

CHEM 1062

Fall 2021

MWF 11:15 a.m. – 12:05 p.m.

Syllabus

Bruininks 220

Instructor Information

Dr. Janie Salmon
djsalmon@umn.edu

Office: Smith Hall 3
Phone: 625-5066

Office Hours

Office hours are time periods where you can drop in (no appointment needed) to ask questions about the course content, your performance in the course, or other items you may want to discuss. Office hours are open to all enrolled in the class. Office hours will be held via Zoom **Tuesdays 9:30-11:00 a.m.** and **Thursdays 11:30 a.m. – 1:00 p.m.** Additionally, problem-solving sessions during lecture time are designed to have open “Q&A” time at the end, so you can use this time to ask questions. Appointments (set up by email) are also encouraged if office hours do not fit your schedule or if you would like a guaranteed one-on-one discussion.

Class Background Information

Chemistry 1062/1066 are a continuation of a year-long introductory chemistry sequence (following Chemistry 1061/1065) that meet the Core Physical Science requirement and are designed to prepare a student for a major in science, including chemistry and engineering, and the health sciences. 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. This course will develop these skills and prepare you to be an informed citizen and life-long learner.

Concurrent registration in lecture (CHEM 1062) and lab (CHEM 1066) courses is required.

Prerequisites

To register/remain registered in this course, you must meet the following criteria:

- Completed CHEM 1061 or an equivalent course with a grade of C- or better
- Be registered in CHEM 1066 lab.

If you do not meet one of these criteria, you should report your situation to the staff via chemfaq@umn.edu immediately. They handle all registration issues pertaining to this course.

Required Textbooks & Materials

- *Chemistry: The molecular nature of matter and change*, by Martin Silberberg and Patricia Amateis (McGraw-Hill, 9th edition) packaged with an online homework code (ALEKS). **Inclusive Access for e-book + ALEKS homework access will be**

charged to your student account on September 17 (contact the bookstore directly before this date if you wish to opt-out).

- *Chem Whiteboard – Formula Sheet* (sold in the bookstore) and/or another handheld whiteboard, for use during exams. If you already have this from CHEM 1015/1061, you do not need to purchase another.
- Mirror (approximately 6 x 6”), for use in our e-proctoring system. Another highly reflective surface (such as a clean CD or DVD) may also work.
- Access to an internet-capable laptop or desktop computer (with webcam and microphone) to access our exam system for midterms and the final exam.

Student Learning Outcomes

- Identify, define, and solve problems
- Master a body of knowledge and mode of inquiry
- Acquire skills for effective citizenship and life-long learning

Calculators

The presence or use of graphing and/or programmable calculators (or any other electronic communication device) is FORBIDDEN on exams. Their presence or use during an exam will be considered cheating. Only non-programmable calculators with limited memory will be allowed for use during exams. Any one-line display calculator is allowed. The TI-30Xa is the suggested calculator for this and all CHEM 1XXX courses, and for most intro Physics courses. The bookstore stocks this calculator for around \$10. The TI-30X IIS is an acceptable two-line calculator. Many other two-line calculators are programmable and would therefore not be allowed. If you have any questions about your particular calculator, see the instructor immediately. Calculators may not be shared during exams. *If you are concerned about battery failure during the exam, have a second calculator or extra batteries with you.*

Class Websites

There are 2 websites associated with this lecture course that you must visit frequently to keep up with the material. ***Communication will primarily occur via Canvas Announcements; make sure your notifications for these announcements are turned on. You are also responsible for any announcements made in lecture.*** The CHEM 1066 lab course is a separate class and has a separate website.

Lecture Canvas Site

This site ([CHEM 1062 – Sec 001 – Fall 2021](#)) is where you will find any information associated with this course. It will contain a class calendar, syllabus posting, and many resources to help you succeed in the course. You will find your exam and online homework grades posted here under “Grades”.

ALEKS (online homework system)

There is a link from the Lecture Canvas site to the ALEKS homework system. Follow the instructions posted to set up your account correctly.

