

CHEM 1B  
Michael J. Ferguson, Ph.D.  
Spring 2021

## **Syllabus/ General Chemistry II**

### **Course Welcome/General Description**

Welcome to the second quarter of general chemistry. CHEM 1B is the second of a three-quarter general chemistry series. This class investigates intermolecular forces and their effects on properties, gas laws and kinetic molecular theory, and reversible reactions from the standpoints of kinetics, thermodynamics, and equilibrium.

#### ***Faculty Contact Information***

*Michael J. Ferguson, Ph.D.*  
*fergusonmichael@fhda.edu*

#### **Class Times**

Tuesday 2:30-4:20 PM

Join Zoom Meeting

<https://fhda-edu.zoom.us/j/97337431595?pwd=SXN3NnVyL2lvZUxDK2l3Zy83b0liZz09>

Meeting ID: 973 3743 1595

Passcode: aloha

Class times are not mandatory. There are no required times for students to meet. The delivery of this class is in an asynchronous format. The class times will serve as a problem session in a flipped classroom model. Class lectures are all in Canvas. The laboratory is performed via virtual labs and lab kit.

#### **Office Hours**

Tuesday 4:20-6:20 PM

I will be available for office hours via email during this time. This means I will answer your emails immediately in this time frame.

#### **Instructor Communication Policy**

I will communicate via Canvas emails and announcements. I will write at least twice weekly. The expected turnaround time for emails is one business day, but may be longer if written over the weekend or during a holiday.

#### **Prerequisite(s)**

CHEM 1A with a grade of C or better. EWRT 1A or ESL 5 recommended.

## **Class Meeting Information**

### **Fully Online**

This class will meet in an online format, with one face-to-face session. It is your responsibility to check Canvas daily for messages and announcements from me. Testing is all done in Connect with Proctorio.

### **Text and/or Other Required Materials**

- Chemistry: The Molecular Nature of Matter and Change, 9th edition by Martin Silberberg (McGraw-Hill)
  - You need to have online access to McGraw Hill's Connect for the 9<sup>th</sup> edition.
    - Bookstore offers \$90 and \$45 Connect options for the textbook
  - The bookstore has some options for the textbook.
    - ebook for one term, Chem 1B-ISBN: 9781307600964-\$30
    - Hardcover including connect for \$115 plus a markup.
    - You can get a previous edition if you chose as well.
- A scientific calculator that has at least log and exponential functions is required (~ \$25). Graphing calculators are fine also, but not required. Cell phones are okay, but be sure that the app has the proper functions.
- Any device that will allow you to browse the web and take photos, preferably a tablet or computer. Google Chrome or Firefox Web Browser
- Any App that will allow you to convert photos to pdf files. See the end of the syllabus. Genius Scan, CamScan, and Notes (Apple) are free, easy options. This is for turning in the HOL lab reports.
- HOL Chemistry kit. This is provided to you for free by the college and is not available until 2 weeks after the quarter starts. Please be aware that if you are an international student, you will have to work out shipping and any International Customs paper work to have the kit delivered.

### **Instructions for Converting Photos to pdf Files**

There are numerous apps that allow you to convert a photo to a pdf file easily. Some are free and some are not. Pdf files are what you will be uploading to Canvas for the pre-lab assignments and laboratory reports. You may choose any app that fits your budget and privacy level. As with any App some collect information that you may or may not be willing to share. Examples of apps are Adobe Scan, Cam Scanner, GeniusScan etc. If you have an iPhone, the Notes App will allow you to create pdf files.

1. Launch the Notes App.
2. Tap the New Note button in the lower right.

3. Hit the photo icon.
4. Choose Scan Documents from the list of pop ups.
5. Line up the document you wish to scan in the view.
6. You'll see a yellow rectangle over the document, and if you hold your iPhone or iPad steady, it should take the photo automatically. If not, you can press the shutter button.
7. The scan will move down to the lower left; you can tap it to see how it came out, and then

press *Done* or *Retake* at the top of the screen. To make a single multi-page document, just keep taking scans of additional pages. When you're done, press the *Save* button in the lower-right, which will show how many pages you've scanned.

8. You can then press the share button in the upper left corner and email the pdf file to yourself or choose the *Save to File* and upload the document to Canvas by using the Canvas App.

### **Student Expectations**

*Students are expected to complete the online homework and tests on Connect by the due dates. The students will complete the Lab simulations and lab kit experiments by the due dates.*

### **Course Grades**

Assessment type	Percentage of grade	Notes
Homework	30%	Grade taken from total score percentage
Quizzes (6)	20%	4% each, lowest score dropped
HOL labs (4 labs + 2 activities)	20%	Four labs plus Registration/Introduction before the four labs. Each lab is 4% and Registration/Introduction is each worth 2% each.
Simulated labs on Connect (4)	10%	Four labs. Each lab is 2.5% of the course grade
Mid Term	5%	Available May 12-19. Due May 19
Final	15%	Available June 18-25. Due June 25

