Chemistry 201
Fall 2025

Lecturer: Dr. Young Kwang Lee
Email: youngkwang.lee@sdsu.edu
Lecture: MWF 3:00 - 3:50 pm in AL 201
Office Hrs: MW 4:00-4:50 pm in EIS 17 (lower level)
No office hours every first Wed.

Lab Coordinator: Laurie Clare
Email: lclare@sdsu.edu
Office Hrs: by appointment in CSL 313

Waitlist students should email the lab coordinator (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: Chapters 4, 7, 12-21 of "Chemistry" by Openstax; a PDF version of this is available for download on the Chem 201 Canvas site. You can also order an on-demand print version at the Book Store. Finally, if you wish, the entire text can be viewed online or downloaded for free from https://openstax.org/details/books/chemistry.

Lecture Note: Selected PowerPoint slides will be accessible on Canvas. However, since lectures include substantial board discussions, students are accountable for creating their own lecture notes.

Other Required Materials: Your Chem 201 Lab Manual will be available through "Day1 Ready" pricing. The following items will have to be purchased outside of "Day 1 Ready": Lab Notebook, lab coat or flame-resistant yellow lab apron, safety glasses and a non-graphing, scientific calculator. To get your lab manual, go to the second-floor help desk in the bookstore and give the clerk your red ID number. When you purchase the lab notebook, make sure the lab notebook is a carbonless copy notebook. If you have lab notebooks from previous labs (chem or bio) that are carbonless copy capable you can use those. Make sure that you can hand in to your TA, carbonless copies of your work. Make sure to have a scientific calculator. Graphing calculators will not be allowed to be used during exams and will be removed for the duration of the exam.

Getting Help: 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 or online through Zoom. The MSLC will have chemistry tutors as well as TA help hours to help with working through old quizzes and exams, lab reports, etc. Sign up for a tutor through https://mslc.sdsu.edu/question-queue/A schedule

for TA office hours at the MSLC can be found at https://mslc.sdsu.edu/ta-office-hours/. Please don't hesitate to attend **Dr. Lee's office hours** with any questions regarding the lecture. Contact the coordinator **Laurie Clare (lclare@sdsu.edu)** regarding labs and for rescheduling recitations, quizzes, worksheets, and if needed, make-up exams. When sending an email to Dr. Lee or Laurie Clare, please use Canvas email system and include your lab section number. This makes it faster to respond to your needs.

Email Policy: Students are provided with an SDSU Gmail account. Use this link**: SDSU Email Account** to create your account if you have not already. Your sdsu.edu account will be used for all communications. Students are encouraged to use **Canvas email system** for communication, as your messages might get lost in a lengthy queue of instructors' regular inboxes otherwise.
To ensure a prompt response, please include "CHEM 201" in the subject line of your emails and remember to **provide your full name and lab section number**. Per University Senate policy, students are responsible for checking their official university email once per day during the academic term. For more information, use this link**: Student Official Email Address Use Policy.** 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.

Modes of Instruction, Lecture and Recitation: Unless otherwise instructed, all lecture and recitation classes are in-person. Lectures are held on Mondays, Wednesdays, and Fridays from 3:00 pm to 3:50 pm. **Recitations are held on Mondays and Tuesdays only. Attend only the recitation on your schedule**. Recitation sessions include review of lecture material followed by a 20–25-minute quiz or the TA will give a short review followed by handing out a worksheet. Students may collaborate and ask their TA questions to complete the worksheet.

Mode of Instruction for Lab: All labs are in-person. You must attend the lab section for which you are registered. 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 long, please do not arrive late and do not stay past your scheduled time. If you are more than 15 minutes late, you will not be allowed into lab

There are seven quantitative labs. Each one will have its own pre-lab quiz posted on Canvas and is to be completed before you go to lab. Each pre-lab quiz is worth 5 points. Please finish the quiz on time, it will not be reopened for any reason. If you are in a Wednesday lab section, your pre-lab quizzes will be available from the preceding Sunday at 6:00 AM to Tuesday at 11:55 PM. If you are in a Thursday lab section, pre-lab quizzes will be available from the preceding Monday at 6:00AM until Wednesday at 11:55 PM. No make-ups or due date extensions for pre-lab quizzes are given.

