

CHEM 1062 Syllabus

Chemical Principles II

Fall 2018, 3 credits, 9/4/18 - 12/12/18
MWF 11:15 AM - 12:05 PM, Smith 100
MWF 2:30 - 3:20 PM, Smith 100

Instructor Information

Prof. Doreen Geller Leopold

211 Smith Hall dleopold@umn.edu 626-2047

Office hours: Fridays 12:30 - 2:00 in Smith 211 (and other times by appointment)

General Course Information

Chemistry 1061 and 1062 are introductory lecture courses (each 3 credits), accompanied by a separate lab course (Chem 1065, 1066, each 1 credit).

These courses are designed to help prepare students for science and engineering majors, including chemistry.

Each lecture/lab pair fulfills the Diversified Core requirement in Physical Science. A student may ask, "Why is this course considered an important component of my liberal education?" A liberally educated person is one who can understand complex issues, find credible information, analyze that information, problem-solve, and draw reasonable conclusions based on facts. These courses will help to develop the skills of an informed citizen and life-long learner. (For more information on this aspect of Chem 1062/1066, see p. 10.)

Prerequisites To register/remain registered in 1062, you must fulfill 2 criteria:

- You must have passed Chem 1061 or an equivalent course with a grade of C- or better.
- You must also be registered in the lab, Chem 1066, this semester.

If you do not meet these requirements, you should report your situation to the staff in Smith 115 (624-0026) immediately. They handle all registration issues pertaining to this course. They must also be informed if you are retaking this course without the lab (having passed it previously).

Textbook "*Chemistry: The Molecular Nature of Matter and Change*," by Martin Silberberg and Patricia Amateis (McGraw-Hill, 8th edition, 2018).

For \$187.50, a new hard-cover text can be purchased at the Bookstore, packaged with the "ALEKS-360" two-semester access card and e-book.

Or, 90-day access to ALEKS can be purchased online (www.aleks.com) for \$30. You might want to sign up 90 days before your class' final exam (see top of p. 4) to be able to use ALEKS to review, but in time to do the first problem set, which is due Sept. 26. (Use of ALEKS is not required in our class; see bottom of p. 4).

Calculators

Calculators will be allowed on all of our Quizzes **except for Quiz 3** (on acid-base equilibria, Chapter 18), and they will also be allowed on the Final Exam.

For Quiz 3, numerical values in questions will be chosen to be "pencil-and-paper" math friendly, and/or the multiple-choice answers listed will be far enough apart to allow the answer to be estimated.

For Quizzes and Exams on which calculators are allowed, a general policy for the general chemistry courses is that *programmable or graphing* calculators may *not* be used. The presence or use of an unacceptable calculator on Quizzes or Exams will be considered as scholastic dishonesty.

Calculators may not be shared among students during Quizzes and Exams.

One recommended model is the **TI-30Xa** (one-line display), which is available at the U of M Bookstore in Coffman Union for about \$10.

Another good model is the two-line display **TI-30X IIS**. (Many other two-line calculators are programmable so would *not* be acceptable.)

If you have a different *non-programmable, non-graphing* calculator that you would like to use, please obtain the instructor's approval prior to the exam.

It is useful for the calculator to be able to display numbers in scientific notation (e.g., 6.02×10^{23}) and to have exponential and logarithmic functions, including natural logs (base e). If you are concerned about battery failure during the exam, it is a good idea to bring a second calculator or extra batteries with you.

Class Websites

There are 4 websites associated with this course that you will find useful.

1. Lecture Moodle Site ay17.moodle.umn.edu

CHEM 1062 Chemical Principles II (sec 001, 002) Fall 2018

This site includes various resources to help you succeed in this class:

- PowerPoint lecture slides (with portions omitted - to be filled out in class)
- Study Guides including reading and end-of-chapter problems
- Your Quiz and Final Exam grades
- Answer keys for our Quizzes and Final Exam
- Last semester's Quizzes and Final, and detailed keys with worked problems

2. Lab Information <http://genchem.chem.umn.edu/>

Please note that the Chem 1066 lab is a separately graded course that must be taken during the same semester that you take Chem 1062.

3. ALEKS online learning system - described on the next page

4. General Chemistry Web Site <http://genchem.chem.umn.edu/>

This site also has general information about Chem 1062 and other general chemistry courses, including walk-in tutor hours in Smith 124.

