Chemistry 1A: General Chemistry Fall 2020
Dr. Brophy

Instructor: Dr. Megan Brunjes Brophy (she/her or they/them)

E-mail: brophymegan@fhda.edu

*Please note that **Canvas Messages** are the most reliable way to get in touch with me.*

Course Webpage: Canvas. *Turn on Canvas notifications to receive class announcements. Following the welcome e-mail, all class information will be communicated through Canvas.*

Class Meeting Times

1A.01 (CRN 21574) MW 07:30 am – 10:20 am *Typically, we will meet between 9:00 am – 10:20 am*.
MWF 11:30 am – 12:20 pm *Meets concurrently with section 02*.

1A.02 (CRN 21575) MWF 11:30 am – 12:20 pm *Meets concurrently with section 01.*
MW 2:30 pm – 5:20 pm *Typically we will meet from between 2:30 pm – 3:50 pm.*

Virtual Office Hours: TuTh 2:00 pm – 3:45 pm
To schedule an appointment with me during office hours, please use https://dr-brophy-office-hours.appointlet.com

Zoom Meeting Room: https://cccconfer.zoom.us/my/drbrophy
Password to be sent separately

We will use this meeting room for all class meetings and office hour meetings. I do utilize a waiting room—make sure that your display name matches your registration name for the first day of class. You may use your preferred name after the first day.

Important Dates

Add Day	October 3, 2020	Last day to *add*.
Drop Day	October 4, 2020	Last day to *drop* the course with a refund *and* without a withdraw being recorded.
Withdraw	November 13, 2020	Last day to *withdraw* from the course. A "*W*" will be recorded on your transcript.

Academic Integrity

Students are expected to adhere to the policy on academic integrity that is outlined in the De Anza College manual (https://www.deanza.edu/studenthandbook/academic-integrity.html). ***I expect all submitted work to represent your own understanding of the material and to be written in your own words.*** Cheating, copying, plagiarizing, etc. will not be tolerated, and the minimum consequence will be receiving a zero on that assignment and the incident will be reported to the Dean of Student Services. Cheating on a Quiz or other assessment will result in automatically failing the course. Examples of cheating include, but are not limited to:

–Looking up answers for any assignment in Chegg, Course Hero, or any similar website.
–Asking another person to take a quiz or exam for you, or taking a quiz or exam for another student.
–Using unauthorized notes during an exam or quiz.
–Copying another person's words without quotations or footnotes.
–Using information that is not considered common knowledge without acknowledging the source.

Required Materials

- **Chem101 ($19.95)** We will use Chem101 as our online homework and in-class practice problem platform this quarter. *You must sign up for a Chem101 account before the second class meeting—you will lose points if you don't have Chem101 during the second lecture!* You will have complimentary access to Chem101 for the first two weeks of the quarter. After this period, Chem101 costs $19.95 for the first quarter you use it, and $15.95 for subsequent quarters.

- **Textbook** *Chemistry: The Molecular Nature of Matter and Change*, 9th edition by Silberberg and Amateis. There are multiple purchasing options available to you, and you should consider your future chemistry plans at De Anza College when making a decision. Please note that we will *not* use McGraw-Hill Connect or ALEKS this quarter, so ***you do not need to purchase access to these platforms for the Fall 2020 quarter***. Some faculty in the department do use these platforms, and you may require access for Chemistry 1B or Chemistry 1C.
    - Purchase a used, old copy (any edition) from Amazon, eBay, or a former student (*cost will vary*). Each edition of Silberberg is more-or-less the same, although some practice problems may in numbering or content. This is likely your least expensive option for the fall quarter; however, you will not have future access to Connect or ALEKS.
    - eBook Access for Chemistry 1A chapters (*$30*). This option may be purchased at using the ISBN 9781307600971 at http://create.mheducation.com/shop. This ISBN *only* includes the chapters that we are using for Chemistry 1A (1–4, 6–11). I encourage you to consider this option if Chemistry 1A is the only chemistry course you plan to take at De Anza College.
    - eBook access + Connect + ALEKS for 365 days (*$90*). This is a good option if you plan to take Chemistry 1C and Chemistry 1C during the 2020–2021 academic year. You should find this purchase option at https://connect.mheducation.com/class/m-brophy-fall-2020
    - eBook access + Connect for 90 days (*$45*). This probably isn't the most useful option for this quarter as we will not have any Connect homework.
    - Temporary 14-day access to Connect and eBook. No matter what option you are leaning towards, you can sign-up for temporary 14-day access at https://connect.mheducation.com/class/m-brophy-fall-2020. ☺

- **Hands-On-Labs Kit** You will be expected to order a lab kit from Hands-on-Labs on the census date (October 5th). *The kit will be provided to you by De Anza College at no additional cost*. You will need to provide your mailing address to the bookstore to receive the kit. If you currently reside outside of California, you will may need to arrange expedited shipping through the bookstore. If you currently reside outside of the US, you will also be responsible for any necessary customs forms.

