CHE 1052

General Chemistry I

Syllabus, Fall 2025, Sep. 2 – Dec 19

POINT 1902 LOMA
NAZARENE UNIVERSITY
Department of Chemistry

This is a 4 unit chemistry course taught by the Department of Chemistry at PLNU. Chemistry is a fundamental building block of life since every physiological process ultimately involves chemical reactions. The schedule, homework, quizzes, and exams are determined by a team of faculty at PLNU, so all students in CHE 1052 are getting the same content regardless of which section they are in. My own unique flair to the class is *structure*. I provide a lot of organization and supporting materials like worksheets and reading schedules. This class can be hard work, but I am convinced that each and every student in my class is capable of succeeding in chemistry.

Course Description: Study of the basic principles of modern chemistry. Emphasis on atomic and molecular structure, chemical bonding, gas laws, states of matter, and solutions.
Prerequisite(s): MTH 0099 or CHE 1003 or PSC 1014.
Corequisite(s):CHE 1052L (lab, graded separately)

Dr. Sam Stoneburner
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Email: sstonebu@pointloma.edu
Phone: 619-849-2788
Lecture location: Latter Hall 1
Section 1: MWF: 8:30 am – 9:35 am
Section 4: MWF: 1:30 pm – 2:35 pm
Final: Wed., Dec 17, 4:30 pm – 7:00 pm

Drop-in Office Hours*:
*Changes to be announced on Canvas
Mondays, 2:45pm – 3:45pm
Tuesdays, 9:00am – 10:30am
Wednesdays, 2:45pm – 3:45pm
Thursdays, 9:00am – 11:30am
Fridays, 11:00am – 1:00pm
2:45pm – 3:45pm

You do not need an appointment to meet with me during my Drop-in Office Hours. I am often available at other times, so you can also email me to schedule an appointment.

Communication: I will post information and announcements via Canvas. You should activate notifications. When I am not available in my office, the best way to reach me is by email. I will attempt to respond within one business day. **Email me only from your PLNU email address**. Emails sent from non-PLNU email addresses may be diverted to a spam folder instead of reaching my inbox.

About your professor: I studied chemistry because I wanted to understand why the periodic table isn't a rectangle, which I thought was the ideal shape for a table. I started college at age 21 with absolutely zero high school experience or credit, so I had a lot of catching up to do in both math and science. I was never the smartest person in the room, but through an academic strategy known as "being too stubborn to quit" I finished my PhD just before I turned 33. My mottos are "don't be Snape" and "be less wrong". I love science fiction, fantasy, video games that don't need internet, and well-written cartoons (like "Last Airbender", "Phineas and Ferb", and "Bluey").

Course Materials: This course is part of our course material delivery program, **LomaBooks**. The bookstore will provide each student with a convenient package containing all required physical materials; all digitally delivered materials will be integrated into Canvas. You should have received an email from the bookstore confirming the list of materials that will be provided for each of your courses and asking you to select how you would like to receive any printed components (in-store pick up or home delivery). If you have not done so already, please confirm your fulfillment preference so the bookstore can prepare your materials. For more information about **LomaBooks,** please go: HERE

- *Textbook:* Tro, Chemistry: A Molecular Approach Plus Modified MasteringChemistry with eText, Pearson, 6th Edition, ISBN-13: 9780137831968 (etext)
  - A loose-leaf hard copy can be purchased directly from the publisher within MasteringChemistry under the "Pearson eText".
- *Online Homework:* MasteringChemistry (access through Canvas)
- **TI-30XIIS** *Scientific Calculator:* This specific calculator model will be provided for all quizzes and exams in CHE 1052L. You need your own TI-30XIIS calculator for homework and worksheets. This calculator is also required in CHE 1052L, the co-requisite lab.

Course Learning Outcomes: An understanding of chemistry is a necessary part of an education in the basic and applied sciences, engineering, and medical professions. It also provides insight and increased comprehension regarding current events and proposed policies. Specifically, upon completion of this course, you will be able to:

- Demonstrate a foundational knowledge of the general principles of chemistry including atomic and molecular structure, chemical bonding, states of matter, and behavior solutions.
- Solve problems related to unit conversions, stoichiometry, energy calculations, and gas laws.

