Chemistry 202-01 (8230) - General Chemistry for Engineers - Spring 2024

Instructor / Professor:
Dr. K. (David Kretchmar, PhD.)
Lecture Room: HT 140
Office: Love Library Room 328
(MSLC – 3rd floor Love Library)
Office Hours: MW ≈ 11:05 - 11:40 am & 1 - 2 pm,
F ≈ 10 - 11:40 am or by appointment.
Email: dkretchmar@sdsu.edu

Lab/Class Coordinator:
Megan Bowles, M.S.
Office: CSL 213A
Help room Hours (MSCL/Zoom): TBA via appointment.
Email: mbowles2@sdsu.edu
Contact Information: chem200@sdsu.edu

Contact: (for class issues): dkretchmar@sdsu.edu (for lab and OWL issues) chem200@sdsu.edu.

Effective Spring 2022, students who register for face-to-face classes are expected to attend as indicated in the course schedule. Faculty teaching face-to-face courses will not be required to create a new, alternative on-line class as an accommodation for any student. **Compliance with CSU / SDSU vaccination and facial covering policies is required.**

Students with medical conditions that would present a COVID-related risk in a face-to-face instructional setting should contact the Student Ability Success Center (https://sdsu.edu/sasc) to begin the process of getting support. Students who do not adhere to the Covid19 Student Policies or the directives of their faculty will be directed to leave the classroom and will be referred to the Center for Student Rights and Responsibilities. **Do not come to campus if you do not feel well. Remain home and monitor your symptoms and seek medical attention as needed.**

If conditions warrant…all class activity will be taught on-line via zoom (Please have available a computer with videoconference compatibility at the ready)

Important Dates: https://registrar.sdsu.edu/calendars/academic_calendars/spring-2024
Wed. Jan. 17, 1st day of class; Fri. Jan. 26 - Last day for faculty to drop students from classes (11:59 p.m. deadline); Tues. Jan. 30 - Last day to officially withdraw without penalty fee. Last day for students to add, drop, or change grading basis (11:59 p.m. deadline). Last day for faculty to add from their wait list.

General Student Learning Outcomes:

Below is a summary of what students should be capable of upon the successful completion of this course.

- Perform calculations with the correct number of significant figures with a variety of SI units.
- Name and write a range of simple ionic and molecular formulas.
- Describe the structure of atoms and the various classes of compounds that they can form.
- Classify the different states of matter and describe each state at the molecular level.
- Use Avogadro's number and reaction stoichiometry to calculate the amounts of reactants and products involved in chemical reactions.
- Write and balance chemical reactions.
- Describe the major classes of chemical reactions at a molecular level and perform stoichiometric calculations related to these reactions.
- Describe, manipulate, and use the ideal gas law.
- Describe the kinetic-molecular theory of gasses and how it deviates from real gas behavior.
- Perform calculations on the exchange of heat in thermochemical processes.
- Calculate the enthalpy of chemical reactions.
- Describe and apply the quantum theory rules of atomic structure.
- Describe the electron configurations of many electron atoms.
- Use trends in atomic properties to compare different elements.
- Differentiate and describe the various models of chemical bonding.
- Compare and calculate bond energies.
- Draw and identify molecular structures based on the Lewis and VESPR models.
- Describe covalent bonding in terms of the valance bond and molecular orbital theories.
- Define the various changes of physical states for a substance and quantify the related enthalpy changes.
- Describe and differentiate the various forms of intermolecular forces.
- Describe and predict solubility in terms of intermolecular forces.
- Quantify the influence of solutes on the colligative properties of solutions.
- Quantify the enthalpy changes associated with dissolution of solutes.

Textbook and Online Assignments:

Chemistry for Engineering Students 4th edition (ISBN-10: 1-337-39890-X). **The ebook is available through Cengage and is INCLUDED with your OWLv2 access**. After you register for OWLv2 the eBook will be available on your Cengage home page (www.cengage.com) and from within OWLv2 under the Study tools tab.

In addition, for a couple chapters & topics, we may use a free online book thru Openstax.
Openstax Chemistry Book 2e: https://openstax.org/details/books/ chemistry-2e (Free to download PDF via link). A hardcopy will be available in the bookstore for those who want a bound copy and 1 copy will be on reserve at the library. On Canvas we will have a link to Redshelf for you to access the ebook. If you want a printed textbook you can buy a new or used book or rent a copy. **A printed textbook is not required for this course.**

We use an online study system by Cengage Learning for this course called OWLv2. This is how some of your homework assignments and homework assessments will be delivered.

Register for OWLv2 by clicking the link for it you see in your Canvas course.

After registration you can access the homework assignments via Canvas or here: OWLv2Cengage Login Home Page: https://account.cengage.com/login OWL Assignments: http://www.cengage.com/owlv2/

"ONLY use the Chrome browser for OWLv2 work". Others will not work correctly.