- **Calculator** A scientific calculator with natural log functionality is necessary and sufficient for this class. If you have already purchased a graphing calculator for another class, you may use it on exams and quizzes; however, *we will not use the graphing functionality.* Recommended models:
  https://www.amazon.com/Texas-Instruments-MultiView-Scientific-Calculator/dp/B000PDFQ6K
  https://www.amazon.com/dp/B005QXO8J0/ref=dp_cerb_3
  I do not recommend using Google as a calculator. There have been recent reports of the unit conversion function "breaking", and performing the order of operations correctly is non-trivial.

- **Computer and printer access.** All Fall 2020 classes at De Anza College are being conducted online due to the COVID-19 crisis. You will require a computer with internet access and a printer throughout this course.

- **Genius Scan** Throughout the quarter, you will turn in handwritten assignments by creating a PDF filed and uploading this file to Canvas. Recommended apps include GeniusScan and CamScanner. *Do not use any Adobe apps to turn your assignments in—the files end up being too big for me to read!*

Syllabus Statement
This course syllabus is a contract. Please read it carefully and completely in its entirety before asking me any questions regarding the course schedule, content, requirements, grading, etc. You are expected to adhere to the De Anza College Student Code of Conduct Administrative Policy 5510 at all times. This syllabus is a living document. ***All corrections and changes to this syllabus will be announced through Canvas.***

This class is divided into two separate instructional periods: a lecture period devoted to the primary course material and a lab period for conducting lab experiments. Everyone will have the same lecture period, but a different lab period depending on which section you are enrolled in. At De Anza College, the lab and lecture may not be taken as separate courses under any circumstances.

Course Description
An introduction to the structure and reactivity of matter at the molecular level. Application of critical reasoning to modern chemical theory and structured numerical problem solving. Development of molecular structure from rudimentary quantum mechanics, including an introduction to ionic and covalent bonding. Chemical problem solving involving both formula and reaction stoichiometry employing the unit analysis method. An introduction to thermochemistry and a discussion of the first law of thermodynamics.

Prerequisites
Chemistry 25 or 30A or satisfactory score on the Chemistry Placement Test; MATH 114 or equivalent.
EWRT 211 and READ 211 (or LART 211), or ESL 272 and 273.

Hours
The study of chemistry combines both macroscopic and microscopic views of the natural world with mathematical models to explain and predict phenomena. This is a 5-unit class, and ***I expect you to spend 2–3 hours a day on reading, lecture videos, and class assignments***. You should expect the at-home labs (weeks 6–11) to take ~4 hours at a time. Set aside a time and place that you can work on class materials every day.

Attendance Policy
Your *punctual* attendance is expected at all lecture and laboratory sections of the course. In order to be counted "present" and receive credit for that day's activities, you must arrive during the first 5 minutes of class. If you try to enter the zoom class after that 5-minute window, I cannot guarantee that I will see you in the waiting room. If you will have to miss a meeting for any reason, let me know by e-mail or phone as soon as possible. Notifying your instructor of absences or tardiness shows that you take your responsibility towards yourself and your fellow students seriously. Class meetings will ***not*** be recorded—if you miss a class it is your responsibility to check-in with the instructor to find out what you missed.

Late work will not be accepted under any circumstances. In the case of a documented emergency (e.g. hospitalization, court appearance, car crash), I may excuse you from that day's work. These instances will be handled and decided on a case-by-case basis.

Grading Essentials
To succeed in this course, you will need to exhibit consistent and sustained effort throughout the quarter. Your final grade will be based on your final percentage out of the total points available.

Percentage in Class	Grade[1]
> 93%	A
90 – 92.9%	A–
87 – 89.9 %	B+
83 – 86.7%	B
80 – 82.9%	B–
77 – 79.8%	C+
70 – 76.9%	C
65 – 69.9%	D+
60 – 64.9%	D
<60%	F

NOTE: Dr. Brophy reserves the right to alter the grade scale at any point in the quarter.

The points are broken down into weighted categories—note that not all points are equal weight! Each category is described below.