Pre-Lab write-up. Each of the seven quantitative labs require a pre-lab write-up. Write it out in your lab notebook and submit the carbon copy version of your write-up to your TA at the beginning of lab. Be sure to read through the lab manual for what is required to be written in your pre-lab.

There are three qualitative labs: the Mg Unknown, the Al Unknown and the General Unknown. The Mg and Al Unknown labs are single session labs with scores based solely on correctly identifying the contents of an issued sample. The General Unknown is a three-week lab (one lab session per week) and at the end of this lab, a short report is due. This report includes identifying the contents of your issued sample and is due one week after last session. No pre-labs are required for qualitative labs, but observations and results must be recorded into the lab notebook, signed and dated by both you and your TA. Notebook pages are handed in to be graded.

Formal lab reports (Post lab reports) are associated with quantitative labs. Each report must be typed (sample calculations are hand written) and are to be submitted by uploading a pdf file of the report through Canvas. If your report is not typed, it will not be graded and you will receive a zero score. As you conduct each experiment, you must record your observations and data into your lab notebook in ink. Make sure at the end of the lab session your TA signs and dates your data pages. Turn in a carbon copy of your experimental data with each lab session. Data from the experiment is used to **type** a formal lab report and this is due before the start of the following lab meeting. Be sure to read through the lab manual for what is required to be written in your lab report. You TA will help guide you with this process. Late labs can be uploaded into Canvas up to one week past the due date. Two points will be deducted for each weekday the lab report is late. **Lab reports will not be accepted one week after due date**. Under no circumstance will you be allowed to turn in all your lab reports at the end of the semester

Absences

Absences from Lecture: If you are to miss a lecture, be assured that all lectures will be recorded on Mediasite and available on Canvas. You can watch any missed lecture but note that the video and sound quality may not be optimal.

Absences from Recitation: Quizzes and worksheets are given during recitation on Mondays and Tuesdays only. Quizzes are 20 points each and worksheets are 10 points each. There are no make-up quizzes or make-up worksheets but, the lowest quiz score is automatically dropped, and you get one "call-out".

If you miss a recitation for **any reason,** including an illness, you will receive a zero score for that week's recitation. If you miss no other recitation session for the semester, one absence will not affect your grade. **Do Not Contact Your TA if you are to miss a recitation, they are instructed not to help you with a make-up. No worksheet scores are dropped**

A "call-out" is when you contact the lab coordinator before your recitation session begins to reschedule a recitation session during the same week. The lab coordinator will work with you to reschedule, ONE recitation session (during the same week). Be advised rescheduling is based on the number of students in other recitation sessions and may not be possible. Students get one "call-out". Be sure to contact the lab coordinator, Laurie Clare (lclare@sdsu.edu) before your recitation begins so that you could be placed into another recitation during the same week. This call-out applies to whether you miss a quiz or a worksheet. An example would be if you knew you could not make a particular Monday afternoon 5 pm recitation. You would contact the coordinator before your session

starts and depending on seat availability, you could be rescheduled on the following Tuesday. Another example is if you are in the Tuesday 5 pm recitation you can reschedule one time into an earlier session as there is no later session. Remember, the lowest quiz score is automatically dropped and so if you miss one quiz for any reason that quiz score is dropped

Absence from Lab: THERE ARE NO DROPPED SCORES FOR LAB REPORTS

Email the **lab coordinator** in the event you are to miss a lab **due to an illness, injury, or emergency BEFORE** your lab session starts, otherwise, attendance to each lab is mandatory. **Documentation that provides evidence of illness, injury or emergency is required.** Illness or injury documentation must include the dates your doctor excuses you from being at school. Documentation for emergency must show evidence of emergency. If possible, you can be placed in another lab section. If we cannot place you in another lab section, lab data from lab coordinator or from your lab partner can be used. **This will be done one time only.**

Long Term Medical Related Absence: 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 Disability Services.

COVID-19 Protocols:

If you test positive for COVID, report your results to HealtheConnect through this link: Student Heath Services. Email your quarantine dates assigned by HealtheConnect or your personal physician to the lab coordinator in order to receive experimental data for the missed lab. You must provide clear evidence that you have tested positive for COVID and that you must be under quarantine for a particular range of dates.