OWLv2 assignments are generally due every week on Wednesday at **11:55 pm. (not midnight)**. Do not wait until the last minute. The assignments will take you 6-8 hours per week to complete.

Grading in OWL (*Homework and Assessments only*): Full points can be obtained for each chapter's problem sets and assessments by scoring above 85% on the problems for that chapter. For example: A score 74% = (74% ÷ 85%)×10 = 8.7 points. No grade above 10 will be awarded. It is in your best interest to complete all the problem sets to ensure that you are fully prepared for the exams.

Access codes for OWLv2 are administered by the ShopAztecs University Bookstore. Your account will be charged in accordance with SDSU Equitable Access Program. Learn more at:
https://www.shopaztecs.com/t-equitableaccess.aspx
If you want to opt out of the Equitable Access Program and instead buy access to OWLv2 separately go to www.shopaztecs.com/optout and complete the form to opt out **BEFORE THE ADD/DROP DATE**.

The **Lab Manual** with integrated **Notebook & Access Codes for Achieve** is available in the bookstore. 200/202 Lab Manual, 6th ed. ISBN: 9781533961181. **Note: You need to have the physical lab manual that you will need to bring to lab every week. Lab Equipment** will be available for purchase in the SDSU bookstore. They will have lab aprons/coats, safety glasses, nitrile gloves, and other useful lab equipment.

Calculators need to be scientific but non-graphing and non-programmable. **Graphing calculators are NOT allowed in this course (this includes all of the 80 series TI calculators)!**

Enrolled students: *It is absolutely crucial that you attend the first three laboratory periods.* **Failure to do so may result in your spot in the laboratory section being given to another student.** Notify the laboratory coordinator chem200@sdsu.edu (before the first week of class) if you must miss a laboratory in the first two weeks of the semester for a legitimate reason. You must be able to attend the laboratory of CHEM 202 for which you are enrolled; otherwise, you must drop the course and attempt to waitlist a different section that you can attend. If you decide to drop the course, inform the instructor by email (dkretchmar@sdsu.edu) as soon as possible so your place can be given to a waitlister.

Waitlist: If you are attempting to waitlist 202, you should attend every possible lab section, and lecture that will fit into your schedule. ***Keep track of which lab you attended. Remember, you are 100% responsible for all assignments that are due and to keep up with the work.*** Waitlist students who are attempting to register for the course should email: dkretchmar@sdsu.edu ***with their name and RedID info ASAP.***

Online Resources:

- **Canvas:** Canvas will be used in this course. Enrollment in Canvas is automatic if you are currently enrolled in this course. Canvas will contain the course syllabus, experiments, handouts, lab handouts, lecture slides, and other course information. It will be used for obtaining the syllabus, course communications, Turnitin assignments for **lab reports & prelabs**, and grades.

- **OWL:** will be used extensively for your textbook, chapter homework problems, Chapter Assessments (quizzes), Exams and Pre-Assignments for Lab Experiments.

Resources To Help you Succeed:

The Mathematics and Statistics Learning Center (MSLC): Students are encouraged to make use of The Mathematics and Statistics Learning Center (MSLC) for **free** STEM tutoring, located in the Love Library, Room 328. For a full list of courses tutored, please visit the MSLC website: https://mlc.sdsu.edu/ .
The MSLC is supported by your student success fee. We strongly encourage you to use this wonderful, free resource. **Here is how it works**! https://mslc.sdsu.edu/howitworks/
Some students believe that they shouldn't need to ask for help, but research has shown that the average grade for students who attend tutoring is higher than those who don't seek the support. The TA & Instructor Help Room for select courses will also be held in the MSLC. Please check https:// mlc.sdsu.edu/ for the hours and format (face-to-face or virtual) for your course.

OWL Assignments: Please note there are two OWL pages: OWL Lecture and OWL Labs, which separates the lecture and lab assignments. Before you begin there will be five Getting Started with OWL Assignments in the OWL Lecture, which you **must** complete before you attempt any other assignments in the OWL program. If you do not see the assignments, click on Show All Assignments. *Attempting to use OWL without understanding how the program works can lead to issues later on.* Please take notes while you are doing these five assignments since the topics will be covered later.

Be sure to complete all of the Intro "Assignments" you see in the OWLv2 course.

01 - Intro: Working with OWL
02 - Intro: Question Types in OWL
03 - Intro: Where to Find Help
04 - Intro: Browser Troubleshooting
05 - Intro: Adapative Study Plan

IMPORTANT REGARDING THE OWL DEADLINES: We will post an announcement reminding you of the deadlines, the deadlines will be in the lecture slides, on Canvas, as well as on the OWL program.

- **Math Review (OWL Lecture)** is to help refresh your memory and your knowledge on basic math skills and algebra skills you need in this course.

