# General Chemistry Course Syllabus

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General Course Information

Instructor Name: Dr. Melissa L. Golden
California State University, Fresno
Office Number: S 374
E-Mail: mgolden@csufresno.edu
Telephone: 559-278-6822
Office Hours: Mon. and Wed. 11:15 to 12:15 pm and other times established by appointment

Class: CHEM 1B
Class Number: 74311
Units: 5
Time: Tues., Thurs. from 11:00 to 12:15 pm
Location: MCL 161
Website: Blackboard

Course Description and Goals

CHEM 1B subject matter includes acid-base theory; chemical kinetics; equilibrium (acid-base, hydrolysis, and solubility); thermodynamics, electrochemistry; selected topics in nuclear chemistry, coordination chemistry, and/or chemistry of selected groups.

By the end of the semester you should learn important foundational chemistry concepts and skills, including the ability to:

1. Apply the scientific method to chemical problems
2. Balance chemical equations (including oxidation-reduction reactions)
3. Distinguish between different types of equilibrium reactions
4. Explain the relationship between energy changes and chemical transformations
5. Quantitatively show how solution concentration affects a variety of colligative properties including freezing points and boiling points.
6. Apply concepts of chemical equilibrium to solve chemical problems connected to a variety of chemical reactions including precipitation, acid/base reactions, and buffer systems
7. Recognize and explain how some chemicals act as acids and bases
8. Quantitatively evaluate how chemical conditions can affect the rates of chemical reactions and use these experiments to predict chemical reaction mechanisms
9. Use principles of thermodynamics to predict how and whether chemical systems will spontaneously change
10. Use principles of oxidation reduction reactions and electrochemical measurements to measure concentration of redox active species.
11. Analyze data using Beer’s Law and calculate the concentration of an unknown using a trendline
12. Write a lab report and schematize the results of several test
13. Create a spreadsheet to calculate data and report lab findings
14. Describe and identify representative chemistry of the elements
15. Hypothesize how changing reactant or product concentrations will affect equilibriums or kinetic data

Prerequisites

CHEM 1A with a grade of C or better.

Required Materials

2. Lab Text. Chemistry 1B Laboratory Manual by David Frank
3. A simple scientific calculator. Note that only simple function calculators with small rectangular windows are allowed during examinations. Graphing or programmable calculators are not allowed. There must not be anything written on them besides your name. Anything else written on them may be considered cheating. I may randomly check calculators to make sure this rule is enforced.
4. Computer/Internet access. I will use Blackboard to post class material, announcements, and reminders.
5. Mastering Chemistry Access code. This is an on-line homework system found at www.masteringchemistry.com. If you did not receive an access code with your book, you can purchase it at the website under the Support Tab followed by the FAQS for students tab. The cost is $44.50 the last time I checked.
   a. Our course ID when you register in MLGOLDEN74311.
6. **Scantrons and #2 pencil with a good eraser.** You will need at least 10 of scantron form #20052. This is the orange/brown form. Having extra is always a good idea. Be careful not to tear nor wrinkle them.

7. **i-Clicker.** This is a remote for in class responses to questions to aid our discussions.

8. **Close-toed Shoes with a Non-skid Sole** (i.e. rubber). You may want to keep these stored in a plastic bag in your lab locker.

9. **Chemical Resistant Lab Goggles.**

10. **Lab Coat.**

**Emailing Dr. Golden (mgolden@csufresno.edu)**

In the subject line include your class name in all capitals followed by a colon and a brief description of the email. For example: CHEM 1A: Exam 2 grade check. I will respond as quickly as I can to emails. I generally respond to email in the late afternoon. If it is a lengthy question or response, please visit me.

**How to Do Well in This Course**

To be successful a typical full-time undergraduate student will need to study 25-35 hours per week (this equates to 2 hours per unit per week). **You should be prepared to spend at least 15 hours per week for just this class (including lecture, lab, studying, and homework).** If you are unable to make this time commitment to the class, you are strongly discouraged from taking CHEM 1A this semester. Similar to dieting, there is no easy pill, and yes it comes easier to some than to others. Success in this class requires hard work and discipline.