If you must miss a class or lab due to being long term quarantined because of a positive COVID-19 result, you can also request a class excuse letter. 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.

Grading: Letter grades will be assigned based on your total points (1100 points) using the following scale:
A: 100.0-90.0 %; A-: 89.9-87.0 %
B+: 86.9-85.0 %; B: 84.9-80.0 %; B-: 79.9-78.0 %
C+: 77.9-75.0 %; C: 74.9-65.0 %; C-: 64.9-60.0 %
D: 59.9-50.0 %
F: <49.9 %

Point Distribution

3 midterm exams, multiple choice, 100 pt ea.	300
Final, multiple choice, comprehensive	200
Quizzes (20 pts each), best 8 out of 9	160
4 Worksheets	40
In-class quizzes, possible 10 pts ext.cred.	20
Ion Naming Test, possible 5 pts ext.cred.	0
Pipet Exercise	5
7 Lab Reports	175
2 Group Unknowns, 20 ea.	40
General Unknown	50
Lab points	20
Pre-lab Quizzes, 5 ea.	35
Safety Quiz and Survey	15
	1060 semester points

Quizzes: 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**. There are a total of nine quizzes, the lowest quiz score is automatically dropped.

Worksheets: There are a total of 4 worksheets, they are worth 10 points each. No Worksheet scores are dropped.

In-class surveys: Beginning in the second week of the course, ungraded surveys will be administered at any time during lecture without prior notice to check understanding. Credit is based on participation only. If you complete more than 70% of the surveys, you will receive full participation credit (20 pts). Participation above 70% earns extra credit up to 10 pts. The total number of surveys will vary. Example: if 20 surveys are given and you complete 17 (85%), you will earn full credit (20 pts) plus 5 pts of extra credit. Detailed instructions will be provided later.

Midterm exams: All exams are in-person. They will be held in AL 201 and in another lecture hall to be determined. Exams are 50 minutes in duration starting at 3:00 pm and ending at 3:50 pm. They are **non-comprehensive** and will consist of 15-20 questions based on lecture material including topics covered in the class immediately preceding the exams. Please refer to the schedule table for exam dates, and more detailed information will be provided.

Final exam: The final exam will be held on Wednesday December 17, from 1:00 – 3:00pm. It is **comprehensive** and will consist of 30-40 questions based primarily on questions from the 3 midterm exams. There will be a few questions based on material covered in lecture after the third midterm exam. Please refer to the schedule table for exam dates, and more detailed information will be provided. We will not give an early final to any student.
Make-up exams will be given only for legitimate excuses such as NCAA sanctioned athletic competition, SDSU student associated conferences, religious holidays, or personal medical emergency. Documentation for missing an exam is required. Documentation for emergency must include a doctor's note stating the range of days that are excused. No exam make-up accommodations will be given to SDSU Club athletics or any dance clubs. Work is not a legitimate reason since exams are available at regular lecture time. Make-up exams will be held on the Monday following a Friday exam at 6 am in CSL 522. **Make sure to contact Professor Clare or Dr. Lee before the beginning of an exam and provide the proper documentation. Those in NCAA SDSU athletics should be sure to submit their schedule of competition to the lab coordinator, Laurie Clare (lclare@sdsu.edu) no later than Sept. 5, 2025. If your religious holiday falls on an exam date, please notify the lab coordinator no later than Sept. 5, 2025.**

Grade Disputes: Exam scores will be posted in Canvas within 2-3 hours following an exam. As soon as **everyone** has taken the exam, an exam key will be posted. If you suspect an error in your grade, please contact the lab coordinator within one week of the exam key posted. After one week, your grade stands. If you suspect an error in grading on your quiz or worksheet, please **contact your Recitation TA within one week of grades being posted**. If you suspect an error in grading your lab report, **please contact your lab TA within one week of that grade being posted**. If an unresolved grading dispute develops regarding your quiz, worksheet or lab, please contact the lab coordinator within 10 days of the posted grade.

Dropping the course: It is your responsibility to follow university policies regarding Cr/NC, drops, withdrawals, and incompletes. September 8 at 11:59 pm is the last day to add, drop, or change grading basis.

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). If warranted, the instance and

documentation of plagiarism will be reported to the **The Center for Students Rights and Responsibilities** and the student will ***receive a grade of F for the course***. It is your responsibility to know what constitutes cheating and plagiarism.