- **Lab Safety Quiz (OWL Labs):** The lab safety quiz must be completed with a grade of 60% or higher before you work in the laboratory. If you fail to achieve a 60% or higher on the online quiz, the lab coordinator will give you a paper quiz. Once you pass the paper lab safety quiz you will be allowed to attend lab. **Note: The lab safety quiz will need to be completed by Friday, Feb 9th at 11:59 pm. The paper quiz will not replace your original lab safety quiz grade.**

- **EH&S REQUIRED Lab Safety Form (Canvas):** This course requires the use and handling of hazardous materials. You must complete the Environmental Health and Safety module and survey in our Canvas course by **Friday, Feb 9th at 11:59 pm**. **If you do not complete the form by the deadline you will not be allowed to enter the labs until it has been completed.**

Lab Pre-Assignments (OWL Labs): is to help you prepare yourself for the lab you will be doing. There will be calculations, safety questions, and topic questions to help you understand what you are doing in the lab. **This assignment must be completed before coming to lab and will be due on Sundays at 11:59 PM the week** of the experiment.

- **Chapter Assessments (OWL Lecture)** are hard deadlines and extensions will not be granted. **You will have two attempts at the chapter assessment**. The Chapter Assessments questions are to assess your learning of that Chapter and to help prepare you for the exam. Do not wait until the last minute to complete the prep.

- **Chapter Problem Set (OWL Lecture)** policies:
  - There will be a chapter problem set from each of the 12 chapters covered in the textbook. Work on the problems several days before it's due so you have time to go to the help room and ask for more help. Never wait until the last day to work on the problem set; otherwise, you will be rushing through the assignment and instead of learning how to break down problems and theories to better equip you for the exams.
  - Full points can be obtained for each chapter's problem set by scoring above 85% on the problems for that chapter. A score 74% = (74% ÷ 85%)×10 = 8.7 points
  - It is in your best interest to complete all the problem sets to ensure that you are fully prepared for the exams.
  - The adjusted points will be calculated throughout the semester. Please watch your email for important announcements regarding the uploads. Errors occur due to incorrect RedID, multiple OWL accounts, and/or your work is in the wrong section.
  - Any OWL homework assignment turned in late will receive a 50% deduction.

Other Assignments:

- **Lab Reports and Pre-labs**, **not the lab pre-assignment (Canvas):** will need to be submitted to **Turnitin in Canvas** for you to receive a grade for your prelab and lab report. Failure to send your prelab and lab report before your prelab and lab report is due will be an automatic zero. **Prelabs and lab reports that are plagiarized will be an automatic zero and will be reported**. *Make sure you turn in the proper prelab and lab report into the correct Turnitin folder in Canvas. Failure to do so will result in a point penalty at the discretion of the lab coordinator.* ***If you have issues with submitting your lab report and/or prelab, email* chem200@sdsu.edu *and your lab TA with a PDF file of the report BEFORE the deadline. One minute late assignments is still a late assignment and will receive a zero.*** Prelabs are due on Sundays at 11:55 pm **before** the lab period and the lab reports are due Sunday at 11:59 pm **after** the lab period. **There are no extensions on the assignments.**

Lecture Participation points (In-Person Lecture/Canvas): In most lectures there will be a discussion question(s) posted during lecture (same one usually posted twice in a week). These questions are to test if you understood the material in the lecture. **You must complete the discussions to get your Lecture Participation points** (there will be 10 discussions on Canvas during the semester)

- **Lab Practical:** The lab practical will be broken up into three (3) **portions**:

1) **Lab Practical: lab skills (online 24 hour window):** Will test you on experiments via simulations with some math problems as well. There will be no time limit for the Simulation portion of the experiment BUT you need to do it in one sitting. There is no save and exit (yes the button is there but it will submit your grade as is). **10 points**

2) **Lab Practical: Problem Sets (online 24 hour window):** Will test you on experimental problems similar to what you saw in the experiments via hands-on or data analysis. This has a set time limit of 80 minutes and will need to be completed in one sitting. **20 points**

3) **Lab Practical: In-person Experiment (during your scheduled lab period):** During your scheduled lab period you will do a single mini-experiment. Please arrive 10 minutes early and have your PPE on 8 minutes before you come into the lab. You will have the entire lab period to complete the In- person portion of the lab practical. Please note this shouldn't take you more than 80 minutes to complete. **30 points**

Note: Your individual grades for each course component will be posted on Canvas. Grades that have been completed from OWL and Canvas, will be posted the week of your exam dates. You will have a week to check your grades and to email the coordinator with any issues with your OWL and/or Achieve grades (e.g. they are not showing up). Failure in checking your grades by the deadline will result in a 10-point penalty within a week after the check-up deadline, **afterwards the grades will be left as zeros.** There will be two announcements on Canvas to remind you to check your grades.

Grading: Your letter grade will be determined by your individual points total for the course. **There will be no curving of the course grades**. Below is a *tentative* grade range breakdown for each letter grade based on the percentage of total points. The instructors reserve the right to universally modify this grade scale prior to assigning final letter grades.