Study Guides and ALEKS Problem Sets

Study Guides on our class' Moodle site provide recommendations for readings in the text and associated end-of-chapter problems. Doing these problems is very useful to help learn the material and prepare for the Quizzes and for the Final Exam. *All of the topics covered on our Quizzes and on the Final Exam are also included in these Study Guides.*

- Answers to assigned problems with black numbers will be posted on Moodle. Answers to problems with red numbers are listed in Appendix E of the text, and also right below that problem in the e-book version.

Online Learning (ALEKS): *For more info, see pp. 4 & 6 and our Moodle site.*

ALEKS stands for **A**ssessment and **L**earning in **K**nowledge **S**paces. It is a novel, "artificially intelligent" system that uses a method called "adaptive questioning". Seven problem sets ("objectives") are available for our class on **ALEKS**. For students who use ALEKS, the first 5 are due at 9:00 PM on the same days as our Quizzes, and the last 2 are due on the last 2 Wednesdays of classes. Together, the 7 **ALEKS** problem sets **can count as 2.5 % of the course grade**. The **ALEKS** grade will be calculated out of a maximum of **10 points** total, with full credit given for **100 topics (0.1 point per topic)** completed by their due dates, out of 131 topics total for the 7 **ALEKS** problem sets ("objectives"). The initial assessment (30 topics) does not count toward these 100 topics. No **ALEKS** "assessments" have been scheduled after the initial one. (In our class, the "pie mastery" % will not be used in determining the **ALEKS** grade.)

Accessing ALEKS:

1. [Go to www.aleks.com](http://www.aleks.com) and log in (or purchase an access code if needed). Free access for 2 weeks can be obtained using this **temporary access code: E7F91-C6BD7-57A2A-5E9D0** (the last character is a zero)

Enter our **class code: RUKCE-HX3WQ** This is a unique code for our class. Check that you're in the right class: Chemical Principles II, Fall 2018, Leopold

2. [Take the Initial Assessment](#)

Its purpose is for **ALEKS** to figure out the best questions to ask you later. You can log out and log back in, and it will keep your place. This assessment includes 30 math topics (which do not count toward your **ALEKS** points) and material (selected by **ALEKS**) from last semester or later this semester. The due date is listed as Sept. 12, but **ALEKS** will administer it at a later date if needed, as it is required before starting the first problem set ("objective").

(**ALEKS** recommends that it's not a good idea to hurry through the initial assessment and incorrectly answer questions on material that you already know, since then it may ask too many questions later that are too easy for you.)

3. [Learning Mode](#) After the initial assessment, you can start the objective on Kinetics, which is due by 9 PM on Wed. Sept. 26.

Quizzes and Exams

- There will be **5 Quizzes** on **Wednesdays at our usual class time** on **Sept. 26, Oct. 10, Oct. 24, Nov. 7, and Nov. 28**
(Rooms to be announced - we will have a 2nd exam room for the 11:15 class.)

- The **Final Exam dates:** (Rooms to be announced.)

For the MWF 11:15 class: **Tues. Dec. 18, 2018** at **10:30 AM - 12:30 PM.**

For the MWF 2:30 class: **Sat. Dec. 15, 2018** at **8:00 - 10:00 AM.**

The Final Exam will be cumulative over the whole semester.

If the Final Exam is not taken at the scheduled time, a score of zero will be given, unless the student has obtained an excused absence (see "Incompletes") or has arranged with Doreen to take the final exam with the other class.

- *Our class' Quizzes and the Final Exam will only be given during the regularly scheduled times.*

Grades & Grading Policies

Course grades will be based on the weighted average of Quiz, Final Exam and (optionally) ALEKS scores, according to the following breakdown.

<u>Weight</u>	Points
Quizzes (65 points each, 13 questions, 5 points each)	} 390*
Final Exam (130 points, 32 questions, 4 points each plus one 2-point question)	
ALEKS - 7 Objectives (up to 10 points total)**	<u>10</u>
Total Possible	400

Example: if a student gets 275 points out of 400 total on the quizzes and exams and 8 points out of 10 on the 7 ALEKS objectives (i.e., 80 topics out of 131 completed by their respective due dates), the cumulative score would be:

$$(275 + 8) / 400 = 283 / 400 = 70.8 \%$$

According to the grading information on page 6, this percentage would correspond to a course grade of B- (or better).