Accessing Canvas

1. Connect to myu.umn.edu, log in, and click on “My Courses” tab and select the appropriate class link

OR...

2. Go directly to canvas.umn.edu, log in, and select the appropriate class link.

Class Work

Attendance

Students are responsible for all information disseminated in class and on the course website, including deadlines, homework, and examinations. No points are associated with attending class. The University of Minnesota currently requires all students, staff, and faculty to wear masks when indoors regardless of vaccination status and requires students to get vaccinated for COVID-19. For resources on accessing vaccines and protocols if you experience COVID-19 symptoms, follow the information on <https://safe-campus.umn.edu/return-campus/university-planning-response>. **If you are unwell, please do not attend class in person.**

Expectations for Online Learning Environment

<https://communitystandards.umn.edu/know-code/online-learning-expectations>

Online “study sites” (examples: Chegg, Coursehero, etc.) have become increasingly popular and present challenges for faculty and other instructors in securing their proprietary lectures, exams, assignments, slide decks, notes, etc. Upload of instructional materials to these sites is a violation of the student conduct code. Additionally, utilizing information and/or copying work from these sites to aid them in any graded assignment (such as homework or exams) is likely a violation of the student conduct code.

Practice Problems

Successfully completing practice problems is very important in this course. In addition to the online homework problems, I strongly encourage you to work the end of chapter problems listed on the last page of this syllabus. **The ability to complete problems of this type is critical for success on exams.**

Lectures

Problem-solving Sessions

To facilitate class interaction and encourage you to work on the class material on a regular basis, we will have optional (not graded) problem-solving sessions during regular lecture time. These are designed to be 1-2 practice problems over recently-completed material. You’ll have about 10 minutes to work on the problem individually or in small groups, and then we’ll go through the solution together. These sessions are designed to be relatively short so there is time to ask questions after. Technology permitting, these sessions will be held in-person and also streamed synchronously on Zoom (recording posted after to Canvas) if you are unable to attend in-person.

Lecture Content

Lectures are pre-recorded and available “on demand” on Canvas. You can watch the lectures at your own pace as many times as you wish. The lecture schedule offers an option to watching the lecture videos to keep up to date with the material. These recordings will be used for educational purposes and the instructor will make these available to students currently enrolled in CHEM 1062 Section 001 for Fall 2021. Students must seek instructor permission in order to share either course recordings or course content/materials. Similarly, instructors who wish to share zoom recordings with other sections or classes must seek and document permission from students whose image or voice are in these recordings.

Online Homework (ALEKS)

Homework will be given using the publisher’s online homework system, ALEKS. The ALEKS homework is worth 9.2% of your overall course grade (23 points total). The ALEKS grade will be split between meeting the deadlines for each homework successfully (8 assignments, 2 points each) AND the final mastery of the topics in ALEKS (Pie Completion, 7 points). Each homework will cover recently completed material, by chapter. Read the instructions posted in our lecture Canvas site to set up your ALEKS account correctly. **If you do not set up your account correctly, you will not get credit for your online homework.** Homework deadlines are posted on the ALEKS website and in the syllabus. Late homework is not accepted. Only in rare cases (where documentation of required accommodation is provided) are homework extensions allowed; documentation for the accommodation must be provided within 48 hours of the homework due date. No adjustments to homework scores will be provided after this time. All homework is due by the last homework deadline on the last day of classes; no extensions will be provided after this time.

