

## Chemistry 201 Fall 2022

Lecturer: Professor Jessica Woods-Stanfield  
Email: [Jessica.Stanfield@gcccd.edu](mailto:Jessica.Stanfield@gcccd.edu) (email will change)  
Office hours: Time and location, TBD

Lab Coordinator: Laurie Clare  
Email: [lclare@sdsu.edu](mailto:lclare@sdsu.edu)  
Office hrs by appointment in CSL 313

*Waitlist students should email the lab coordinator ([lclare@sdsu.edu](mailto:lclare@sdsu.edu)) with your name and Red ID info ASAP to gain access to materials on Canvas. You are 100% responsible for all assignments that are due and for keeping up with the work.*

**Text:** “Chemistry” by Openstax; an electronic version can be viewed online or downloaded for free from [OpenStax Gen Chem Textbook](#). There is a link on your Chem 201 Canvas Modules page. You can also download a PDF version or order an on-demand print version at the Book Store. We start with a review using Chapters 4 & 7 and then we will move on to new content in Chapters 12-21

**Other Required Materials:** Chem 201 Lab Manual, Lab Notebook, approved flame-resistant coat or flame-resistant yellow lab apron, safety glasses or goggles, and a non-graphing, scientific calculator.

**OWLv2 HW (Required):** Cengage OWLv2 will be used extensively for graded homework. A link for Cengage OWLv2 will be available on your Chem 201 Canvas Home page in the “Important Information and Links” module. Additional Study material: older quizzes and exams will be available in Canvas.

For All technical difficulties or errors that arise with the OWLv2 systems please contact the [OWLv2 Technical Support](#) or contact the lab coordinator, [lclare@sdsu.edu](mailto:lclare@sdsu.edu). The instructors and TAs will be unable to help you resolve anything but the most basic (is it plugged in?) technical problems.

### **Modes of Instruction, Lecture and Recitation and lab**

Unless otherwise instructed, all lecture and recitation classes and all lab sessions are in-person. Lectures are held on Mondays, Wednesdays, and Fridays. **Recitations are held on Mondays and Tuesdays only. Labs are held on Wednesdays and Thursdays only. Attendance is mandatory and recorded for both recitation and lab.**

**Absences from Lecture:** Lecture attendance is not taken but you should attend every lecture.

**Absences from Recitation:** If you are going to miss a recitation session, contact the lab coordinator before your sessions begins, **Do Not Contact Your TA.** The coordinator will try to find another recitation that you may attend, but only if you email before your session begins!

Placement into another recitation will be done only once. No quiz make-ups are allowed. You will take a quiz during a recitation session on the same week the quiz was issued and at no other time. You may take a quiz at another recitation once. Failure to comply will result in a zero score for that quiz.

There will be a total of nine quizzes, the lowest score is dropped. There are a total of 4 worksheets. To make up a missed worksheet, you can attend your TA's office hour and complete the worksheet with your TA. Worksheet make-up must occur during the same week issued and only one make-up is allowed

#### **Mode of Instruction for Lab:**

You must attend the lab section you are registered for. If you attend any other lab section, without permission from the lab coordinator, you will receive a zero score for the formal lab write-up.

Labs are two hours and forty minutes, do not arrive late and do not stay past your scheduled time.

#### **Absence from Lab:**

If you are going to be absent from lab, contact the lab coordinator **before** the lab starts. If possible, you will be placed in another lab section. If we cannot place you in another section, the lab coordinator will email pertinent lab data so that you can finish the lab write-up. This will be done one time only.

#### **COVID-19 Protocols**

Vaccination and testing protocols set by the CSU and SDSU will be enforced. Make sure to upload proof of your COVID-19 booster shot to [Healthconnect](https://healthconnect.sdsu.edu). For more information use the following link: <https://sacd.sdsu.edu/student-health-services/covid-19>

**Beginning Monday, Aug. 15, all faculty, staff and students will be required to wear a facial covering in instructional settings regardless of vaccination status.**

#### **Facial Coverings Required**

Facial coverings are **required** when in instructional settings, whether indoors or outdoors. This includes classrooms, instructional labs, spaces being actively used in an instructional capacity, and the library. Instructional faculty, teaching assistants and interpreters who are fully up to date with their vaccinations can remove their facial coverings when teaching as long as students are masked in the

classroom. Facial coverings will also continue to be required for all individuals in limited environments that have licensing or other requirements, such as the Children's Center and Student Health Services. This policy will be in place until Thursday, Sept. 15. Our university will continue to monitor the COVID-19 situation and communicate updates to the campus community as we approach that date.

