where this is an asterisk. This is tentative and subject to change.*

*There will be a 20- minute review session on the lecture day before the day there is an exam. For example, there will be a review session on 11th July for exam 1.*

## Lab Schedule

Week of	Monday	Tuesday	Wednesday	Thursday
07/02	Introduction to the lab/check-in	Lab B1 (Molar volume) Day 1	<b>Holiday- July 4th</b>	Lab B1 (Molar volume)* Day 2
07/09	Lab B2 (Vapor pressure) Day 1	Lab B2 (Vapor pressure) Day 2*	Lab B7 (Green salts) Day 1	Lab B7 (Green salts) Day 2
07/16	Lab B7 (Green salts) Day 3	Lab B7 (Green salts) Day 4*	Lab B3 (Iodine clock) Day 1	Lab B3 (Iodine clock) Day 2
07/23	Lab B3 (Iodine clock) Day 3	Lab B3 (Iodine clock) Day 4*	Lab B4 (Kc by spectro 20) Day 1	Lab B4 (Kc by spectro 20) Day 2*
07/30	Lab B5 (Ka of weak acid) Day 1	Lab B5 (Ka of weak acid) Day 2**	Lab B6 (pKa of indicator) Day 1	Lab B6 (pKa of indicator) Day 2*
08/06	Lab B8 (Calcium hydroxide) Day 1	Lab B8 (Calcium hydroxide) Day 2*	Check out	

\*There will be a quiz on the last day of each lab. For instance, lab B1 will be done over two days (3<sup>rd</sup> and 5<sup>th</sup> July), and the quiz for B1 will be on the second day (5<sup>th</sup> July).

\*\* If extra day needed to finish Ka of weak acid lab. No quiz for this lab.



**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.