Exams

There will be six (6) midterm exams held approximately every week between **4:00 p.m. Thursday and 4:00 p.m. Friday**. The final exam is available **Tuesday December 21 at 4:00 p.m. until Wednesday December 22 at 4:00 p.m.** All exams are proctored electronically using Proctorio (see details in our Canvas site). The final exam will be comprehensive and cover all lecture material, including that presented after the last midterm exam. Failure to take the final exam (without an Excused Absence) will result in an F in the class. **No exam, including the final exam, may be taken on a day other than that which has been scheduled. If you have conflicts with any of the scheduled times, you should resolve them now or drop the course. The only exception is if you are registered in another UM course that conflicts with the exam time. If you have a course conflict of this type, see me on or before Friday September 17.**

Exam Format

You must have your student I.D., Chem Formula sheet (which can also serve as your “whiteboard” or “scratch paper” during the exam) and/or whiteboard, calculator, and mirror at each of the midterm exams and the final. I.D. checks will be made by the e-proctoring system. All midterm exams for this course will consist of 15 questions,

including multiple-choice, short answer, ranking, and matching. Each midterm is worth a maximum of 30 points. The final exam will have 30 questions and is similar in structure to the midterm exams. The final exam is worth a maximum of 45 points. The exams will be proctored and graded by computer. *Make sure you understand fully how to set up your computer and prepare for e-proctoring in advance of the actual exams. **Details are provided in the class website.***

Missed Exams

In the case of a true emergency, serious illness, or University-related trip that prevents a student from taking a midterm exam, an **excused absence may be granted** in strict accordance with University policy (see link below). *An excused absence may not be granted after a student takes the exam.* To obtain an excused absence, students must contact the instructor in advance OR as soon as circumstances allow to discuss the nature of the emergency. Documentation will be required within one week of the missed exam date. The unweighted average score of all the student's other exams, including the final exam, will replace the zero from the excused midterm exam. Only one missed midterm exam will be replaced in this fashion. If circumstances prevent a student from taking more than one midterm exam, a meeting must be scheduled immediately with the instructor to discuss any options available. Students on University teams playing out of town may be able to take the exam there with Proctorio; please see the instructor about this early so arrangements can be made.

<https://policy.umn.edu/education/makeupwork>

For information on missing the final exam, see "Incompletes".

Extra Credit

Extra credit is not available in this class.

Grades & Grading Policies

Your final course grade will be based on the following breakdown (maximum percentage score is 100%).

	Point Value
ALEKS HW A-H (2 pts each)	16
ALEKS Pie	7
Exam 0	2
6 midterm exams (30 pts each)	180
Final Exam	45
<hr/>	
Total	250 points

Letter grades will be assigned based on the overall cumulative points earned, based approximately on the following ranges.

<u>Letter Grade</u>	<u>Percentage</u>	<u>At least ____ points</u>
A	≥85.00%	212.5
A-	80.00-84.99%	200
B+	75.00-79.99%	187.5
B	70.00-74.99%	175
B-	65.00-69.99%	162.5
C+	60.00-64.99%	150
C	55.00-59.99%	137.5
C-	50.00-54.99%	125
D	40.00-49.99%	100
F	<40.00%	<100

University grading policies and guidelines can be found at:
<https://policy.umn.edu/education/gradingtranscripts>

Other Grade Issues

Late Registration

Please be advised that joining the course after the start of classes does not excuse you from attendance or any work collected and/or graded. You should give careful consideration to this prior to late addition of our course.

Regrades

Request an exam regrade (in writing directly to the instructor via e-mail) by the end of the week following the posting of exam results. It is possible (but very unusual) for the machine-scored exam sheets to be misread by the computer. **You are responsible for making sure you have correctly recorded your choice of answer in the correct space on the answer blank and carefully erasing if you decide to change your answers.** No “scratch work” will be graded.

S/N Grading

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 D+ or below will receive an “N”. Many programs or transfer courses do not like S/N grades or will assume that they are the minimum possible grade. **Requests to change grading basis after the University deadline will not be approved.**

Incompletes

Students who have an EXCUSED ABSENCE from the Final Exam, and have taken the six midterm exams, may be eligible to receive a grade of "I" in the course. Incompletes will not be granted if a student has missed earlier exams, or is not passing based on the work up to the final. You need to fill out an incomplete request form and have it signed. See me for details. This grade is NOT routinely assigned! Any incomplete must be made up in the following semester. After that time all incompletes will turn into F grades.