### **Grade Scale**

% of Total Points Possible

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

**Due Dates**

Date	Assessments Due	Chapter Topic
April 7	Meet and Greet Introduction Discussion	
April 9	Intro videos on Canvas	
April 11	Responses to Peers for Meet and Greet	
April 16	Homework CH 5, Quiz CH 5, Virtual Lab Tutorial. Ideal Gas Law Constant Virtual Lab	CH 5 Gas Laws
April 30	Homework CH 12 and Quiz CH 12	CH 12 Intermolecular Forces
May 7	HOL Registration and Introduction	
May 14	Homework CH 16, Quiz CH 16, Iodine Clock Virtual Lab, HOL Boyle's Law	CH 16 Kinetics
May 19	Mid Term (CH 5, 12, 16)	
May 21	HOL Beers Law	
May 28	Homework CH 17, Quiz CH 17	CH 17 Equilibrium
June 4	HOL Reaction Order and Rate Law	
June 11	Homework CH 18, Quiz CH 18, Vinegar Concentration Virtual Lab	CH 18 Acids and Bases
June 18	Homework CH 20, Quiz CH 20, HOL Equilibrium and Le Chatelier's Principle	CH 20 Thermodynamics
June 25	Final (CH 5, 12, 16, 17, 18, 20)	

**Feedback Response Time Assignments and Exams**

Students will get immediate feedback from assessments.

**Late Policy**

There is no credit for late assignments.

### **Drop Policy**

Students must sign up for Connect and write an introduction before the end of the first week to avoid being dropped from the course.

### **Academic Honesty**

Plagiarism is copying another person's words or sentences and is considered cheating. This violation includes:

1. Copying another student's work or recycling a paper you wrote in one class for use in another without prior permission from the instructor
2. Taking a book's or website's ideas or research and not giving the author credit, even if you have reworded the information
3. Quoting without giving credit to your source.

The penalty for plagiarism will include an F on the assignment and a report to Administration to go in your permanent record.

More information on the Code of Conduct is provided in the course Canvas Shell.

### **Disability Statement**

De Anza College views disability as an important aspect of diversity, and is committed to providing equitable access to learning opportunities for all students. Disability Support Services (DSS) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations

If you have, or think you have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, please contact DSS to arrange a confidential discussion regarding equitable access and reasonable accommodations.

If you are registered with DSS and have accommodations set by a DSS counselor, please be sure that your instructor has received your accommodation letter from Clockwork early in the quarter to review how the accommodations will be applied in the course. Students who need accommodated test proctoring must meet appointment booking deadlines at the Testing Center.

- Exams must be booked at least five (5) business days in advance of the instructor approved exam date/time.
- Final exams must be scheduled seven (7) business days/weekdays in advance of the instructor approved exam date/time.
- Failure to meet appointment booking deadlines will result in the forfeit of testing accommodations and you will be required to take your exam in class.
- Contact the DSS if you cannot find or utilize your MyPortal Clockwork Portal.

DSS strives to provide accommodations in a reasonable and timely manner, some accommodations may take additional time to arrange. We encourage you to work with DSS and your faculty as early in the quarter as possible so that we may ensure that your learning experience is accessible and successful.

DSS Location: RSS Building, Suite 141

Phone: 408-864-8753

On the web: <https://www.deanza.edu/dsps/> (Links to an external site.)

Email: DSS@deanza.edu

### **Diversity Statement**

De Anza College is firmly committed to diversity and equality in all areas of campus life. We welcome individuals of all ages, religions, sex, sexual orientations, races, nationalities, languages, military experience, disabilities, family statuses, gender identities and expressions, political views, and socioeconomic statuses. Maintaining a safe and respectful classroom environment where everyone feels comfortable expressing their ideas, beliefs, and values will not only be my responsibility, but the responsibility of each class member as well. Behavior that disregards or diminishes another student will not be permitted for any reason.

### **LGBTQIA Safe Zone Statement**

The instructor is part of the Safe Zone Advocate community network of trained faculty/staff/students who are available to listen and support you in a safe and confidential manner. A Safe Zone Advocate can help connect students to resources on campus to address problems they may face that interfere with your academic and social success on campus as it relates to issues surrounding sexual orientation/gender identity. My goal is to help you be successful and to maintain a safe and equitable campus.

The instructor is a Safe Zone Advocate through the State of Hawaii. It is unclear how this transfers to California. An Advocate can also speak for you if so desired.

### **Title IX Mandatory Reporter**

Under Federal law, the instructor is a mandatory reporter for Title IX situations including sex- or gender-based discrimination, harassment or assault. If you want a confidential resource, you may ask the instructor to find the appropriate person to speak to at De Anza College, or consult the following website for more information on Title IX.

<https://www.deanza.edu/titleix/>

The Title IX Coordinator contact information is as follows:

Foothill-De Anza District Title IX Coordinator

Pat Hyland, Interim Director of Equity, Employment and Professional Development

Email: [hylandpat@fhda.edu](mailto:hylandpat@fhda.edu)

Phone: 650.949.6284

### **Syllabus Disclaimer**

The instructor reserves the right to amend the syllabus when circumstances dictate or an unusual opportunity for student learning arises. Circumstances beyond the instructor's control (i.e. illness, family emergencies, etc.) may cause the instructor to change exam dates, office hours, or other meetings.

**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.