Letter	Percentage	Letter	Percentage
A	> 93.0%	**C+**	77.0 - 80.0%
A-	90.0 - 93.0%	**C**	73.0 - 77.0%
B+	87.0 - 90.0%	**C-**	70.0 - 73.0%
B	83.0 - 87.0%	**D**	60.0 - 70.0%
B-	80.0 - 83.0%	**F**	<60.0%

Note: Please check your grade frequently, especially after each exam. Email chem200@sdsu.edu if you think there is a calculation mistake. At the end of the semester, when grades are finalized, email only if there is a calculation mistake.

The **minimum requirements to pass this course are**:

1. ***Your average Exam and Quiz score must be at least 60% for the three exams, final exam and 10 quizzes***;
2. ***Your average Lab report score must be 70% or higher.***

If you do not meet the minimum requirements, you will receive a grade of F regardless of your total points.

Any student who misses more than 2 unexcused labs will be dropped from the class.

CHEM 202 Grade Scheme

Item	Submission	Quantity	Value (each)	Total	Percentage
Lab Safety Quiz & EH&S Form	**OWL Lab & Canvas**	1	13	13	1.3%
Pre-Assignment Labs	**OWL Lab**	Best 8 of 9	4	32	3.2%
Chapter Problem Set	**OWL Lecture**	Best 10 of 12	10	100	10.0%
Chapter Assessment	**OWL Lecture**	Best 10 of 12	10	100	10.0%
Exams	**OWL/Canvas/ Lecture**	3	100	300	30.0%
Final Exam	**Lecture**	1	160	160	16.0%
Lab Reports	**Canvas/ TurnItIn**	Best 9 of 10	20	180	18.0%
Lab Practical (See Note on page 4)	**OWL Lecture & In-Person**	1	60	60	6.0%
Notebook Check	**Paper**	1	10	10	1.0%
TA Seminar Report	**Paper**	1	15	15	1.5%
Lecture Participation	**In-Person Lecture/ Canvas**	10	3	30	3.0%
			Total	**1000**	**100.0%**

Tentative Class Schedule (Emphasis on the word "tentative")

Week	Date	Lect.	Topic(s)	OWL due dates
1	1/17	1	Intro... Prerecorded: Syllabus, Class & Lab Overview, who is Dr. K., Start Chap. 1	
	1/19		In class…Chap. 1 (Engineering)	Chap. 1
		2		due 1/24
2	1/22	3	Chap. 2; Atoms and Molecules, and Nomenclature	
	1/24	4	Chap. 2; Atoms and Molecules, and Nomenclature	Chap. 2
	1/26	5	Chap. 3; Molecules, Moles, and Chemical Equations	due 1/26
3	1/29	6	Chap. 3; Molecules, Moles, and Chemical Equations	
	1/31	7	Chap. 4; Chemical Equations & Stoichiometry…the basics	Chap. 3
	2/2	8	Chap. 4; Stoichiometry…	due 1/31
4	2/5	9	Chap. 4; Stoichiometry	
	2/7	10	Finish Chap. 4 and Review for exam	Chap. 4
	2/9	11	**EXAM #1 – Online and In class (2 parts)**	Due 2/7
5	2/12	12	Chap. 5; Gases, Pressure and conversions	
	2/14	13	Chap. 5; Gases, Combined gas Law	
	2/16	14	Chap. 5; Gases, Ideal Gas Law	
6	2/19	15	Chap. 5; Gases, Stoichiometry	
	2/21	16	Chap. 6; Periodic Table & Atomic Structure, Electromagnetic Spectrum	Chap. 5
	2/23	17	Chap. 6; Periodic Table & Atomic Structure, Electromagnetic Spectrum	due 2/21
7	2/26	18	Chap. 6; Periodic Table & Atomic Structure, Quantum mechanics & Atomic spectra	
	2/28	19	Chap. 6; Periodic Table & Atomic Structure, Electron configurations	
	3/1	20	Chap. 6; Periodic Table & Atomic Structure, Periodic trends	
8	3/4	21	Chap. 7; Chemical Bonds & Molecular Geometry, Ionic and Covalent	
	3/6	22	Review for exam	Chap. 6
	3/8	23	**EXAM #2 – Online and/or In class**	due 3/6
9	3/11	24	Chap. 7; Chemical Bonds & Molecular Geometry, Electronegativity and Polarity	
	3/13	25	Chap. 7; Chemical Bonds & Molecular Geometry, Resonance and Bond overlap	Chap. 7
	3/15	26	Chap. 8; Theories of Bonding in Solids: Metals, Insulators, and Semiconductors	Due. 3/13
10	3/18	27	Chap. 8; Intermolecular Forces & Liquids	
	3/20	28	Chap. 8; Polymers	Chap. 8
	3/22	29	Chap. 9; Thermochemistry & Energy and Chemistry: Forms of Energy	Due 3/20
11	3/25	30	Chap. 9; Heat Capacity and Calorimetry	
	3/27	31	Chap. 9; Enthalpy	
	3/29	32	Chap. 9; Hess's Law and Heats of Reaction	
12	4/1		**Spring Break**	
	4/3		**Spring Break**	
	4/5		**Spring Break**	
13	4/8	33	Chap. 10; Laws of Thermodynamics	
	4/10	34	Review for exam	Chap. 9
	4/12	35	**EXAM #3 – Online and/or In class**	Due 4/10
14	4/15	36	Chap. 10; Gibbs Free Energy	
	4/17	37	Chap. 10; Free Energy and Chemical Reactions	Chap. 10
	4/19	38	Chap. 11; Chemical Kinetics, Rates of Chemical Reactions	Due 4/17
15	4/22	39	Chap. 11; Rate Laws & the Concentration Dependence of Rates	
	4/24	40	Chap. 11; Temperature and Kinetics, Catalysis	Chap. 11
	4/26	41	Chap. 14; Nuclear Chemistry	Due 4/24
16	4/29	42	Chap. 14; Kinetics of Radioactive Decay	
	5/1	43	Chap. 14; The Interaction of Radiation and Matter	Chap. 14
	5/8		**FINAL EXAM - Wednesday, May 8, 10:30 a.m.-12:30 p.m. In-class**	Due 5/1