**Grading.** Letter grades will be assigned based on your total points (1100 points) using the following scale:

A: 1100-990; A-: 989-957

B+: 956-935; B: 934-880; B-: 879-858

C+: 857-825; C: 824-715; C-: 714-660

D: 659-550

F: <549

Point Distribution

3 midterm exams, multiple choice, 100 pt ea.	300
Final, multiple choice, comprehensive	200
Quizzes, best 8 out of 9, 20 pt ea.	160
4 Worksheets	40
Ion Naming Test, required to pass course	0
Pipet Exercise	5
7 Lab Reports	175
2 Group Unknowns, 20 ea.	40
General Unknown	50
Lab points	10
Pre-lab Quizzes, 5 ea.	35
OWLv2 Homework	<u>85</u>
	1100 pts total

All quizzes, except for the ion quiz, will be given in assigned Recitation rooms. They will be based on lecture material from the previous week. The Midterm exams will consist of 20 multiple choice questions. They will be given on Fridays at the regularly scheduled lecture time in various locations depending on lab section. The Final exam will consist of 40 multiple choice questions based primarily on questions from the 3 midterm exams. There will be a few questions based on material covered in lecture after the 3<sup>rd</sup> midterm exam.

**CHEM 201 Student Help** will be available in the Math & Stats Learning Center (MSLC) located on the third floor of Love Library in room LL328. The MSLC will have chemistry tutors as well as TA help hours. A schedule of chemistry tutors is available through <https://mlc.sdsu.edu/>. A schedule for TA office hours at the MSLC will be made available in Canvas at the end of the first week of the semester. Don't hesitate to attend Professor' Woods-Stanfield office hours with any questions or other concerns you may have regarding the course.

**Accommodations (SASC):**

SDSU via the [Student Ability Success Center](#) (SASC) provides accommodations for students with documented disabilities or medical conditions covered under the Americans with Disabilities Act (ADA). In keeping with current public health guidance, no accommodations will be granted to students without an ADA-qualified disability or medical condition.

If you are a student with a disability and are in need of accommodations for this class, please contact the Student Ability Success Center at [sascinfo@sdsu.edu](mailto:sascinfo@sdsu.edu) (or go to [sdsu.edu/sasc](https://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 the Student Ability Success Center. SASC registration and accommodation approvals may take up to 10-14 business days, so please plan accordingly.

**Getting Help.** Starting the second week of the semester a schedule that shows TA Office Hours will be posted. On the third week of the semester, TA's will start their office hours and will be available in the Math & Stats Learning Center or online through Zoom, to answer your questions on homework, labs, etc. Also, don't hesitate to come to Professor' Woods Stanfield office hours with any questions or other concerns you may have regarding the course.

**Learning Objectives for Chem 201**

The main goal of Chem 201 is to complete the general introduction to Chemistry begun in Chem 200 in order to prepare you for more advanced courses in science.

More specific goals are to

- (1) Make sure you are completely comfortable with basic chemical "arithmetic", that is, calculations involving molecular weight, grams to moles, moles to grams, molarity, dilutions, reaction stoichiometry, and so on.
- (2) Make sure you are completely comfortable with drawing and looking at Lewis structures of chemical compounds. To start to get you thinking of molecules as 3-D objects and not just a collection of letters and numbers in a molecular formula.
- (3) Make sure you know the names, formulas, charges and structures of the common ions and the common strong acids and bases.
- (4) To learn to identify and understand what is happening in three fundamental types of chemical reactions: (i) acid-base reactions, (ii) ion dissolution and precipitation reactions and (iii) oxidation/reduction reactions.

- (5) To learn that there are two aspects to all chemical reactions - thermodynamics and kinetics, that thermodynamics determines the final result or equilibrium state of a chemical reaction, and that kinetics determines how long it will take to reach the equilibrium state.
- (6) More specifically, with regard to thermodynamics, to learn how we characterize the equilibrium state using the equilibrium constant expression and equilibrium constant (K), how you can use knowledge of K along with other information (starting concentrations and stoichiometry) to calculate the final concentrations in a reaction, and how you can experimentally determine values of K by measuring the final concentrations. You should also learn that ultimately the value of K is determined by the thermodynamic properties (enthalpy, entropy and free energy) of the reactants and products in a chemical reaction and how you can use knowledge of these values to calculate K's.
- (7) With regard to kinetics, you should learn how we characterize the kinetics or speeds of chemical reactions with the rate law and rate constant (k), how we have to determine both of these quantities by experiment, and what types of experiments can be done to do this. You should also learn that the kinetics are determined by the exact path or mechanism that converts reactants to products, and how knowledge of the rate laws is very useful in determining what are likely mechanisms for a reaction.