Assignment Category	Percentage of Final Grade[1,2]
CHEM101 Assignments and In-Class Activities	25%
HOL Assignments	25%
Quizzes (lowest 2 scores will be dropped)	25%
Oral Exam	10%
Miscellaneous Assignments	15%

[1] If you end the quarter with less than 60% in any assignment category, including the lab final and/or oral exam, you will receive an F in the class.
[2] The weights of these assignment categories may change. For example, if there are repeat violations of the academic integrity policy, this scale will be adjusted such that the oral exam will be worth a larger portion of your grade.

CHEM101 Assignments and In-Class Activities
We will use Chem101 as our online homework and "clicker" system during the summer quarter. You must sign up for a Chem101 account on the first day of class. The cost of Chem101 is ~$20. Once you sign up for an account, there is a two-week grace period before you must purchase access for the remainder of the quarter.

In general, homework assignments will be posted on Mondays and due the following Monday morning at 11:00 am. Each homework question is worth 1 point.

Each in-class question will be worth 5 points, and the number of questions will vary each day. ***Make sure you attend every class session to receive credit***. If at any point during the Zoom sessions, you leave or do not participate, I reserve the right to eject you from class for the day and ***you will receive zero points for all of the day's activities and assignments***. If you need to leave or step away for any reason, send me a message in the Zoom chat with your expected return time.

HOL Assignments
This quarter we will distribute kits from Hands-On-Labs for students to perform select laboratory experiments at home. You must order your kit on the census day (October 5) from the De Anza College Bookstore. Students who are not registered for the class (i.e. waitlisted students or instructor drops) will not be permitted to receive kids. The bookstore is able to ship internationally, and there will not be local pick-up available. We plan to start HOL experiments in week 6 or 7 of the quarter. ***You must complete all HOL labs to pass the class.***

Quizzes

There will be six Canvas quizzes this quarter on the following dates.

- September 28
- October 5
- October 12
- October 19
- October 26
- November 16

Your two lowest scores will be dropped from your final grade. Make-up quizzes will not be permitted under any circumstances. Quizzes will open at 11:35 am and close at 11:55 am. If you have extra time, you must have verified DSPS accommodations. You extra time will be added on to the class start time (e.g. if you have 1.5x time, your quiz will be open from 11:35 am – 12:05 pm; double-time quizzes will be available from 11:35 am – 12:15 pm).

Your personal notes and the assigned textbook are the only resources you may use during quizzes. Write all of your work for calculations on a piece of paper. If you feel that your quiz has been graded incorrectly, send me a picture of your work with an explanation of the error ***within 10 minutes of finishing your quiz***. After this time has elapsed, your quiz score will be final.

Oral Exam

This class will include a 15-minute oral examination, one-on-one with Dr. Brophy, scheduled during the final week of class (November 30 – December 4). You will be assigned a time randomly during official class hours, and this exam will focus on conceptual and qualitative questions from topics covered during the preceding weeks of the class. You must be on Zoom with your camera on for the duration of the exam. Make-up exams will only be permitted in the case of technical problems.

Miscellaneous Assignments

This assignment category includes non-HOL lab worksheets (from De Anza College, ChemCollective, and Pearson), discussion questions, and additional class assignments that are not submitted through Chem101. In general, these assignments will require downloading (and optionally printing) a worksheet, then uploading your completed work to Canvas. Due dates will vary. ***All work that you submit must be handwritten unless otherwise specified***, and all work for your calculations must be shown.

Study Tips

1. Complete the assigned reading before coming to class. Review topics from Chemistry 25 and Chemistry 30A that are unfamiliar. Write down any vocabulary words that you do not understand as well as their definitions.
2. Take *handwritten* notes during class and review your notes regularly. Write down any questions you have and bring them to office hours or e-mail your instructor.
3. *Do a little bit every day*. After every lecture, review the reading assignment and complete in-chapter and end-of-chapter exercises.
4. Join a study group. Work on problem sets together. The best way to learn the material is to teach it to somebody else.
5. If you feel that you are a poor test-taken, *complete and turn in all assignments on time* in order to pass the class.
6. Take care of yourself! Stay well-rested and drink water.

Lecture Schedule

Chemistry 1A will cover material presented in chapters 1, 2, 3, 4, 6, 7, 8, 9, 10, and 11 of Silberberg.

Every effort will be made to keep to the lecture schedule below. Quiz and exam dates will not be modified except in cases of *force majeure*.