Lab Schedule		
Experiment/Activity	**Monday Lab**	**Tuesday Lab**
How to Write a Pre-lab and Keep a Lab Notebook	Jan. 22, 2024	Jan. 23, 2024
Introduction to Labs & Lab Safety	Jan. 29, 2024	Jan. 30, 2024
Use of Volumetric Equipment Experiment	Feb. 5, 2024	Feb. 6, 2024
Check-In & Solubility Test**	Feb. 12, 2024	Feb. 13, 2024
Limiting Reagent of Solutions	Feb. 19, 2024	Feb. 20, 2024
Molecular Mass of an Unknown Gas*	Feb. 26, 2024	Feb. 27, 2024
Molar Mass of Citric Acid Experiment (5B)	Mar. 4, 2024	Mar. 5, 2024
Analysis of an Aluminum-Zinc Alloy Experiment	Mar. 11, 2024	Mar. 12, 2024
Infrared Spectroscopy—Polymers**	Mar. 18, 2024	Mar. 19, 2024
Calorimetry: Heat Capacity of a Calorimeter*	Mar. 25, 2024	Mar. 26, 2024
SPRING BREAK	Apr. 1, 2024	Apr. 2, 2024
Calorimetry Part 2: Enthalpy of Reaction Experiment	Apr. 8, 2024	Apr. 9, 2024
TA Seminar & Check-Out##	Apr. 15, 2024	Apr. 16, 2024
Lab Practical (In-Person and Online, please see note page 5)	Apr. 22, 2024	Apr. 23, 2024

Notes: **These Experiments are being updated and won't be in your lab manual but will be posted on Canvas. The experiments will be posted in the week's module before the experiment.
##Check-Out: You must check-out of your locker otherwise there will be a $35 fine.

Exam Schedules (Administered Online in OWL Lecture and/or In-Class)	
	Date
Exam 1	**Friday, Feb 9th 8:00 AM — Friday, Feb 9th 11:59 PM**
Exam 2	**Friday, Mar 8th 3:00 PM — Saturday, Mar 9th 3:00 PM**
Exam 3	**Friday, Apr 12th 3:00 PM — Saturday, Apr 13th 3:00 PM**
Final Exam	**Wednesday, May 8, 10:30 a.m.-12:30 p.m. In-class**

- ***Exams will be conducted in OWL or Canvas. For the online portions, You will have 16 hrs to complete the exam starting at 8 AM on the exam date. Once the online exam is started you have 80 minutes to complete it.***
- ***If needed, For the classroom portions of exams 1 thru 3 you will have 40 minutes***
- ***For the final exam You will have 2 hours.***

Online Assignment Policy:

The deadlines for the online assignments, including pre-labs, OWL Assignments, and other assignments are hard deadlines and extensions will not be granted. All assignments will be scheduled with sufficient time to allow you to complete the assignment in advance of the "last minute". *Consequently, you are solely responsible for any failures to complete the assignment by the scheduled time.* Problems such as lack of internet service, OWL site problems, or dogs eating WiFi antennas will not be acceptable reasons for not completing the assignments. *You are encouraged to complete the assignments well before the deadlines to avoid potential technological obstacles.*

If you have any personal technology issues the Library Computing Hub https://library.sdsu.edu/technology provides computing and technical support for students.

In the case of an extended system-wide failure the instructors will be notified by the site operator and steps will be taken to accommodate any problems that arise. For all technical difficulties or errors that arise with the **OWL** system **please contact Cengage technical support staff directly by phone and email.** For **Achieve** system **please contact them** as well. The instructors, lab coordinator, and TAs will be unable to help you resolve anything but the most basic (is it plugged in?) technical problems.