Withdrawals

If you are considering withdrawing from the class for academic reasons, I urge you to come and speak with me. Your situation may not be as bad as you think it is. If you do decide to drop the class, you should officially withdraw from the course following the rules for your college and know that students withdrawing from the course will not have any records retained for use upon re-taking the class. Please note if you drop CHEM 1062 before TBA, 2021, you must also drop CHEM 1066 lab.

Help

Instructor

Asking questions during office hours is a first line of defense toward overcoming conceptual problems with the course material. Get help early on so that problems do not compound! I hope to see you so that I can help you if you are having any difficulty.

Free Tutoring

The virtual tutor room (<http://genchem.chem.umn.edu/chem-10151017/tutor-room-schedule>) is the site of regular CHEM 1062 drop-in tutorial sessions conducted by general chemistry TAs.

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 other than your instructor, please contact Dr. Michelle Driessen, General Chemistry Director (office: Smith Hall 113; phone: 624-0062; email: mdd@umn.edu). She will serve as a mediator in helping to resolve the issue.

Policy Statements

Overlapping & Back-to-Back Courses

Enrolling in overlapping or back-to-back courses that does not allow enough travel time to arrive at our class meetings on time is prohibited. For more information, please see: <https://policy.umn.edu/education/overlappingclasses>

Use of Personal Electronic Devices in the Classroom

Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. To this end, the University establishes the right of each faculty member to determine if and how personal electronic devices are allowed to be used in the classroom. For complete information, please reference: <http://policy.umn.edu/education/studentresp>.

Student Conduct Code

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence,

threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected adhere to Board of Regents Policy: *Student Conduct Code*. To review the Student Conduct Code, please see: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf.

Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

Scholastic Dishonesty

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. 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.

(Student Conduct Code: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf) If it is determined that a student has cheated, the student may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see: <http://policy.umn.edu/education/instructorresp>.

Beware of websites (such as Chegg) that advertise themselves a "tutoring sites. It is not permissible to upload any instructor materials (such as videos, notes, homework assignments, practice questions, exam questions) to these sites without the instructor's written permission. In addition, using these sites to complete homework or answer exam questions is consider academic dishonesty and will result in an F for the course.

The Office for Community Standards has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: <https://communitystandards.umn.edu/avoid-violations/avoiding-scholastic-...> If you have additional questions, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

Makeup Work for Legitimate Absences

Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in

intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see: <http://policy.umn.edu/education/makeupwork>.

Appropriate Student Use of Class Notes and Course Materials

Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. You are not permitted to distribute/post any materials for this class without the instructor's express written permission. For additional information, please see: <http://policy.umn.edu/education/studentresp>.

Grading and Transcripts

The University utilizes plus and minus grading on a 4.000 cumulative grade point scale. For additional information, please refer to: <http://policy.umn.edu/education/gradingtranscripts>.

Mental Health and Stress Management

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>.

Sexual Harassment

"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: <https://policy.umn.edu/hr/sexharassassault>

Department of Chemistry Diversity and Inclusion Committee

Collaboration among people of all cultures and backgrounds enhances our experiences and contributes to excellence in teaching, learning, and research. We strive for a climate that celebrates our differences and strengthens our department by embracing and working to increase diversity, equity, and inclusion. For more

information about our departmental efforts and upcoming activities:

<http://z.umn.edu/ChemDiversity>. For a list of diversity related resources from the College of Science & Engineering: <https://cse.umn.edu/college/diversity-and-inclusion-opportunities>.

Equity, Diversity, Equal Opportunity, and Affirmative Action

The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity_Diversity_EO_AA.pdf.