* Best 4 out of 5 quizzes and full weight of final ($4 \times 65 + 130 = 390$) or count all 5 quizzes and reduce weight of final to half ($5 \times 65 + 65 = 390$), whichever is better.

** Regarding ALEKS: If a student chooses *not* to do the ALEKS objectives (problem sets), or if the percentage including ALEKS (out of 400 points) is lower than the percentage calculated without ALEKS (out of 390 points), then the latter percentage would be used.

Students who choose not to do the ALEKS problems are *strongly encouraged* to do the end-of-chapter problems in the Study Guides to learn the material and prepare for the Quizzes and the Final Exam.

Quiz and Exam Format, Missed Quizzes, Incompletes

Exam Format The 5 Quizzes will each have 13 multiple choice questions worth 5 points each, and the Final will have 33 multiple choice questions (32 worth 4 points each and one question worth 2 points).

The **equation sheet** and periodic table at the end of this syllabus will be provided with each of our Quizzes and with the Final Exam. **No notes are allowed.**

Since the Quizzes and Final will be machine-graded, answers must be given by filling in the appropriate spots *in #2 pencil* on the "bubble" sheets (scantrons).

Students must bring their I.D. card (U Card) to each Quiz and to the Final Exam, since the proctors will check or spot-check these.

Cell phones or other electronic communication devices **may not be used** during Quizzes or on the Final Exam.

Ear plugs (to help reduce distractions) are allowed and will be available in class.

Excused Absences from Quizzes

Students who are unable to take one Quiz (worth 65 points) due to illness, a family emergency, etc., can obtain an **excused absence** from the instructor. In this case, the student's total quiz & final exam grade will be calculated as a percentage of $390 - 65 = 325$ points, rather than out of the usual 390 points.

A student requesting an excused absence should contact the instructor (e.g., by e-mail or phone) before the start of the exam to make this request, if possible. It is not necessary to provide a doctor's note for one-time illnesses for which you would not ordinarily be seen by a doctor.

Students on University teams playing out of town (or other U of M activities) may be able to take a Quiz at that location, with the coach or an instructor as proctor. Please see your 1062 instructor about this early so arrangements can be made.

If circumstances require a student to request an excused absence from more than one of our 5 Quizzes, the student should contact the instructor to discuss the available options.

Incompletes Students who have an **excused absence** from the **Final Exam**, and are passing the course based on their quiz scores, may be eligible to receive a grade of "I". The instructor should be notified *before* the Final Exam begins, if possible. (This option is rarely exercised.)

An "Incomplete" form (available in Smith 115) signed by the student (when they are able to do so) and by the instructor is required. This form must describe the arrangements made to make up the Incomplete, which must be done by the end of the following semester.

Course Grading Methods

Course grades will be determined by a method that combines the absolute grading scale shown below with a "curve" applied at the end of the semester (if needed) to lower some of the thresholds. That is, if you get the following total scores on the Quizzes, Final Exam and (optionally) ALEKS, then your course grade will be at least as high as is listed below. Grades may be curved in a **favorable** direction at the end of the semester (for example, a B- might become a B), if needed to adjust the course grades **up** to the usual department-wide distribution for introductory chemistry classes (in which about half of the students earn course grades in the A or B ranges).

Minimum Points Required for Letter Grades

out of 400 points
including ALEKS*

A+ **	95%	380 points
A	90%	360
A-	85%	340
B+	80%	320
B	75%	300
B-	70%	280
C+	65%	260
C	55%	220
C-	45%	180
D+	40%	160
D	35%	140

* Use of the ALEKS online system is optional in this class.

If students choose not to do the *ALEKS* problem sets, or if their total ALEKS percentage (out of 10 points for 100 topics out of 131 completed by the due dates for the 7 objectives) is lower than their average quiz and final exam percentage, then the percentage out of 390 points (not including ALEKS), rather than out of 400 points, will be used in determining the course grade.

To implement this option, each student's score will be calculated out of 390 points (not including the *ALEKS* grade) and out of 400 points (including the *ALEKS* grade of up to 10 points). The higher of the two percentages will be used in determining the student's course grade.