Technology: Provided in your Canvas shell will be a video on the homepage about the layout of the course and this is where **you should start**. It is highly recommended you watch the video and take notes so you won't be lost in this course.

In-person Labs During a Pandemic: Please follow all guiding signs and TA instructions while in the lab to maintain proper safety protocols.

Precautions During a Pandemic: Face masks must cover mouth and be worn to enter the lab, and at all times while in the lab. Anyone who doesn't follow this policy will be asked to leave the lab immediately. When entering the lab, students' temperatures will be checked, and everyone will need to use hand sanitizer before entering the lab and leaving the lab (this will be provided in the lab). There will be a set pathway all will adhere too. One is an entrance, and one is an exit. There is no entering through an exit or exiting an entrance.

Attendance Policy:

For Exams: Attendance for all exams is required, including the lab practical exam. **Proper documentation is required to avoid receiving a grade of zero on a missed course component two weeks into the semester (by Feb 2, 2024).** There will be no makeup exams outside of extenuating circumstances (*e.g. illness during the 24 hr exam period*). **It is your responsibility** to ensure that you will be available for in-class and online exams with proper internet accessibility and bandwidth.

Excused absences for exams will only be awarded in the case of a legitimate reasons (illness, scheduled academic/ athletic events, court appearances, etc.) as determined by the instructor and will require support documentation. If you are on a sports team, we will need to have your travel letter no later than **Feb 2, 2024**.

Only under exceptional circumstances, as determined by the instructor, will a makeup exam be granted for the final exam.

For lectures: Regular lecture attendance is **strongly recommended**. Lectures will have lecture participation for every day of lecture that counts towards your overall grade. If you do have to miss class, you should go over the posted lecture slides and recorded lectures that can be found on Canvas and the chem200 website.

For labs: Attendance in **all** laboratory meetings and discussion is **REQUIRED.** All lab work, during the semester, must be done in the scheduled period. If you are late by 10 minutes, for your lab period, the lab TA will deduct 5 points from your grade; after 20 minutes you will no longer receive credit for the lab period. Under no circumstances will students be allowed to make up lab experiments.

Note: If you miss one lab, the first missed lab will be the dropped assignment. If you have an excused absence that extends beyond one week or you miss more than one session please email the lab coordinator ASAP.

Medical Absences: If you must miss class due to illness, injury or emergency. Please note:
University policy instructs students to contact their professor/instructor/coach in the event they need to miss class due to an illness, injury, or emergency. All decisions about the impact of an absence, as well as any arrangements for making up work, rest with the instructors. Please see the above Attendance policy.

If a student misses class because of COVID-19, either because they have been diagnosed and are quarantined or are required to isolate and would like to request a class excuse letter, the student should send an email to vpsafrontdesk@sdsu.edu to notify the university. Student Affairs and Campus Diversity will initiate the process for absent letters to be sent to course instructors, Assistant Deans, and the Provost. Medical documentation may be required prior to the letter being issued.

Student Health Services (SHS) does not provide medical excuses for short-term absences due to illness or injury. When a medical-related absence persists beyond five days, SHS will work with students to provide appropriate documentation.

When a student is hospitalized or has a serious, ongoing illness or injury, SHS will, at the student's request and with the student's consent, communicate with the student's instructors via the Vice President for Student Affairs and Campus Diversity and may communicate with the student's Assistant Dean and/or the Student Ability Success Center.

Other Absences: If you plan to be absent for a religious observance or holiday, notify the instructor at **dkretchmar@sdsu.edu** no later than **Feb. 2nd,2024**.

Test accommodations: If you are a student with a disability and are in need of accommodations for this class, please contact Student Ability Success Center at sascinfo@sdsu.edu (or go to sdsu.edu/sasc) as soon as possible. Please know accommodations are not retroactive, and I cannot provide accommodations based upon disability until I have received an accommodation letter from Student Ability Success Center. SASC registration and accommodation approvals may take up to 10-14 business days, so please plan accordingly.

Policy on Cheating/Plagiarism: ***There is a zero-tolerance policy regarding plagiarism in this course***. Any instances of cheating or plagiarism identified by the TA, lab coordinator, or the instructors, will result in a meeting between the instructor and student(s) following which the instance and documentation of plagiarism will be reported to the Academic Senate as well as the student ***receiving a grade of F for the course.*** It is your responsibility to know what constitutes cheating and plagiarism. For example, turning in a lab report for a lab that you have not performed, or the results of a lab that you had completed in a prior semester (self-plagiarism), both constitute cheating and plagiarism and will be reported - *all students must perform their own analyses in the labs.*

Preferred Names & Pronouns: Any student who wishes to be addressed by a name other than what is presented in Canvas is encouraged to contact the professor via email with the name you wish to use in this course. Similarly, if you have preferred pronouns that you wish to be addressed by please contact your professor. The professor will communicate your desires to the TAs and all instructional staff will gladly honor your request.