Week	Date	Day	Lecture	Assignments
1	9/21	M	Syllabus and Introductions	
	9/23	W	Chem101 Practice Problems *Silberberg Chapter 1*	
	9/25	F	Chem101 Practice Problems *Silberberg Chapter 2*	
2	9/28	M	**Quiz 1** ***Silberberg Chapters 1 and 2***	Chem101 Homework 1 Due 11 am
	9/30	W	Chem101 Practice Problems *Silberberg Chapter 3*	
	10/2	F	Chem101 Practice Problems *Silberberg Chapter 3*	
3	10/5	M	**Quiz 2** ***Silberberg Chapter 3***	Chem101 Homework 2 Due 11 am
	10/7	W	Chem101 Practice Problems *Silberberg Chapter 4*	
	10/9	F	Chem101 Practice Problems *Silberberg Chapter 4*	
4	10/12	M	**Quiz 3** ***Silberberg Chapter 4***	Chem101 Homework 3 Due 11 am
	10/14	W	Chem101 Practice Problems *Silberberg Chapter 6*	
	10/16	F	Chem101 Practice Problems *Silberberg Chapter 6*	
5	10/19	M	**Quiz 4** ***Silberberg Chapter 6***	Chem101 Homework 4 Due 11 am
	10/21	W	Chem101 Practice Problems *Silberberg Chapter 7*	
	10/23	F	Chem101 Practice Problems *Silberberg Chapter 7*	
6	10/26	M	**Quiz 5** ***Silberberg Chapter 7***	Chem101 Homework 5 Due 11 am
	10/28	W	Chem101 Practice Problems *Silberberg Chapter 8*	
	10/30	F	Chem101 Practice Problems *Silberberg Chapter 8*	
7	11/2	M	***Day before election—no quiz!***	
	11/4	W	***Day after election***	
	11/6	F	Chem101 Practice Problems *Silberberg Chapter 9*	
8	11/9	M	Chem101 Practice Problems *Silberberg Chapter 9*	
	11/11	W	*Veteran's Day Holiday—No Class*	
	11/13	F	Chem101 Practice Problems *Silberberg Chapter 9*	
9	11/16	M	**Quiz 6** ***Silberberg Chapters 8 and 9***	Chem101 Homework 6 Due 11 am
	11/18	W	Chem101 Practice Problems *Silberberg Chapter 10*	
	11/20	F	Chem101 Practice Problems *Silberberg Chapter 10*	
10	11/23	M	Chem101 Practice Problems	

			Silberberg Chapter 10	
	11/25	W	Chem101 Practice Problems *Silberberg Chapter 11*	
	11/27	F	*Thanksgiving holiday—no class*	
11	11/30 – 12/4	M – F	**Oral Exams**	Chem101 Homework 7 Due on ***Friday December 4th*** at 11 am

Lab Schedule

Week	Monday	Wednesday	Assignment Due Dates
1 **9/21 – 9/25**	Syllabus and Course Organization	DA: Accuracy and Precision (10 points) –worksheet Chemical Nomenclature (10 points) –worksheet	*All lab assignments due on Friday at 6 pm*
2 **9/28 – 10/2**	CC: Density Lab (20 points) –worksheet –graphs –screenshot of workbench	*Q&A Time*	*All lab assignments due on Friday at 6 pm*
3 **10/5 – 10/9**	DA: Solubility Rules (10 points) –worksheet *Order your HOL kit today!!!*	*Q&A Time*	*All lab assignments due on Friday at 6 pm*
4 **10/12 – 10/16**	CC: Calorimetry (20 points)	*Q&A Time*	*All lab assignments due on Friday at 6 pm*
5 **10/19 – 10/23**	CC: Titration of an Unknown Acid –worksheet –screenshot of workbench	*Q&A Time*	*All lab assignments due on Friday at 6 pm*
6 **10/26 – 10/30**	HOL: Getting Started HOL: Laboratory Safety HOL: Laboratory Techniques and Measurements	*Q&A Time*	*The following lab assignments due on Friday at 6 pm* *–HOL Getting Started* *–HOL Laboratory Safety*
7 **11/2 – 11/6**	*No lab*	*No lab*	*The following lab assignments due on Friday at 6 pm* *–HOL Laboratory Techniques and Measurements*
8 **11/9 – 11/13** ***Veteran's Day Holiday***	HOL: The Mole: Conversions, Mass Determination, and Hydrates	*No lab*	*Labs must be completed by Friday at 6 pm*
9 **11/16 – 11/20**	HOL: Stoichiometry of a Precipitation Reaction	*Q&A Time*	*Labs must be completed by Friday at 6 pm*
10 **11/23 – 11/27** ***Thanksgiving Holiday***	Start on next week's labs! HOL: Hess's Law HOL: Titration for Acetic Acid in Vinegar	*Q&A Time*	*No assignments are due this week, but you should get a head start on the final labs.*
11 **11/30 – 12/4**	*No lab*	*No lab*	*Labs must be completed by Friday at 6pm*

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.