**Keys to a successful student**

- Preview the class material
- Be attentive in class and take effective notes
- Carefully read the texts
  - Make note of key points
  - Make notes of what you don’t understand
- Work the sample problems
- Do the homework
- Learn from your mistakes!! If the majority of the class misses something, I keep putting it on exams until the final or I see much improvement.
- Get help before there is a problem
- Have group and individual study sessions
  (Remember – you have to be able to do it on your own for the exam)
- Don’t cram. Work consistently.
- Use the same calculator for exams, homework, and studying. Too many times mistakes are made because someone is unfamiliar with how to use their calculator.

If you are having difficulty with the material in this course, **get help immediately** from one or more of the following sources.

1. Keep up with the material and study with others. Students who study in groups tend to do better.
2. See me during office hours or attend the scheduled review sessions.
3. For free tutoring on campus, contact the Learning Center in the Henry Madden Library (phone 278-3052 or visit [www.csufresno.edu/learningcenter](http://www.csufresno.edu/learningcenter)).
4. Get a tutor from a list in the Chem. Dept. Office (SB 380). These tutors charge for their services.

**Grading**

The General Catalog defines the course grades as follows:

- **“A - Excellent.** Performance of the student has demonstrated the highest level of competence, showing sustained superiority in meeting all stated course objectives and responsibilities and exhibiting a very high degree of intellectual initiative. (4 grade points per unit.)

- **B - Very Good.** (1) Performance of the student has demonstrated a high level of competence, showing sustained superiority in meeting all stated course objectives and responsibilities and exhibiting a high degree of intellectual initiative. (3 grade points per unit.)
C - Satisfactory. (2) Performance of the student has demonstrated a satisfactory level of competence, showing an adequate level of understanding of course objectives, responsibilities, and comprehension of course intent. (2 grade points per unit.)

D - Unsatisfactory. (2,3) Performance of the student has been unsatisfactory, showing inadequacy in meeting basic course objectives, responsibilities, and comprehension of course content. (1 grade point per unit.)

F - Failure. Fails to meet course objectives. Work at this level does not meet requirements for credit toward a degree. (0 grade points per unit.)

Grade scale (in %):

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 — 90</td>
<td>A</td>
</tr>
<tr>
<td>&lt; 90 — 80</td>
<td>B</td>
</tr>
<tr>
<td>&lt; 80 — 70</td>
<td>C</td>
</tr>
<tr>
<td>&lt; 70 — 60</td>
<td>D</td>
</tr>
<tr>
<td>&lt; 60</td>
<td>F</td>
</tr>
</tbody>
</table>

The course grade is determined by the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>12%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>12%</td>
</tr>
<tr>
<td>Exam 3</td>
<td>12%</td>
</tr>
<tr>
<td>Final exam</td>
<td>25%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>12%</td>
</tr>
<tr>
<td>Homework †</td>
<td>12%</td>
</tr>
<tr>
<td>I-clicker</td>
<td>3%</td>
</tr>
<tr>
<td>Laboratory*</td>
<td>12%</td>
</tr>
<tr>
<td>Bonus</td>
<td>4%</td>
</tr>
<tr>
<td>Total points:</td>
<td>104%</td>
</tr>
</tbody>
</table>

If necessary, the instructor reserves the right to lower the grading scale to better reflect the progress of the class. Please note that blue or black ink pens or pencils are the only acceptable writing utensils for assignments, and you must use pencils for scantrons. Also, if I can’t read it, I don’t grade it. So please write answers legibly.

†If rare technical issues prohibit the downloading of homework grades, some or all of the homework contribution may be distributed among the Final, three exams, and quiz average scores. Homework is required. You must earn 60% or higher on the Mastering Chemistry Homework to pass the course.

*ALL LAB GRADES ARE SUBJECT TO NORMALIZATION! Lab instructors turn in student raw lab scores and lab letter grades to the lab coordinator and to the lecture instructor. Generally the lab letter grade, not the raw score, is converted to a score that fits your instructor's grading profile. Any lab section's letter grades may be changed by the coordinator and/or lecture instructor in a way to provide a normalized grade distribution for that section, to achieve parity with the other lab sections, if that is possible. In other words, if a lab instructor is a tough grader compared to the other lab instructors, lab letter grades in that class may be raised. On the other hand, if a lab instructor is an easy grader, lab letter grades in that particular class may be lowered.

Very infrequently a lab TA will not turn in grades or will turn in grades and raw scores so close together that they poorly discriminate among students' chemistry competence (i.e., almost everyone has received an “A” or “B”). In these very rare situations, if normalization is not appropriate, the laboratory grade may be discounted or may not even be used at all in the calculation of a final grade. In that case, the lab percentage contribution will be roughly evenly distributed among the Final, three exams, and quiz average scores.