**Dropping the course:** It is your responsibility to follow university policies regarding Cr/NC, drops, withdrawals, and incompletes. Your last opportunity to withdraw from the course without a grade appearing on your report card is **September 2, at 7:59 p.m.**

**Email Policy:** Students are provided with an SDSU Gmail account, and this [SDSU email address](#) will be used for all communications. Per University Senate policy, students are responsible for checking their official university email once per day during the academic term. For more information, please see [Student Official Email Address Use Policy here](#). Scroll to the bottom of the page

All communication regarding this course should occur through official SDSU email accounts. The course instructor and lab coordinator 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 CHEM 100 in the subject line of your emails and make sure to provide your full name and lab section.

**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 lab coordinator, ([lclare@sdsu.edu](mailto:lclare@sdsu.edu)) with the name you wish to use. Similarly, if you have preferred pronouns that you wish to be addressed by please contact the coordinator. The coordinator will communicate your desires to the TAs and all instructional staff will gladly honor your request.

### **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.

### **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.

Suggested: Consider adding a link to your college's Student Success Center or your department's tutoring center or supplementary instruction activities.

- 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 Advisors: <https://chhs.sdsu.edu/student-resources/advising/>
- IVC Student Success and Retention: [https://ivcampus.sdsu.edu/student\\_affairs/retention](https://ivcampus.sdsu.edu/student_affairs/retention)
- PSFA Advisors: [https://psfa.sdsu.edu/resources/student\\_advisors](https://psfa.sdsu.edu/resources/student_advisors)
- Math & Stats Learning Center: <https://mlc.sdsu.edu/>

**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](mailto: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](http://titleix.sdsu.edu).

The [Family Educational Rights and Privacy Act](#) (FERPA) mandates the protection of student information, including contact information, grades, and graded assignments. I will not post grades or leave graded assignments in public places. Students will be notified at the time of an assignment if copies of student work will be retained beyond the end of the semester or used as examples for future students or the wider public.

### **Help control the COVID-19 pandemic:**

Addressing the COVID-19 pandemic is a shared responsibility. The California State University System mandates that students, faculty and staff receive a full COVID-19 vaccination to be on campus. Facial coverings are required when in instructional settings such as instructional classrooms and instructional labs. Do not come to campus if you do not feel well. Remain home and monitor your symptoms and seek medical attention as needed. If you receive a positive COVID-19 test, complete the [COVID-19 Reporting Form](#). For more information on vaccination and face covering compliance please visit <https://sacd.sdsu.edu/student-rights/covid-policies>

Contact the lab coordinator if you will be absent from a lab session. If students need assistance purchasing facial coverings, please contact the [Economic Crisis Response Team](#).

### **Medical Related Absence**

Contact the lab coordinator in the event you miss a lab due to an illness, injury, or emergency. No lab scores are dropped but if you miss one or two labs due to an illness, you must provide medical documentation of your sickness or emergency.

If you miss a class or lab due to being quarantined because of a positive COVID-19 result, you must request a class excuse letter. Send an email to [vpsafontdesk@sdsu.edu](mailto:vpsafontdesk@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](#).

### **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](https://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](https://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.

### **Religious Observances**

According to the University Policy File, students should notify instructors of planned absences for religious observances by the end of the second week of classes. Contact the coordinator: [lclare@sdsu.edu](mailto:lclare@sdsu.edu)

### **Land Acknowledgement:**

We stand upon a land that carries the footsteps of millennia of Kumeyaay people. They are a people whose traditional lifeways intertwine with a worldview of earth and sky in a community of living beings. This land is part of a relationship that has nourished, healed, protected and embraced the Kumeyaay people to the present day. It is part of a world view founded in the harmony of the cycles of the sky and balance in the forces of life. For the Kumeyaay, red and black represent the balance of those forces that provide for harmony within our bodies as well as the world around us.

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.



Fall Schedule

Week # and Dates	Lecture Monday	Recitation Mon/Tues	Lecture Wednesday	Lab Wed/Thurs	Lecture Friday
#1 Aug. 22 – Aug. 26	Introduction to Class	Introduction to Recitation, Review for ion test	Chap. 7 – Review Lewis Structures of Organic Cmpds	Lab And Safety Introduction <b>Ion Test - 1<sup>st</sup> try</b> <b>Pipet Exercise</b>	Chap. 7 – Review of VSEPR; Drawing 3D Structures of Organic Compds
#2 Aug. 29 - Sep. 2	Chap. 7 – Review LS's of Main Group Inorganic Formal Charge and Resonance	<b>Quiz 1</b>	Chap. 4 – Review of Basic Reaction Stoichiometry; Limiting Reagents	Locker Check-in <b>Experiment 1 -</b> Introduction to the Spectrophotometer <b>Ion Test - 2<sup>nd</sup> try</b>	Chap. 13 – Equilibrium Basics
#3 Sep. 5 - Sep. 9	<b>Labor Day Holiday</b>  <b>No Class</b>	<b>No Monday or Tuesday Recitation</b>	Chap. 14 – Dynamic Equilibrium; Bronsted Acids and Bases	<b>Experiment 2-</b> Phosphate Analysis  <i>Exp. 1 report due</i>	Chap. 14 – Conjugate Acid/Base Pairs, pH
#4 Sep. 12 - Sep. 16	Chap. 14 – pH of Strong Acids and Bases	<b>Quiz 2</b>	Chap. 14 – pH of Weak Acids Solutions	<b>Experiment 3-</b> $K_a$ and $K_b$  <i>Exp. 2 report due</i>	Chap. 14 – pH of Weak Base Solutions
#5 Sep. 19 - Sep. 23	Chap. 14 – Identifying Molecular and Ionic Acids and Bases	<b>Quiz 3</b>	Chap. 14 – pH of Ionic Acid/Base Solutions	Mg group unknown  <i>Exp. 3 report due</i>	<b>Exam 1</b>