Disability Resource Center

The University of Minnesota views disability as an important aspect of diversity and is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you have, or think you have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, please contact the DRC office on your campus (UM Twin Cities - 612.626.1333) to arrange a confidential discussion regarding equitable access and reasonable accommodations.
- Students with short-term disabilities, such as a broken arm, can often work with instructors to minimize classroom barriers. In situations where additional assistance is needed, students should contact the DRC as noted above.
- If you are registered with the DRC and have a disability accommodation letter dated for this semester or this year, please contact your instructor early in the semester to review how the accommodations will be applied in the course.
- If you are registered with the DRC and have questions or concerns about your accommodations please contact your (access consultant/disability specialist).
- Additional information is available on the DRC website: (UM Twin Cities - <https://diversity.umn.edu/disability/>) or e-mail (UM Twin Cities - drc@umn.edu) with questions.

Academic Freedom and Responsibility

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department

Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

* Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".

Class Schedule

Please check the Lecture Schedule on Canvas for the most up-to-date schedule.

If the lecture schedule/homework due dates are modified, I will update the Lecture Schedule on Canvas but will not update the syllabus version.

These are the abbreviated chapter titles from Silberberg 9th edition:

- Ch. 16: Kinetics
- Ch. 17: Equilibrium
- Ch. 18: Acid-base equilibrium
- Ch. 19: Ionic equilibria
- Ch. 20: Thermodynamics
- Ch. 21: Electrochemistry (we will not cover 21.5 and 21.6)
- Ch. 23: Transition metals

September

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7 <i>First Day of Classes</i>	8 Syllabus, Videos 16.1- 16.2 #1	9	10 Videos 16.2 #2- 16.3 #2	11
12 Labs begin meeting this week	13 Videos 16.3 #3-16.4 #1	14	15 Videos 16.4 #2- 16.5 #1	16 HW A Due 11:59 PM	17 Videos 16.5 #2- 16.6 #2 Open pie begins 12:00 AM	18
19 Open pie ends 11:59 PM	20 Videos 16.6 #3-16.7	21	22 Videos 17.1- 17.2	23 HW B (Ch. 16) Due 11:59 PM	24 EXAM 1 (Chapter 16) Open pie begins 12:00 AM	25
26 Open pie ends 11:59 PM	27 Videos 17.3-17.5 #1	28	29 Videos 17.5 #2- 4	30		

After Homeworks D & F, ALEKS will give you a follow-up knowledge check. This "pop quiz" is designed to increase long term retention of the material by

periodically assessing ("quizzing") you on topics you have completed. If ALEKS determines you have not demonstrated retention of the topic (which is a totally normal part of the learning process--that's why practicing on a regular basis is so important), it will remove the topic from your pie. You will then have to re-add the topic to your pie in order to get credit for its completion. You can use the open pie sessions to add topics back. Having a topic removed from your pie will not decrease your individual assignment grade. For example, if you earned 100% on Homework A and lost some topics in subsequent assessment, you will still have 100% on Homework A. You may just need to add some topics back in order to get back to the same completion before those topics were lost. The individual grades of the knowledge check do not influence your grade, but if you lose topics and do not add them back, you will have a lower overall pie completion (which is part of your overall course grade).

October

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 Videos 17.6	2
3	4 Videos 18.1, 18.10; 18.2 #1-2	5	6 Videos 18.3-18.4 #1	7 HW C (Ch. 17) Due 11:59 PM	8 EXAM 2 (Chapter 17) Open pie begins 12:00 AM	9
10 Open pie ends 11:59 PM	11 Videos 18.4 #2-3; 18.5 #1	12	13 Videos 18.5 #2-18.6	14	15 Videos 18.7-18.8	16
17	18 Videos 19.1 #1-4	19	20 Videos 19.1 #5-6; 19.2 #1-2	21 HW D (Ch. 18) Due 11:59 PM (Knowledge Check)	22 EXAM 3 (Chapter 18) Open pie begins 12:00 AM	23
24 Open pie ends 11:59 PM	25 Videos 19.2 #3-5	26	27 Videos 19.3-4	28	29 Videos 20.1	30
31						