A LONG STANDING DEPARTMENTAL POLICY CONSIDERS AN F IN EITHER LECTURE OR LABORATORY TO BE AN F IN THE COURSE. IF EITHER LECTURE OR LABORATORY IS FAILED, THE COURSE MUST BE REPEATED.
Quizzes and Exams

Each exam and quiz may contain some material covered on previous exams or quizzes. There will be a total of 6 quizzes. Each quiz will cover two chapters worth of material and will be based on your homework and lecture. You will be given 15-20 minutes to complete the quizzes. Each exam is 60 minutes long, and are entirely or mostly multiple choice. You will record your answers on your exam copy and then transfer your answers to scantron. You will not receive your scantrons back, but you may request to see them. Answer keys will be posted on Blackboard at the scheduled end of the exam.

The final is comprehensive and required. In extremely rare circumstances, an alternative examination time may be arranged if done well before the scheduled examination date. Emergencies will be handled on a case by case basis.

The only things you will be allowed to have at your seat during an exam are a scantron, two pencils, a calculator, and your photo id. If you bring anything else, such as a purse or backpack, it has to stay at the front of the room until you have turned in your exam. This means no scrap paper, no cell phones, no ipods, no backpacks, no purses, no food, no water, etc. If I see them, I will not accept your exam. All personal items go to the front of the room. If you don’t want to put your items at the front of the room during the exam, don’t bring them to class. The only exceptions are medically necessary items, but you must notify the instructor prior to the exam.

Bring with you to all exams and quizzes:

A. Scanntron form #20052. Its color is brown. All information must be neatly printed as instructed. No cursive. If I can’t read it, then you don’t get credit.
   - Name: neatly print your last name separated with a comma, your first name as it appears on the roster and then the name you go by in parentheses. For example mine would read: Name Golden, Melissa (Missy)
   - Subject: list your seat number (For example: B 103)
   - Date: month/date/year For example: 11/27/2011
   - Period: print the version (For example: B, blue)

B. Two soft lead pencils (#2 or softer) with good, working erasers. A mechanical pencil is probably best because you cannot get up to sharpen your pencil.

C. A calculator (The Texas Instruments TI-30SLR is cheap, and is powered by light. Batteries have a way of failing just when you need them.). Only simple function calculators with small rectangular windows are allowed on the exams. Cell phone calculators are not acceptable.

D. Bring positive identification containing your photograph (Student ID or driver’s license). If you are asked for and do not have proper identification, your exam will not be accepted.

Failure to fill out the scantron as requested may range in a point deduction ranging from a point lost to all points lost.

If you are late for an exam or quiz, you cannot take the examination if someone has turned in their exam. Leaving and returning during exams is not permitted. If you are a quick exam taker or expect to leave early during a quiz, sit either on the first row or in an aisle seat so that you do not disturb others when you leave. Likewise if you are slow, sit towards the center of the aisle. Students will be assigned seats for exams and the final. Photos will be taken to confirm sittings. Contact the instructor for special needs such as a left-handed seat. You are not allowed to wear hats nor sunglasses during quizzes and exams.

Homework

Chapter assignments will be made and submitted using Mastering Chemistry. Please work on these diligently. Do not procrastinate. You will not be given extra time due to computer or network problems. Our course ID when you register is MLGOLDEN74311. Homework is required. You must earn 60% or higher on the Mastering Chemistry Homework to pass the course.

Laboratory

The laboratory provides an opportunity to perform experimental chemistry and to relate experimental observation to fundamental principles of chemistry. The laboratory is designed to teach the concepts and techniques of an experimental science. The experiments may also provide significant support for lecture concepts. LABORATORY
ATTENDANCE IS MANDATORY. TWO ABSENCES IN EITHER LAB OR RECITATION OR ONE ABSENCE IN EACH WILL SERIOUSLY AFFECT YOUR LAB GRADE, AND THE THIRD ABSENCE OVERALL WILL RESULT IN AN F IN THE LABORATORY AND THUS AN F IN THE COURSE. A MADE UP LAB IS STILL COUNTED AS AN ABSENCE. Making up the lab at another time is simply a way for the student to get the experience and the missed points. An unavoidably missed lab or recitation must be made up only during the same week the experiment or activity is scheduled and only during another scheduled CHEM 1A laboratory in which there is room to work. If a laboratory/recitation must be missed, the laboratory instructor in the missed lab must be informed before the laboratory can be made up. The laboratory instructor in the makeup lab must give permission to work and must sign and date the lab book to verify your attendance in the lab. Absences from the lab are the most common reason that students receive an F in this course.