** Since A+ isn't an official course grade, this would actually be an A.

Other Grade-Related Issues

Regrades

Quiz and Final Exam regrades should be requested in writing (directly to the instructor via e-mail) by the end of the week following the posting of those grades. It is very unusual for the bubble sheets (scantrons) to be misread by the scanner. Students are responsible for making sure they have accurately recorded their answers in the correct spaces on the bubble sheet and have completely erased answers which were changed.

S/N Grading (for students not in CSE or CBS)

If you are registered for this course on an S/N basis, a grade equivalent to C- on the A-F scale will be required to receive an "S". A grade of D+ or below will receive an "N". (Many programs do not like S/N grades or will assume that they represent the minimum possible grade.)

Withdrawals

If you are considering withdrawing from the class for academic reasons, it is a good idea to discuss this first with your instructor. Your situation may not be as bad as you think it is. If you do decide to drop the class, you should officially withdraw following the rules for your college. Students who withdraw will not have any records retained for use upon retaking the class.

As noted on onestop, "Students who drop CHEM 1062 (lecture) before [Monday, Nov. 5, 2018](#) are REQUIRED to drop CHEM 1066 (lab). No Exceptions!"

Retaking the Course

Students who have completed the lab (Chem 1066) and wish to retake Chem 1062 should speak with the staff in Smith 115.

Scholastic Dishonesty is discussed under CSE's [scholastic policies](#).

It is defined in the [University Student Conduct Code](#) as follows:

" Scholastic Dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. "

Academic dishonesty in any portion of the academic work for a course shall be grounds for assigning the student a grade of F (or N) for the entire course.

Help

Asking questions during office hours, after class, in the tutor room, etc., can help students overcome conceptual or quantitative problems with the material. It is a good idea to get help early to deal with potential problems before they escalate.

Instructor's Office Hours

These will be regular, drop-in office hours every week (see times on page 1), for which no appointments are needed.

Students can also make appointments for us to meet at other times.

Students are also welcome to send questions by email (dleopold@umn.edu).

Drop-In Tutorial Hours <http://genchem.chem.umn.edu/>

Room 124 Smith Hall is the site of regular Chem 1062 drop-in tutorial sessions conducted by general chemistry TAs.

Typical hours are Mondays through Fridays, 10 AM through 6 or 7 PM.

Smart Learning Commons <http://smart.umn.edu/>

This resource, in Walter Library, also provides tutorials, peer-assisted learning sessions, study space, and help with exam preparation.

PAL (Peer Assisted Learning) <https://www.lib.umn.edu/smart/about-pal>

These meetings are led by trained, experienced undergraduate PAL facilitators. They are intended to reinforce lecture and text material through small group work, with a focus on course concepts and practice solving problems.

Student Solutions Manuals www.lib.umn.edu/course/CHEM/1062

The *Student Solutions Manual* for the Silberberg and Amateis text (8th Ed.) is available in the Reserve room in the basement of Walter Library.

It has detailed solutions to the red-numbered problems, for which short answers are also listed in Appendix E.

These materials can be borrowed for **3 hours** (or overnight if borrowed after 5 PM - in that case, they must be returned one hour after the library opens the next day).

For more information on Walter Library course reserves, contact Tim Engelstad (624-3897 , engel356@umn.edu).

Miscellaneous

Special Needs

Students should contact the Disability Resource Center (DRC) (626-1333, ds@umn.edu, <https://diversity.umn.edu/disability/>).

If the DRC recommends that extended times (or a private room) are required, students are responsible for making arrangements with the DRC to take their Quizzes and Final Exam under their supervision at the McNamara Alumni Center. Arrangements must be made at least one week prior to each Quiz or the Final Exam.

Issues with Your Instructor

On occasion you may have a concern or problem regarding this course. You will find your instructor quite willing to discuss this with you. If, however, you wish to discuss it with someone else, please contact Prof. Michelle Driessen, Director of General Chemistry (113 Smith Hall, 624-0062, mdd@umn.edu). She will serve as a mediator in helping to resolve the issue.

