

Chemistry 202-01 (5312) - General Chemistry for Engineers - Spring 2026**Instructor / Professor:**

Dr. K. (David Kretchmar, PhD.)
Lecture Room: AL 201
Office: Love Library Room 328
(MSLC – 3rd floor Love Library)
Office Hours: MW \approx 1-3 pm, F \approx 10-11:40
am or by appointment.
Email: dkretchmar@sdsu.edu

Lab/Class Coordinator(s):

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

Assistant Coordinator:

Alex Hofler, M.S.
Zoom appointments:
<https://calendar.app.google/FadzbcNia6oes4Bb7>.
Email: ahofler@sdsu.edu
Contact Information: chem200@sdsu.edu

Contacts:

(for Lecture issues): dkretchmar@sdsu.edu

(for Lab issues): chem200@sdsu.edu

(for OWL/tech issues): ahofler@sdsu.edu

(for not sure): chem200@sdsu.edu

Important Dates: <https://registrar.sdsu.edu/calendars/academic/spring-2026>

Wed. Jan. 21, 1st day of class; Thurs. Jan. 29 - Last day for faculty to drop students from classes (11:59 p.m. deadline); Mon. Feb. 2nd - 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.

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 another student on the waitlist.

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 and chem200@sdsu.edu **with their name and RedID info ASAP.**

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 (or other infectious disease) 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)

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. **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 (quizzes) 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 -10 hours per week to complete.

Grading in OWL (*Homework and Assessments only*): A 15% curve will be added to all OWL grades for Homework and Assessments. For example: A score of 74% = $(0.74 \times 1.15) \times 10 = 8.5$ 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**.

Lab Materials: We use **LabFlow**, the manual will be digital, and students will be provided with a notebook the first day of lab. The only lab materials you will need from the bookstore will be PPE (personal protective equipment). If you are enrolled in **Day1Ready**, then your subscription to LabFlow is included in your tuition. If you are not, then you will have to purchase LabFlow to access the lab materials. Contact the Lab manager, Megan Bowles at chem200@sdsu.edu with any questions.

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)!**

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, handouts, lecture slides, and other course information. It will be used for obtaining the syllabus, course communications, and grades.
- ◆ **OWL:** Will be used extensively for your textbook, Chapter homework problems, Chapter Assessments (quizzes), and Exam review.
- ◆ **LabFlow:** Will be used extensively for all of your labs, including all **Lab reports & Prelabs**.

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://mslc.sdsu.edu/> for the hours and format (face-to-face or virtual) for your course.

OWL 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: Adaptive Study Plan

IMPORTANT REGARDING OWL DEADLINES: We will post announcements reminding you of 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 (LabFlow):** 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, Jan. 30th 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, Jan. 30th 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 (LabFlow):** 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.**
- ◆ **Chapter Assessments (OWL Lecture)** are hard deadlines and extensions will not be granted. **You will have three 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 (the Assessments take a llllooonnnnggg time to complete).
- ◆ **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 ask for more help. Never wait until the last day to work on the problem set; otherwise, you will be rushing through the assignment instead of learning how to break down problems and theories to better equip you for the exams.
 - ◆ A 15% curve will be added to all OWL grades for Homework and Assessments. For example: A score of 74% = $(0.74 \times 1.15) \times 10 = 8.5$ 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.
 - ◆ 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. The last day to turn in a late OWL assignment is the last day of class (Wednesday May 7th).

Other Assignments:

- ◆ **Lecture Participation points (In-Person Lecture/Canvas):** In or after some lectures there will be a discussion question(s) posted during lecture (same one usually posted twice in a week), Or a short online quiz. These questions are to test if you understood the material in the lecture. **You must complete the Discussions or Quizzes to get your Lecture Participation points** (there will be 10 discussions or quizzes on Canvas during the semester, at 4 points each)
- ◆ **Lab Practical:** The lab practical will be broken up into two (2) **portions**:
 - 1) **Lab Practical: Online portion (LabFlow);** data analysis and important concepts that you learned in the lab **30 points**
 - 2) **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 or Canvas 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.