While completing experiments students will work in pairs collecting data. We recognize that this data will be the same in both reports but if any other parts of the report are identical (not including the data), both students will receive zero scores. Other parts of the report that have to be your work only includes: tables, graphs (Except for Experiment 7 where you will be allowed to use your lab partner's graphs), sample calculations and interpretation of data. First time offense will result in a meeting with Lab Coordinator and all students involved will receive an F grade on the report. Second offense will warrant the reporting to The Center for Students Rights and Responsibilities which will result in disciplinary action.

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.

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Accommodations (SDS):
SDSU via the Student Disabilty Services (SDS) 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 need accommodations for this class, please contact the Student Disability at sds@sdsu.edu as soon as possible. Accommodations are not retroactive; we cannot provide accommodations based upon disability until Dr Lee and Laurie Clare have received an accommodation letter from the Student Ability Success Center. SDS registration and accommodation approvals may take up to 10-14 business days, so plan accordingly.

Away Games and Competition for SDSU NCAA Athletes
If you are an SDSU NCAA Athlete, send your schedule of competition to the lab coordinator, lclare@sdsu.edu. Accommodations will be made to help mitigate missed assignments because of scheduled games or competitions. Please have your coach email your Spring 2025 event schedule to the lab coordinator within the first two weeks of class. This accommodation does not apply to students in an SDSU athletic club or any other athletic or dance club.

Religious Holidays
According to the University Policy File, students should notify instructors of planned absences for religious holidays by the end of the second week of classes, Jan 31. Contact the coordinator: lclare@sdsu.edu

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) 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.

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/academics/student-success
- College of Education Student Success Center: https://education.sdsu.edu/oss
- Center for Student Success in Engineering: https://csse.sdsu.edu/advising/advising
- College of Science Student Success Center: https://cossuccess.sdsu.edu/
- Fowler College of Business Student Success Center: https://business.sdsu.edu/undergrad/advising
- College of Health and Human Services Advisors: https://chhs.sdsu.edu/academics/advising
- Imperial Valley Campus Student Success and Retention:https://imperialvalley.sdsu.edu/about/departments/student-affairs/retention
- College of Professional Studies and Fine Arts Advisors: https://psfa.sdsu.edu/resources/student_advisors
- Math & Science Learning Center: https://mslc.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. For more information regarding your university rights and options as a survivor of sexual misconduct or sexual violence, please visit titleix.sdsu.edu.

The Family Educational Rights and Privacy Act (FERPA) mandates the protection of student information, including contact information, grades, and graded assignments. Dr Lee or Laurie Clare 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.

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 to be connected with the SDSU library's technology checkout program. The technology checkout program is available to both SDSU and Imperial Valley students.

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 2025 Schedule

Week # and Dates	Lecture Monday	Recitation Mon/Tues	Lecture Wednesday	Lab Wed/Thurs	Lecture Friday
#1 Aug. 25th-Aug 29th	L1. First Lecture Meeting - Introduction to Class	Introduction **/Review for Ion Test**	L2. Chap. 7 - Review of Lewis Structures of Organic Compounds	Introduction to lab, lab safety & Safety Quiz Pipetting Exercise **Ion Test – 1st try**	L3. Chap. 7 - Review of VSEPR: Drawing 3D Structures of Organic Compounds
#2 Sep 1st-Sep 5th	**Labor Day Holiday** **No class**	**No Recitation**	L4. Chap. 7-Review of Lewis Structures of Main Group Inorganic Compounds; Formal Charge and Resonance	Locker Check-in **Experiment 1** – Introduction to the Spectrophotometer **Ion Test - 2nd try**	L5. Chap. 4 - Review of Basic Reaction Stoichiometry; Limiting Reagents
#3 Sep 8th – Sep 12th	L6. Chap. 13 - Equilibrium Basics: Equilibrium Constants **Add/drop deadline**	**Quiz 1**	L7. Chap. 14 - Dynamic Equilibrium: Bronsted Acids and Bases	**Mg Group Unknown** *Exp. 1 report due*	L8. Chap. 14 - Conjugate Acid/Base Pairs, pH & pOH
#4 Sep 15th- Sep 19th	L9. Chap. 14 – pH of Strong Acids and Bases	**Quiz 2**	L10. Chap. 14 – pH of Weak Acids Solutions	**Experiment 2**- Phosphate Analysis	L11. Chap. 14 – pH of Weak Base Solutions
#5 Sep 22nd- Sep 26th	L12. Chap. 14 – IDing Molecular and Ionic Acids and Bases	**Quiz 3**	L13. Chap. 14 – pH of Ionic Acid/Base Solutions	**Experiment 3-** Using pH meter to measure Ka and Kb *Exp. 2 report due*	**Exam 1**