Extra Credit
The only opportunities to receive extra credit are the bonus questions in the homework and a service activity sponsored by the chemistry club. You may receive up to 3 points added to your total class score for chemistry service. An extra 1% will be given to those that join the American Chemical Society, but you must provide your membership number. Please notice that this is a significant number of points. It is the equivalent of adding 16 % to your final exam score! For the service activity you must write a paragraph describing the event, you contribution, and the amount of time you dedicated. Fill out the form located on Blackboard. Please type your paragraph into the form. If you do not write a well-written paragraph, you will not get credit. This sheet must be signed by a chemistry club officer or club sponsor. The latest this can be submitted is at the final examination.

I-clicker
We shall be using a class response system called "i-clicker" to answer lecture and reading related questions, and all students are required to acquire an i-clicker remote. Since the i-clicker has been selected as the University standard, there will be many classes on campus which will be using the i-clicker system. A new i-clicker remote costs $32, a used one costs $24, and you can sell it back to the bookstore for half of what you paid for it.

1. Purchase an i-clicker at the bookstore. Be sure you can read the serial number on the back below the bar code. If you cannot, choose another. It can be used in any class using the i-clicker system.
2. Turn it on. Once you remove your clicker from its packaging, you will need to pull the clear plastic "Pull" tab from the back of the remote to activate the batteries. On the front of your clicker you will notice there are 6 options: A, B, C, D, E, and On/Off. The On/Off button is what you press to both turn it on (resulting in a solid blue light by the "Power" indicator at the top of your clicker) and off (removing the solid blue light).
3. I-clicker remotes come with batteries installed, and should last 200 hours of use. The "Low Battery" light will flash red when you need to replace your batteries. Once this light begins flashing, you have 10 hours or less of battery power remaining. Your clicker uses 3 AAA "Energizer" batteries (other brands may not fit).
4. I-clicker remotes have two battery-saving features. As long as a remote is actively communicating with a receiver (i.e. you are using it to vote), the remote will remain on for 90 minutes after the last vote. If a remote is accidentally turned on or buttons are compressed but the remote is not communicating with a receiver (i.e. in a backpack or purse), the remote will automatically turn off after 5 minutes.
5. Register your i-clicker. This step is REQUIRED as it links your i-clicker serial number with your name and CSUF ID number. There is no cost involved. Simply go to www.iclicker.com/registration to enter your first name, last name, Your 9 digit CSUF ID number, and the serial number on the back of the remote, printed just below the bar code lines. Your clicker ID may contain the number zero, but will not contain the letter O. Finally, type in the security verification number you see in a picture in the field provided. You only need to do this registration once, even if you have multiple courses that use the i-clicker.

OPERATING SOMEONE ELSE’S CLICKER FOR THEM IS CONSIDERED CHEATING.
See policy on cheating below.

Incomplete Grades
An incomplete grade (I) can be given only if a student has a passing grade in all work completed in the course AND has completed at least two-thirds of the course work AND presents to the instructor complete written documentation
of the reason(s) for requesting the incomplete. Incomplete grades are rarely given and only for fully justified reasons.

**Class Attendance and Absentee Policy**
A grade will not be given for lecture attendance; however, students are responsible for all material covered and all announcements made in class whether or not they are present. LABORATORY ATTENDANCE IS MANDATORY.

*There will be absolutely no make-ups nor extensions for missed i-clicker sessions, exams, nor quizzes.*

In the event of an university excused absence (i.e. severe or contagious illness, death, CSU Fresno sponsored trip) with the appropriate documentation, the final exam and quizzes associated with that section will be weighted to take the place of a missed exam. For example if you miss the 2nd exam, made a 90% on the final, and earned a 75% and a 69% on the 2 quizzes associated the 2nd exam, then your 2nd exam grade would be 81% \((90+90+75+69)/4=81\). Notice that this only applies to exams. A missed quiz for any reason is a zero. This is why I advise doing the bonus. For homework, each hour past the due date that an assignment is late you will lose 1% up to a maximum of 70%.