Email Policy: Per University Senate policy, students are responsible for checking their official (SDSU) university email once per day during the academic term. For more information, please see Student Official Email Address Use Policy here. All communication regarding this course should occur through official SDSU email accounts only (all others go SPAM folder). The course instructor will be available via email to answer questions or to schedule office hour appointments. Please allow at least 24 hours for a response, longer over weekends and holidays. To ensure a prompt response include CHEM202 in the subject line of your emails and make sure to provide your full name.

Finding Help on Campus: Need help finding help -- an advisor, tutoring, counselling, or emergency economic assistance? The SDSU Student Success Help Desk is here for you. Student assistants are available via Zoom Monday through Friday, 9:00 AM to 4:30 PM to help you find the office or service that can best assist with your particular questions or concerns.

- CAL Student Success Center: https://cal.sdsu.edu/student-resources/student-success
- College of Education Student Success Center: https://education.sdsu.edu/oss
- Center for Student Success in Engineering: https://csse.sdsu.edu/
- CoS Student Success Center: https://cossuccess.sdsu.edu/
- FSB Student Success Center: https://business.sdsu.edu/undergrad/advising
- HHS Adivisors: https://chhs.sdsu.edu/student-resources/advising/
- IVC Student Success and Retention: https://ivcampus.sdsu.edu/student_affairs/retention
- PSFA Advisors: https://psfa.sdsu.edu/resources/student_advisors

Sexual violence / TItle IX mandated reporting: As an instructor, one of my responsibilities is to help create a safe learning environment on our campus. I am a mandated reporter in my role as an SDSU employee. It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep the information you share private to the greatest extent possible. However, I am required to share information regarding sexual violence on SDSU's campus with the Title IX coordinator, Jessica Rentto 619-594-6017. She (or her designee) will contact you to let you know about accommodations and support services at SDSU and possibilities for holding accountable the person who harmed you. Know that you will not be forced to share information you do not wish to disclose, and your level of involvement will be your choice. If you do not want the Title IX Officer notified, instead of disclosing this information to your instructor, you can speak confidentially with the following people on campus and in the community. They can connect you with support services and discuss options for pursuing a University or criminal investigation. Sexual Violence Victim Advocate 619-594-0210 or Counseling and Psychological Services 619-594-5220, psycserv@sdsu.edu. For more information regarding your university rights and options as a survivor of sexual misconduct or sexual violence, please visit titleix.sdsu.edu or sdsutalks.sdsu.edu.

SDSU Economic Crisis Response Team: If you or a friend are experiencing food or housing insecurity, technology concerns, or any unforeseen financial crisis, it is easy to get help! Visit sdsu.edu/ecrt for more information or to submit a request for assistance.
SDSU's Economic Crisis Response Team (ECRT) aims to bridge the gap in resources for students experiencing immediate food, housing, or unforeseen financial crises that impacts student success. Using a holistic approach to well-being, ECRT supports students through crisis by leveraging a campus-wide collaboration that utilizes on and off-campus partnerships and provides direct referrals based on each student's unique circumstances. ECRT empowers students to identify and access long term, sustainable solutions in an effort to successfully graduate from SDSU. Within 24 to 72 hours of submitting a referral, students are contacted by the ECRT Coordinator and are quickly connected to the appropriate resources and services.
For students who need assistance accessing technology for their classes, visit our ECRT website (sdsu.edu/ecrt) to be connected with the SDSU library's technology checkout program. The technology checkout program is available to both SDSU and Imperial Valley students.

Help control the COVID-19 pandemic: Addressing the COVID-19 pandemic is a shared responsibility. Each of us has a role to play in keeping our learning environments and campus as safe as possible. To that effect, it is critical students are aware that SDSU policy requires the wearing of face coverings by faculty, staff, and students on campus except if you are alone in a private office or eating outside while maintaining physical distancing of at least 6 feet. All individuals on campus must also practice physical distancing, stay home if ill, care for common work spaces if you use them, and report if you receive a positive COVID-19 test. Instructions for caring for instructional spaces will be posted in each lab, clinic, or classroom; supplies will be available. Individuals are required to provide their own facial coverings. If students need assistance purchasing facial coverings, please contact the Economic Crisis Response Team.

CHEM 202 Students: The lab is a face-to-face class. Students shall be required to bring or purchase PPE as part of their class supplies. Students who need financial assistance may contact the Economic Crisis Response Team for support. The modality of this course is subject to change in connection with evolving public health conditions and recommendations. Students with medical conditions which would present a COVID-related risk and a face-to-face instructional setting should contact the Student Ability Success Center (https://sdsu.edu/sasc)

to begin the process of getting support. Students who do not adhere to the Covid19 Student Policies, and do not comply with the directives of their faculty, will be directed to leave the classroom, and will be referred to the Center for Student Rights and Responsibilities.
All SDSU community members are encouraged to make a commitment to health and safety, please consider signing the SDSU Health Commitment. For additional COVID-19 information, visit the university's COVID website.