Sep. 8th – Last day to add, drop, or change grading basis (11:59 pm deadline).

Week # and Dates	Lecture Monday	Recitation Mon/Tues	Lecture Wednesday	Lab Wed/Thurs	Lecture Friday
#6 Sep 29th-Oct. 3rd	L14. Chap. 14 – Buffers	**Worksheet 1**	L15. Chap. 14 – Buffers	**Al Group Unknown** *Exp.3 report due*	L16. Chap. 14 – Strong acid/base titrations
#7 Oct. 6th-Oct. 10th	L17. Chap. 14 – Titrations of Weak Acids and Bases	**Quiz 4**	L18. Chap. 15 Ionic Solubility Equilibria	**Experiment 4** - Titration Curves	L19. Chap. 15 - Factors Affecting Solubility: LeChatelier's Principle
#8 Oct. 13th-Oct. 17th	L20. Chap. 15 – Factors Affecting Solubility; Complex ions	**Quiz 5**	L21. Chap. 15 – Precipitation Reactions; Qual Scheme	**Experiment 5** – Determining Kf of a Complex Ion *Exp.4 report due*	L22. Chap. 16 – Entropy
#9 Oct. 20th- Oct. 24th	L23. Chap. 16 - $\Delta HH°$ and $\Delta SS°$; 2nd Law of Thermodynamics	**Quiz 6**	L24. Chap. 16 - Free Energy	**General Unknown** *Exp.5 report due*	**Exam 2**
#10 Oct. 27th-Oct 31st	L25. Chap. 16 –ΔG and Equilibrium	**Worksheet 2**	L26. Chapter 17 Balancing Oxidation and Reduction Rxns	**General Unknown**	L27. Chap. 17 – Electrochemical Cells

Week # and Dates	Lecture Monday	Recitation Mon/Tues	Lecture Wednesday	Lab Wed/Thurs	Lecture Friday
#11 Nov.3rd-Nov. 7th	L28. Chap. 17 – Standard Electrode Potentials	**Quiz 7**	L29. Chap. 17 - Using Standard Electrode Potentials	**General Unknown**	L30. Chap. 17 – Nernst Equation, Concentration Cells
#12 Nov.10th-Nov. 14th	L31. Chap. 12 - Rate of Reaction	**No Recitation** **Veteran Holiday**	L32. Chap. 12 - Rate Laws	**Experiment 6** Echem Cells *Gen. Unk. report due*	L33. Chap. 12 – Integrated Rate Laws
#13 Nov. 17th-Nov. 21st	L34. Chap. 12 – Pseudo Order kinetics Arrhenius Eqn	**Quiz 8**	L35. Chap. 12 – Collision Theory	**Experiment 7** Chemical Kinetics **Last Day of Lab** *Exp.6 report due*	L36. Chap. 12 – Transitions States
#14 Nov. 24th-Nov. 28th	L37. Chap. 12 - Mechanism	**Worksheet 3**	**No Class**	**Thanksgiving Holiday** **No Class**	**Thanksgiving Holiday** **No Class**
#15 Dec. 21st-Dec. 5th	L38. Chap. 12- Catalysis	**Quiz 9**	L39. Chap. 21 – Nuclear Reactions and Radioactivity	Locker Check Out *Exp.7 report due* **Last Day of Lab**	**Exam 3**
#16 Dec. 8th-Dec. 12th	L40. Chap. 21 – Kinetics of Radioactive Decay / Energy of Nuclear Reactions	**Worksheet 4**	**Last Day of Class**		**Dec. 17th, Final Exam**

The Final Exam is on Wednesday, Dec. 17th, from 1:00 p.m. until 3:00 p.m.