Grading and Assessment

Letter grades will be assigned according to the following scheme after all scores are finalized. Any changes to these ranges will be only in your favor.

A-range	B-range	C-range	D-range	F-range
A: 93.00% or above.	B+: 87.00-89.99 %	C+: 77.00-79.99 %	D+: 67.00-69.99 %	F: Below 60.00%
	B: 83.00-86.99 %	C: 73.00-76.99 %	D: 63.00-66.99 %	
A–: 90.00-92.99 %	B–: 80.00-82.99 %	C–: 70.00-72.99 %	D–: 60.00-62.99 %	

Percent	Component
5 %	Participation: (2.5% worksheets, 2.5% attendance, plus extra credit)
5 %	Christian practices
15 %	Mastering Chemistry online assignments (pre-lecture activities and homework)
5 %	Quizzes
50 %	4 Exams (12.5% each)
20 %	Final Exam (ACS standardized exam)
100 %	Total

Participation: When I was a student, I hated participation points because my professors never clearly explained how you earned (or lost them). Here is how you can get 100% on your participation points with me:

- **Come to class**. Attendance is required by PLNU policy, so I like to give you points for it. You get full credit if you are on time every class or if you contact me as described in the "Attendance" portion of the Policies section.
- **Worksheets** will be a regular part of class. They aren't homework, and you aren't graded based on accuracy. You get participation credit by uploading any good-faith effort to Canvas. You get full credit if you turn in at least 15.
- **Reading Surveys** are **optional** activities that you complete before class. They are simple one-question Canvas surveys in which you tell me whatever you found most confusing or interesting. It's a way to ask me questions without having to speak up in class, or to request an example problem (which I need to prepare ahead of time). Many of my students have gotten a lot out of them, so if you do at least 15 surveys you will get **extra credit** of 10 points (out of 100) on your Attendance score.
- An **office hours game** can get you another 5 extra credit points. Details are posted on the door to my office (Rohr Science 322. Enter the office suite through door 330.)

Christian practices: You will be assigned to a group after the add/drop deadline for the semester. You will meet as a group at least three times spread out throughout the semester. (You are welcome to make your group a chemistry study group and meet more often, but that is not a requirement of this assignment.) You will fill out a log that includes the times you met as a group, the times you have prayed for group members, as well as times that you have encouraged a classmate or helped them in some way. To get full credit, you need to have written at least 10 entries *in addition* to the three group meetings by the last day of class, as well as a brief reflection on the overall assignment.

Community is an important part of any Christian activity, including the study of God's creation. We also want to emphasize that you are not in competition with each other, and your help and support of each other in a challenging class like General Chemistry can be a huge benefit. Care and concern for others is also a good life skill to develop, even when it doesn't obviously help you in the moment.

While PLNU is explicitly Christian in its identity, you are not required to be. You are free to replace the "prayer" component with some other thoughtful exercise that is compatible with your beliefs, so long as it is focused on the specific members of your group.

Mastering Chemistry online homework (access through Canvas)**:** The Mastering Chemistry content includes assigned homework problems as well as pre-lecture activities. Practicing what you are learning both before and after attending lecture is the most active (and most effective) part of your efforts in the course. Due dates will be found within the Mastering Chemistry system, and on Canvas.

Look at the problems as practice for quizzes and exams. You will get the most benefit from your homework time if your first attempt on a problem is **closed-book, closed notes**. If you find yourself struggling with a problem (e.g., 3+ wrong answers), ask me for help!

The chemistry faculty have gone to great effort to keep the homework assignments from being any longer than necessary. Most of the time, you will probably need additional practice on some topics, but only you can decide *which* topics. After completing the assigned work, you can find additional practice in the end-of-chapter problems in the textbook, the "Study Area" in Mastering Chemistry, and worksheets and practice problems that will be provided on Canvas.

Quizzes: There will be quizzes roughly once per week covering content from the most recent few lectures. The day of the week and the delivery method may vary. The quizzes will help you assess your understanding of the material, especially as you are preparing for exams. Look at them as relatively low-risk opportunities to identify areas where you need my help or additional practice before your next exam.