Credits and Workload Expectations

One credit is defined as equivalent to an average (over a full semester) of three hours of learning effort per week necessary for an average student to achieve an average grade in the course. For example, a student with an average level of preparation who is taking a 3 cr., 3 lecture-per-week course (like Chem 1062) should expect to spend a total of 3 cr. x 3 hours/cr. = 9 hours per week on the class. Subtracting 3 hours for lectures, this corresponds to an *additional* 6 hours *every week* on reading and doing problems in the Study Guides and/or the ALEKS problem sets to achieve an average grade.

Liberal Education Statement for Chem 1062

CHEM 1062 satisfies the U of M Liberal Education Physical Science Core requirement. What does this mean? Core courses are intended to provide an in-depth look at how knowledge is created in a particular discipline.

Naturally, they provide content knowledge, but just as important, they teach “modes of inquiry”: How do workers in a particular field think? How do they collect and process information? How do they create new knowledge?

By taking a distribution of core courses during your time at the U of M, you gain an appreciation for the similarities and differences among disciplines. Much as learning a foreign language helps you to better understand your own language, a distribution of core courses provides the perspective needed to understand a broad range of complex issues and can ultimately make you a better practitioner of your own chosen field. You learn different approaches to finding credible information, analyzing information, solving problems, and drawing reasonable conclusions based on facts. In doing so, you develop skills needed to be an informed citizen and life-long learner.

In CHEM 1062, we study chemistry, of course. For example, we learn to understand chemical reaction rates, chemical equilibrium, acid-base reactions, thermodynamics, and electrochemistry. We describe how these topics fit together to form a beautiful and coherent picture, allowing us to understand and make useful predictions about the world. To accomplish this, we do what scientists do all the time: We create ideas and then test their validities by applying them to new situations. Moreover, using the language of math, we translate these ideas into quantitatively testable statements. We will pose and solve many problems in this course and, by working through them yourself, you are, in effect, doing what scientists do – you are taking concepts in their mathematical incarnations and using them to enhance your understanding and to make predictions. You are *doing the work of the field*.

This aspect of the course is particularly emphasized in the co-requisite laboratory course (Chem 1066). In the lab, you do experiments. You test hypotheses. You take data, and manipulate those data so as to allow them to provide the clearest possible picture of the phenomenon you are studying. In some cases, you will also *use* the understanding obtained to offer workable solutions to practical problems. This is the way scientists approach the world and, in following suit, you get at the core of one important aspect of human endeavor.

Student Learning Outcomes

http://www.academic.umn.edu/provost/teaching/ces_loutcomes.html

Succeeding in Chem 1062 and 1066 will help students come closer to achieving 6 of the 7 Student Learning Outcomes that together describe the anticipated capabilities of students who have earned their bachelor's degrees at the U of M:

- ***Can identify, define, and solve problems***

These courses provide a vehicle for practicing quantitative problem solving and for learning to transcend merely algorithmic thinking. Many of the problems we will encounter require the synthesis of both mathematical and conceptual modes of understanding.

- ***Can locate and critically evaluate information***

With the abundant new chemical information introduced in these courses, much of the challenge in solving a particular problem is often figuring out what information is most pertinent. These skills will be further exercised in the lab, where students will work together on extended, open-ended assignments.

- ***Have mastered a body of knowledge and a mode of inquiry***

We will cover many useful principles of chemistry which are tied together by common threads, and together form part of a "body of knowledge". Learning how to approach and apply this knowledge involves practicing some of the "modes of inquiry" used routinely by chemists and, indeed, by all scientists and engineers.

- ***Can communicate effectively***

In the lab, students will develop their scientific writing skills through keeping laboratory notebooks and writing formal lab reports. Students will also hone their oral communication skills through interactions with their lab team members, and by presenting reports on their experimental results.

- ***Understand the role of creativity, innovation, discovery, and expression across disciplines***

Scientists' efforts to explain the world in new ways often require real creativity, and the discipline to pursue and effectively communicate original ideas despite their initial derision by others. We will see how physics and math blend seamlessly with chemistry, and how chemistry permeates many other disciplines.

- ***Have acquired skills for effective citizenship and life-long learning.***

Chemistry plays a central role in many societal issues. The knowledge and critical thinking skills developed in these courses can help form a foundation for informed decision making and effective citizenship.