Land Acknowledgement: For millennia, the Kumeyaay people have been a part of this land. This land has nourished, healed, protected and embraced them for many generations in a relationship of balance and harmony. As members of the San Diego State University community we acknowledge this legacy. We promote this balance and harmony. We find inspiration from this land; the land of the Kumeyaay.
As students, faculty, staff and alumni of San Diego State University we acknowledge this legacy from the Kumeyaay. We promote this balance in life as we pursue our goals of knowledge and understanding. We find inspiration in the Kumeyaay spirit to open our minds and hearts. It is the legacy of the red and black. It is the land of the Kumeyaay. 'eyay e'haan My heart is good.

Inclusion in this Course: The CHEM 202 course instructors and TAs are committed to providing a safe and productive environment to all members of its community. Diversity, equity, and inclusion play a crucial role in making this possible. A diverse community allows for greater breadth of experiences and perspectives, both of which often lead to greater knowledge and understanding. An equitable environment aims to nullify systemic disadvantages and ensure fair treatment and equality of opportunity for all. Inclusion efforts create a feeling of belonging by actively inviting the contribution and participation of all people in our community. The American Chemical Society (ACS) recognizes the importance of diversity and inclusion, and their Chemist's Code of Conduct calls on chemical professionals to treat others with respect, not engage in discrimination, and be mindful of implicit bias and unconscious bias. Thus, we continually aim to foster an environment that respects and understands differences in race, ethnicity, national origin, religion, gender identity, sexual orientation, age, disability, economic status, and other circumstances. The course has been created with equity and diversity in mind. The instructors are working with publishing companies who upload these beliefs.

Am I Ready For CHEM 202: ASSUME THIS CLASS WILL REQUIRE A MINIMUM OF 15 HOURS OF YOUR TIME PER WEEK TO COMPLETE.
The prerequisites for CHEM 202 are one year of high school chemistry, two years of algebra, and a passing score on the Placement Test, or a passing grade (a C or higher) in Chem 100. Chemistry 202 is a demanding, 4-unit course which requires an enormous amount of time and your commitment to work hard! (Please do NOT take this course unless you are prepared to commit the necessary time and hard work.) It is advisable that you make Chemistry 202 the focus of your semester and that you do NOT overburden yourself with an unmanageable course load while taking this course. YOUR success is our success and we want you to succeed in this course. YOUR success requires a large time commitment and hard work - please do NOT take this course unless you are willing to allow sufficient time to study, attend ALL lectures, and attend ALL labs with preparation in advance. Writing good laboratory reports also requires a lot of time and preparation prior to lab. You will enjoy your semester in Chemistry 202 — and you will benefit in the sciences so much more from all that you learn - if you allow yourself the time necessary to work hard and succeed. PLEASE ALLOW ADEQUATE TIME IF YOU TAKE THIS COURSE!

Syllabus Policy: The instructors reserve the right to change any portion of the syllabus at any time that is deemed necessary to best serve the educational interests of the students in this class, based on the timeline of the class, feedback from students and logistical issues. Changes will not be frequent, and all changes will be announced during a lecture or on Canvas (**may only be announced once**). This means that class attendance in lecture and ***checking SDSU email and Canvas*** is essential to fully understand the expectations of the course.

Know the metric system, and especially, all bolded items on this page!!!

Meters……..Liters……..Grams

Prefix:	*Symbol:*	*Magnitude:*	*Meaning (multiply by):*
Yotta-	Y	10^{24}	1 000 000 000 000 000 000 000 000
Zetta-	Z	10^{21}	1 000 000 000 000 000 000 000
Exa-	E	10^{18}	1 000 000 000 000 000 000
Peta-	P	10^{15}	1 000 000 000 000 000
Tera-	**T**	**10^{12}**	**1 000 000 000 000**
Giga-	**G**	**10^{9}**	**1 000 000 000**
Mega-	**M**	**10^{6}**	**1 000 000**
myria-	my	10^{4}	10 000 (this is now obsolete)
kilo-	**k**	**10^{3}**	**1000**
hecto-	h	10^{2}	100
deka-	da	10	10
-	**-**	**-**	**-**
deci-	**d**	**10^{-1}**	**0.1**
centi-	**c**	**10^{-2}**	**0.01**
milli-	**m**	**10^{-3}**	**0.001**
micro-	**μ (mu)**	**10^{-6}**	**0.000 001**
nano-	**n**	**10^{-9}**	**0.000 000 001**
pico-	**p**	**10^{-12}**	**0.000 000 000 001**
femto-	**f**	**10^{-15}**	**0.000 000 000 000 001**
atto-	a	10^{-18}	0.000 000 000 000 000 001
zepto-	z	10^{-21}	0.000 000 000 000 000 000 001
yocto-	y	10^{-24}	0.000 000 000 000 000 000 000 001

1 inch = 2.54 cm **1 cm^3 = 1 mL**