November

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 Videos 20.2; 20.3 #1	2	3 Videos 20.3#2 - 20.4 #1-2	4 HW E (Ch. 19) Due 11:59 PM	5 EXAM 4 (Chapter 19) Open pie begins 12:00 AM	6
7 Open pie ends 11:59 PM	8 Videos 20.4 #3; 21.1 #1	9	10 Videos 21.1 #2-4	11	12 Videos 21.2	13
14	15 Videos 21.3 #1-2	16	17 Videos 21.3 #3-4	18 HW F (Ch. 20) Due 11:59 PM (Knowledge Check)	19 EXAM 5 (Chapter 20) Open pie begins 12:00 AM	20
21	22 Videos 21.4 #1-2	23	24 <i>No class or videos</i>	25 BREAK	26 BREAK	27
28 Open pie ends 11:59 PM	29 Videos 21.4 #3, 21.7 #1	30				

December

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 Videos 21.7 #2-4	2 HW G (Ch. 21) Due 11:59 PM	3 EXAM 6 (Chapter 21) Open pie begins 12:00 AM	4
5 Open pie ends 11:59 PM	6 Videos 23.1	7	8 Videos 23.3 #1-2	9	10 Videos 23.3 #3-4	11
12	13 Videos 23.4 #1- 2	14	15 <i>Last day of classes</i> Videos 23.4 #3-4 HW H (Ch. 23) Due 11:59 PM	16 Open pie begins 12:00 AM	17	18
19 Pie Completion due 11:59 PM	20	21	22 FINAL EXAM (cumulative)	23	24	25

Pie Completion is due Sunday December 19 at 11:59 p.m.

The final exam is available Tuesday December 21 at 4:00 p.m. until Wednesday December 22 at 4:00 p.m. This overlaps with our University-assigned final exam time of Wednesday December 22, 1:30 – 3:30 p.m.

Suggested Practice Problems

Chemistry: The Molecular Nature of Matter & Change, 9th Edition

The problems at the end of each chapter are labeled in red or black and are listed as “Chapter number.Problem number” (e.g, problem 14 in Chapter 16 is labeled 16.14). Red problems have answers in Appendix E (within the e-textbook) and their worked-out solutions are found in the Student Solutions Manual (available for purchase in the link on our Canvas site).

These problems are designed as a supplement to the ALEKS homework. The ALEKS homework is part of your overall course grade, and the problems listed here are not graded. The problems listed here are also similar to some problems you’ll see in ALEKS and/or on the practice exams. **It will be difficult for you to do well on exams if you cannot solve the problems listed here.**

There are many more end-of-chapter problems than those suggested here—you are encouraged to work additional problems as needed. Make sure you are working enough practice problems so that you feel comfortable with the material.

Chapter 16	14, 16, 18, 21, 25, 26, 28, 30, 32, 34, 37, 43, 44, 61, 74, 75, 76, 78, 85, 87, 97, 100, 109, 119, 128
Chapter 17	6, 11, 12, 14, 16, 18, 20, 28, 30, 32, 34, 36, 42, 46, 48, 52, 54, 66, 68, 70, 72, 74, 89, 91, 101, 107
Chapter 18	4, 6, 8, 12, 16, 20, 22, 24, 26, 31, 32, 36, 42, 45, 48, 53, 63, 65, 69, 71, 87, 98, 102, 106, 108, 110, 119, 127, 137, 146, 157, 171, 177, 185
Chapter 19	2, 6, 8, 10, 14, 16, 22, 24, 28, 30, 32, 41, 43, 49, 51, 53, 55, 67, 71, 73, 75, 79, 85, 89, 113, 127, 128, 136, 145
Chapter 20	10, 12, 16, 20, 24, 33, 41, 48, 51, 53, 55, 57, 59, 65, 69, 71, 73, 77, 79, 83, 90, 104, 108
Chapter 21	10, 12, 14, 22, 27, 29, 33, 40, 42, 46, 58, 62, 64, 68, 70, 82, 87, 93, 101, 103, 111
Chapter 23	4, 9, 12, 14, 16, 37, 39, 45, 47, 53, 55, 74, 80, 82, 86, 92, 94, 97, 102, 114