Additional Links to Recommended U of M Syllabus Policy Statements

WEBPAGE: <https://policy.umn.edu/education/syllabusrequirements-appa>

1. Student conduct code:
http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf
2. Scholastic dishonesty: (also see p. 7 of this syllabus)
http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf
<https://communitystandards.umn.edu/avoid-violations/avoiding-scholastic-dishonesty>
3. Use of personal electronic devices: (also see p. 3 of this syllabus)
<http://policy.umn.edu/education/studentresp>.
4. Grading: (also see pp. 3, 4, 6, 7, and 9 of this syllabus)
<http://policy.umn.edu/education/gradingtranscripts>
5. Makeup work for legitimate absences: (also see p. 5 of this syllabus)
<http://policy.umn.edu/education/makeupwork>
6. Academic freedom and responsibility: Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. For more on academic freedom, see:
http://regents.umn.edu/sites/default/files/policies/Academic_Freedom.pdf
7. Appropriate use of class notes and materials: Disseminating class notes, videos, exams, etc. beyond the classroom community or accepting compensation for these materials violate shared norms and standards of the academic community. For additional information, see:
<http://policy.umn.edu/education/studentresp>
8. Sexual harassment:
https://regents.umn.edu/sites/regents.umn.edu/files/policies/Sexual_Harassment_Sexual_Assault_Stalking_Relationship_Violence.pdf
9. Student mental health and stress management: To learn more about the range of confidential mental health services available on campus, see:
<http://www.mentalhealth.umn.edu/>
10. Disability accommodations: (see p. 9 of this syllabus)
11. Equity, diversity, equal opportunity, and affirmative action:
http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity_Diversity_EO_AA.pdf Also see our Chemistry Dept. websites on these topics:
<https://chem.umn.edu/about-us/diversity/diversity-inclusion-resources>
<https://chem.umn.edu/about-us/diversity/diversity-inclusion-committee>

Study Guides #1 through #7 on our Moodle site list pages to read in our text, Silberberg & Amateis' "Chemistry" (8th Ed.), and suggested end-of-chapter problems for each of the 7 chapters we will cover. For students who use the ALEKS learning system, assignments will be due at 9 PM on the indicated dates. Calculators will be allowed on the Final Exam and on all Quizzes except for Quiz #3.

Introduction	W 9/5/18					
Chap. 16 Kinetics (Study Guide #1)	F 9/7	M 9/10	W 9/12 <i>(ALEKS initial assessment due)</i>	F 9/14	M 9/17	W 9/19
Chap. 17 Equilibrium (Study Guide #2)	F 9/21	M 9/24	W 9/26 Quiz 1 on Chapter 16, Kinetics <i>(ALEKS #1 due)</i>	F 9/28	M 10/1	W 10/3
Chap. 18 Acid-Base Equilibria in Aqueous Solns (Study Guide #3)	F 10/5	M 10/8	W 10/10 Quiz 2 on Chapter 17, Equilibrium <i>(ALEKS #2 due)</i>	F 10/12	M 10/15	W 10/17
Chap. 19 Ionic Equilibria in Aqueous Solutions (Study Guide #4)	F 10/19	M 10/22	W 10/24 Quiz 3 on Chapter 18, Acid-Base Equilibria - no calculators allowed <i>(ALEKS #3 due)</i>	F 10/26	M 10/29	W 10/31
Chap. 20 Thermodynamics: Entropy, ΔG (Study Guide #5)	F 11/2	M 11/5	W 11/7 Quiz 4 on Chapter 19, Ionic Equilibria <i>(ALEKS #4 due)</i>	F 11/9	M 11/12	W 11/14
Chap. 21 Electrochemistry (Study Guide #6)	F 11/16	M 11/19	W 11/21	F 11/23 THANKS-GIVING BREAK	M 11/26	W 11/28 Quiz 5 on Chap. 20, Thermodynamics <i>(ALEKS #5 due)</i>
Chap. 23 Transition Metals, Coordination Chemistry (Study Guide #7)	F 11/30	M 12/3	W 12/5 <i>(ALEKS #6 due on Electrochem)</i>	F 12/7	M 12/10	W 12/12 LAST DAY OF CLASS <i>(ALEKS #7 due on Trans Metals)</i>
Final Exam (rooms TBA)	For the MWF 11:15 class: <u>Tues. Dec. 18, 2018 10:30 AM - 12:30 PM.</u> For the MWF 2:30 class: <u>Sat. Dec. 15, 2018 8:00 - 10:00 AM.</u>					