LAB ASSIGNMENTS

Lab Safety Quiz	(LABFLOW) Your first lab meeting will cover lab safety and you will take a lab safety quiz. You must receive a score of 60% or greater in order to continue to participate in lab. If you fail to achieve a 60% or higher on the online quiz, you will need to make up the safety quiz. The make-up quiz WILL NOT replace a low quiz score, but once you attend the lab safety make-up you will be allowed to attend lab.
EH&S 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, Jan 30th 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.
Pre-Quizzes (Pre-Assignments)	Pre-Lab Quizzes (LABFLOW) are 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 at the start of your lab period each week. The quizzes are to prepare you for the experiment, so there will be no make-ups or extensions on quizzes. You should always complete the quiz, even if you are unable to attend the lab session
Pre-Labs	Pre-Labs will need to be submitted in LabFlow . Pre-labs will be reviewed by TURNITIN and pre-labs that are plagiarized will be given an automatic zero and will be reported <i>If you have issues with submitting your prelab, email chem200@sdsu.edu and your lab TA with a PDF file of the report BEFORE the deadline. One-minute late assignments are still late assignments and will receive a zero.</i> Pre-labs are due at the start of your lab period. You have an additional 6 hours to submit your pre-lab for 50% credit. No Pre-Labs will be accepted more than 6 hours after the deadline.
Lab Reports	You will perform your lab experiments during your lab session on either Monday or Tuesday. Your Lab Report will be due the following week before your lab period (LabFlow). You must be present during your scheduled lab session in order to collect the data for your lab report. Your TA's will confirm your attendance that week before they grade your lab report by checking your notebook pages. You will do a secondary upload of your notebook pages within your lab report. If you have not made any changes or done any additional work, you may submit the same file you submitted for the original notebook check submission. If you are unable to attend a lab session, you MAY be given the opportunity to complete the experiment virtually with provisional data. You will receive full credit for your first lab completed virtually. Any additional labs completed virtually will receive a 50%-point penalty. Provisional Data is provided directly in LabFlow. You have an additional week to submit your lab report for 50% credit. Your TAs will start grading reports after the original submission deadline. If your TA is a proactive grader and has already graded that lab report by the time you submit your work, they are not obligated to go back and grade your report. In this case, you would only get credit for the data that is auto-graded by LabFlow.
Notebook Check	Your lab notebook is where you will record the data and perform the calculations for each experiment. You will submit your notebook pages to LabFlow within 36 hours of the start of your lab, and you have up to 1 week to submit your pages for 50% credit. When submitting your pages, all data and calculations must be complete and your TA's signature must be visible in the upload. Your answers to the discussion questions do not need to be provided in this initial upload, but they need to be present when you upload your pages along with your lab report.
Lab Practical	The Lab Practical will be the final assignment for the lab portion of this course. It will consist of a hands-on portion which will test you on the practical lab skills that you learned during the semester. This part will be completed during your scheduled lab sections on 4/27 thru 4/29. The second part of the lab practical will be completed online (LabFlow) and will test you on data analysis and important concepts that you learned in the lab. The online portion will be available at 8:00 am on Monday, 4/27 and be available until 8 pm on 4/28 (36 hours total)

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	LabFlow & Canvas	1	13	13	1.3%
Pre-Assignment Labs	LabFlow	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	Canvas/Lecture	3	100	300	30.0%
Final Exam	Canvas/Lecture	1	160	160	16.0%
Lab Reports	LabFlow / TurnItIn	Best 9 of 10	20	180	18.0%
Lab Practical (See Note on page 4)	LabFlow & In-Person	1	60	60	6.0%
Notebook Check	LabFlow	1	15	15	1.5%
Lecture Participation	In-Person Lecture/Canvas	10	4	40	4.0%
			Total	1000	100.0%

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 grades 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 score must be at least 60% for the three exams and final exam;
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.

Tentative Class Schedule (Emphasis on the word “tentative”)

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

*Chapter 1 HW is the only HW not due on Wednesday

Experiment/Activity	Week of
Introduction to Labs & Lab Safety	Jan. 26, 2025
How to Write Pre-labs and Keep Lab Notebooks	Feb. 2, 2025
Use of Volumetric Equipment Experiment	Feb. 9, 2025
Solubility Test	Feb. 16, 2025
Limiting Reagent of Solutions	Feb. 23, 2025
Molecular Mass of an Unknown Gas	Mar. 2, 2025
Molar Mass of Citric Acid Experiment (5B)	Mar. 9, 2025
Analysis of an Aluminum-Zinc Alloy Experiment	Mar. 16, 2025
Infrared Spectroscopy—Polymers	Mar. 23, 2025
SPRING BREAK	Mar. 30, 2025
Calorimetry 1: Specific Heat Capacity	Apr. 6, 2025
Calorimetry Part 2: Enthalpy of Reaction Expt.	Apr. 13, 2025
TA Seminar & Study Session	Apr. 20, 2025
Lab Practical (In-Person + Online, see note pg 5)	Apr. 27, 2025
Check-Out ^{##}	May 4, 2025

Notes: ^{##}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 13th 8:00 AM - 11:59 PM (On-line/In-class)
Exam 2	Friday, Mar 13th 8:00 AM - 11:59 PM (On-line/In-class)
Exam 3	Friday, Apr 17th 8:00 AM - 11:59 PM (On-line/In-class)
Final Exam	Wednesday, May 13, 10:30 a.m.-12:30 p.m. (On-line/In-class)

- Exams will be conducted in 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 to 150 minutes to complete it, depending on the exam.
- If needed, for the classroom portions of exams 1 thru 3 you will have 40 minutes
- For the final exam You will have 2.5 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 **LabFlow** system issues **please contact them** as well. The instructors, lab coordinator, and TAs will be unable to help you resolve anything but the most basic of (is it plugged in and did you reboot?) 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 4, 2025). 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 5th, 2025**.

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 week 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 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 a disease (covid-19/TB/Legionellosis/etc.), 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. 4th, 2025**.

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 disabilities 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 prefer 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....Dr.K's preferred noun is curmudgeon.

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 https://registrar.sdsu.edu/students/additional_resources_students/email_mailing_updates. 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 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/academics/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 Advisors: <https://chhs.sdsu.edu/academics/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 <https://cphd-titleix.sdsu.edu/> or <https://sacd.sdsu.edu/cps/specific-concerns/sexual-assault>

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:

<https://basicneeds.sdsu.edu/> 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

<https://library.sdsu.edu/technology/loanable-technology> to be connected with the SDSU library's technology checkout program. The technology checkout program is available to both SDSU and Imperial Valley students.

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://sds.sdsu.edu/>) 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

<i>Prefix:</i>	<i>Symbol:</i>	<i>Magnitude:</i>	<i>Meaning (multiply by):</i>
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

$$1 \text{ inch} = 2.54 \text{ cm}$$

$$1 \text{ cm}^3 = 1 \text{ mL}$$