Deadline for adding or dropping classes is 7:59 pm, September 2.

Week # and Dates	Lecture Monday	Recitation Mon/Tues	Lecture Wednesday	Lab Wed/Thurs	Lecture Friday
#6 Sep 26- Sept 30	Chap. 14 – Buffers	<b>Worksheet 1</b>	Chap. 14 – Buffers	All group unknown	Chap. 14 – Titrations of Strong Acids and Bases
#7 Oct. 3 - Oct. 7	Chap. 14 – Titrations of Weak Acids and Bases	<b>Quiz 4</b>	Chap. 15 – Ionic Solubility Equilibria	<b>Experiment 4</b> - pH titration	Chap. 15 – Factors Affecting Solubility; LeChateliers Princ.
#8 Oct. 10 - Oct. 14	Chap. 15 – Factors Affecting Solubility; Complex ions	<b>Quiz 5</b>	Chap.15 – Precipitation Reactions; Qual. Scheme	<b>Experiment 5</b> - Formation Constants <i>Exp.4 report due</i>	Chap. 16 – Entropy
#9 Oct. 17 - Oct. 21	Chap. 16 – $\Delta H^\circ$ and $\Delta S^\circ$ ; 2 <sup>nd</sup> Law of Thermodynamics	<b>Quiz 6</b>	Chap. 16 – Free Energy,	General Unknown  <i>Exp.5 report due</i>	<b>Exam 2</b>
#10 Oct. 24 – Oct. 28	Chap. 16 – $\Delta G$ and Equilibrium	<b>Worksheet 2</b>	Chap. 17 – Balancing Oxidation and Reduction Rxns	General Unknown	Chap. 17 – Electrochemical Cells

Week # and Dates	Lecture Monday	Recitation Mon/Tues	Lecture Wednesday	Lab Wed/Thurs	Lecture Friday
#11 Oct. 31- Nov. 4	Chap. 17 – Standard Electrode Potentials	<b>Quiz 7</b>	Chap. 17 – Using standard electrode potentials	General Unknown	Chap. 17 – Nernst Equation Concentration Cells
#12 Nov. 7 - Nov. 11	Chap. 12 – Rates of Reaction	<b>Quiz 8</b>	Chap. 12 – Rate Laws	<b>Veterans Day No Lab</b>	Chap. 12 – Integrated Rate Laws
#13 Nov. 14 - Nov. 18	Chap. 12 – Pseudo Order kinetics Arrhenius Eqn	<b>Worksheet 3</b>	Chap 12 – Collision Theory	<b>Experiment 6</b> Echem Cells <i>Gen Unk report due</i>	Chap. 12 – Transitions States
#14 Nov. 21 – Nov. 25	Chap. 12 – Mechanisms	<b>No recitations</b>	<b>NO CLASS!!</b>	<b>Thanksgiving Holiday NO LAB</b>	<b>Thanksgiving Holiday</b>
#15 Nov. 28 - Dec. 2	Chapter 12 – Catalysis	<b>Quiz 9</b>	Chap. 21 – Nuclear Reactions and Radioactivity	<b>Experiment 7</b> Kinetics <b>(Last Day of Lab)</b> <i>Exp.6 report due</i>	<b>Exam 3</b>
#16 Dec. 5 - Dec. 9	Chap. 21 – Kinetics of Radioactive Decay	<b>Worksheet 4</b>	Chap. 21 – Energy of Nuclear Reactions	Locker Check Out <i>Exp.7 report due</i>	Review for final

#17 Dec 12 Review for Final  <b>Last Day of Class</b>					

**FINAL EXAM for 10:00 am class - Friday Dec 16, 10:30am – 12:30pm**

**FINAL EXAM for 3:00 pm class - Monday, Dec 19, 1:30pm – 3:30pm**