**Safety**
You will receive additional information pertaining to safety in your lab section. Failure to comply with safety rules and policies will result in your removal from the classroom. If you are asked to leave, you do not get to make up the missed work, and you will be marked absent for the day. You must wear closed-toe shoes in the lab, a lab coat, and goggles anytime chemicals and/or glassware is out. This includes checking-in and -out of lockers. Cover as much exposed skin as possible. A lab coat is required and can be used in subsequent courses.

**THIS SYLLABUS AND SCHEDULE ARE SUBJECT TO CHANGE IN THE EVENT OF EXTENUATING CIRCUMSTANCES. IF YOU ARE ABSENT FROM CLASS, IT IS YOUR RESPONSIBILITY TO CHECK ON ANNOUNCEMENTS MADE WHILE YOU WERE ABSENT.**

**University Policies**
The course will adhere to the university policy on students with disabilities and policy on cheating and plagiarism.

**Students with Disabilities:**
Upon identifying themselves to the instructor and the university, students with disabilities will receive reasonable accommodation for learning and evaluation. For more information, contact Services to Students with Disabilities in the Henry Madden Library, Room 1202 (278-2811).

The instructor tries to make every reasonable accommodation to help students who have disabilities. If you need special accommodations, please let the instructor know. If demonstrations, eluminate sessions, uncaptioned videos, or anything else that the instructor may use to supplement multiple teaching methods are inaccessible to you, please notify the instructor by email at the beginning of the semester or as soon as the problem arises.

**Honor Code**
“Members of the CSU Fresno academic community adhere to principles of academic integrity and mutual respect while engaged in university work and related activities.” You should:

a) understand or seek clarification about expectations for academic integrity in this course (including no cheating, plagiarism and inappropriate collaboration)

b) neither give nor receive unauthorized aid on examinations or other course work that is used by the instructor as the basis of grading.

c) take responsibility to monitor academic dishonesty in any form and to report it to the instructor or other appropriate official for action.

Instructors may require students to sign a statement at the end of all exams and assignments that “I have done my own work and have neither given nor received unauthorized assistance on this work.”
**Cheating and Plagiarism**

"Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term 'cheating' not be limited to examination situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means. Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the material (i.e., their intellectual property) so used as one's own work." Penalties for cheating and plagiarism range from a 0 or F on a particular assignment, through an F for the course, to expulsion from the university. For more information on the University's policy regarding cheating and plagiarism, refer to the Class Schedule (Legal Notices on Cheating and Plagiarism) or the University Catalog (Policies and Regulations).

**Computers**

"At California State University, Fresno, computers and communications links to remote resources are recognized as being integral to the education and research experience. Every student is required to have his/her own computer or have other personal access to a workstation (including a modem and a printer) with all the recommended software. The minimum and recommended standards for the workstations and software, which may vary by academic major, are updated periodically and are available from Information Technology Services (http://www.csufresno.edu/ITS/) or the University Bookstore. In the curriculum and class assignments, students are presumed to have 24-hour access to a computer workstation and the necessary communication links to the University's information resources."

**Disruptive Classroom Behavior:**

"The classroom is a special environment in which students and faculty come together to promote learning and growth. It is essential to this learning environment that respect for the rights of others seeking to learn, respect for the professionalism of the instructor, and the general goals of academic freedom are maintained. ... Differences of viewpoint or concerns should be expressed in terms which are supportive of the learning process, creating an environment in which students and faculty may learn to reason with clarity and compassion, to share of themselves without losing their identities, and to develop and understanding of the community in which they live ... Student conduct which disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class."

**Copyright policy**

Copyright laws and fair use policies protect the rights of those who have produced the material. The copy in this course has been provided for private study, scholarship, or research. Other uses may require permission from the copyright holder. The user of this work is responsible for adhering to copyright law of the U.S. (Title 17, U.S. Code). To help you familiarize yourself with copyright and fair use policies, the University encourages you to visit its copyright web page:

http://www.csufresno.edu/library/about/policies/docs/copyrtpolicyfull.pdf

Digital Campus course web sites contains material protected by copyrights held by the instructor, other individuals or institutions. Such material is used for educational purposes in accord with copyright law and/or with permission given by the owners of the original material. You may download one copy of the materials on any single computer for non-commercial, personal, or educational purposes only, provided that you (1) do not modify it, (2) use it only for the duration of this course, and (3) include both this notice and any copyright notice originally included with the material. Beyond this use, no material from the course web site may be copied, reproduced, re-published, uploaded, posted, transmitted, or distributed in any way without the permission of the original copyright holder. The instructor assumes no responsibility for individuals who improperly use copyrighted material placed on the web site.
**Tentative Course Schedule**

You will notice from the proposed schedule below, that we will be covering an extensive amount of material in a short amount of time. It is your responsibility to speak up when you have a question and to seek help before you get behind. Once you get behind, it will be extremely difficult to catch yourself back up.

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>In Class</th>
<th>LAB</th>
<th>Homework Due at 11:00 am</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday</td>
<td>8/23</td>
<td>Chapter 12 (Solutions)</td>
<td>Study Guides</td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td>8/25</td>
<td>Chapter 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>8/30</td>
<td>Chapter 12,14 (Video Lecture)</td>
<td>#1 Sunscreen</td>
<td>Chapter 12</td>
</tr>
<tr>
<td>Thursday</td>
<td>9/1</td>
<td>Chapter 14 (Equilibria)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>9/6</td>
<td>Quiz #1 (Ch. 12,14), Chapter 14</td>
<td>Labor Day then #2</td>
<td>Chapter 14</td>
</tr>
<tr>
<td>Thursday</td>
<td>9/8</td>
<td>Chapter 15 (Acids/Bases)</td>
<td>#4 Intro to Equilibrium</td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>9/13</td>
<td>Chapters 15</td>
<td></td>
<td></td>
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<tr>
<td>Thursday</td>
<td>9/15</td>
<td>Chapter 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>9/20</td>
<td>Quiz #2 (Ch. 14, 15), Chapter 16</td>
<td>#5 Indicators</td>
<td>Chapter 15</td>
</tr>
<tr>
<td>Thursday</td>
<td>9/22</td>
<td>Exam #1 Chapters 12,14,15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>9/27</td>
<td>Chapter 16 (Ionic Equations)</td>
<td>#3, #7 buffers &amp; pKₐ</td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td>9/29</td>
<td>Chapter 16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>10/4</td>
<td>Chapter 24 (Transition Metals)</td>
<td>#8 titration curves</td>
<td>Chapter 16</td>
</tr>
<tr>
<td>Thursday</td>
<td>10/6</td>
<td>Chapter 24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>10/11</td>
<td>Quiz #3 (Ch. 16,24), Chapter 24</td>
<td>Lab Practical</td>
<td></td>
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<tr>
<td>Thursday</td>
<td>10/13</td>
<td>Chapter 17 (Thermodynamics)</td>
<td></td>
<td>Chapter 24</td>
</tr>
<tr>
<td>Tuesday</td>
<td>10/18</td>
<td>Chapters 17</td>
<td>Qual Scheme</td>
<td></td>
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<tr>
<td>Thursday</td>
<td>10/20</td>
<td>Chapter 17</td>
<td></td>
<td></td>
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<tr>
<td>Tuesday</td>
<td>10/25</td>
<td>Quiz #4 (Ch. 24,17), Chapter 22</td>
<td>Qual Scheme</td>
<td>Chapter 17</td>
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<td>Thursday</td>
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<td>Exam #2 Chapters 16,24,17,22</td>
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<td>Tuesday</td>
<td>11/1</td>
<td>Chapter 13 (Kinetics)</td>
<td>Lab Practical</td>
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<td>11/3</td>
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<td>11/8</td>
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<td>Kinetics</td>
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<td>11/10</td>
<td>Chapter 18 (E-Chem)</td>
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<td>11/22</td>
<td>Chapter 19 (Nuclear)</td>
<td>Service</td>
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<td>11/24</td>
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<td>11/29</td>
<td>Chapter 23 (Metals)</td>
<td>Electrochemistry</td>
<td>Chapter 19</td>
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<td>12/1</td>
<td>Quiz #6 (Ch.18,19,23), Chapter 23</td>
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<td>12/6</td>
<td>Exam #3 Chapters 13,18,19,23</td>
<td>Quiz and Check out</td>
<td>Chapter 23</td>
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<tr>
<td>Thursday</td>
<td>12/8</td>
<td>Consultation Day</td>
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<td>Tuesday</td>
<td>12/13</td>
<td>Final Exam 11:00 am-1:00 pm</td>
<td>Presentations</td>
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* 9/19 is last day to drop without a serious and compelling reason
** 11/15 is the last day to drop. You must have a serious and compelling reason