Exams: Exam days are on the course schedule posted on Canvas. Exams will not be moved outside of truly extraordinary circumstances. There are no re-takes, corrections for credit, or any other extra credit opportunities associated with exams in Gen Chem unless we include extra points in the exam itself. Exam scores will not be revised or adjusted after grades are posted unless an error is found in the grading.

Quizzes and exams are written and graded collectively by all CHE 1052 instructors to ensure fairness across all sections. The return time is usually within a week.

Note: You must use **provided** TI-30XIIS scientific calculators on all quizzes and exams.

Final Exam: Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the Traditional Undergraduate Records: Final Exam Schedules site. If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for one of those exams. However, unless you have three (3) or more exams on the same day, no requests for alternative final examinations will be granted.

The final exam will be on Wednesday, Dec 17, 4:30 pm – 7:00 pm and will be a standardized American Chemical Society (ACS) exam. Note that chemistry department policy prevents rescheduling General Chemistry final exams.

Exam scheduling with Educational Access Center accommodations: If your exams are proctored by the EAC, you need to schedule the exam with them at least one week in advance. The exam dates are on the schedule on Canvas and should not be changing, so I strongly recommend you schedule all of your exams (including the Final Exam) at the start of the semester. I cannot ensure all accommodations can be met if the exam is not proctored by the EAC.

The EAC may have specific time slots, open hours, or other constraints on when you can take an exam with them. You should select the option that is closest to the exam time for our class, but you may need to start earlier in order to get the full time (especially for the Final, as the EAC does not stay open until 7pm).

Additional Notes and Policies

Late assignments, extensions, and make-ups: All assignments are to be submitted/turned in by the due date/time, including assignments posted in Canvas. Late work will generally not receive credit, but feel free to ask for extensions. I am usually willing to give extensions, but requests must be made in advance if at all possible, and they will be considered on a case-by-case basis. I especially encourage you to ask for extensions if you need them in the last few weeks of class, where the end of the semester forces the schedule to be tighter in a variety of ways. If you need an extension on an assignment, email me and **suggest a specific new (extended) deadline** that you believe would meet your needs.

Quizzes and exams can be made up in many circumstances, but you must *request* the make-up. If you are absent on the day of a quiz or exam and you do not request a make-up, you will receive a 0. If you are aware in advance that you must be absent at the scheduled time of an exam, arrange a make-up with me as soon as you are aware of the conflict. If you have an emergency or sudden illness on the day of the exam, email me as soon as you are able (by the end of the day in most circumstances). Make-ups must be taken as soon as possible after the scheduled quiz or exam time.

PLNU Attendance and participation policy: Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions (i.e., five absences for this course), the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent (i.e., nine absences for this course), the student may be de-enrolled without notice until the course withdrawal date or, after that date, receive an "F" grade.

I will be taking attendance on Canvas at the start of every class. If you arrive late, check with me after class to ensure I don't have you absent by mistake. Being late will still get you 90% credit (within the first 15 minutes) and won't be counted as an absence for the university attendance policy.

I will not penalize your grade for ***any*** absences about which you email me ahead of time (or, for emergencies, by the end of the day of the class you miss). Just email me with the date you are missing and a brief explanation of why you need to be absent. These absences will still count towards the 20% threshold for possible de-enrollment, but they will not directly impact your grade.

PLNU academic honesty policy: Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. For all student appeals, faculty and students should follow the procedures outlined in the University Catalog. See Academic Policies for definitions of kinds of academic dishonesty and for further policy information.

Artificial Intelligence (AI) Policy: The use of Artificial Intelligence (AI) tools (e.g., ChatGPT, iA Writer, Marmot, Botowski, GrammarlyGo, Perplexity, etc.) is prohibited in this course for any aspect of your work, including idea generation, drafting, editing, or final submissions. This course is designed to assess your independent critical thinking, writing, and research skills without the assistance of AI technologies. Violations of this policy will be treated as breaches of academic integrity.

Note: Student experiences thus far suggest that relying on AI for this course will put you at a disadvantage. You *are* permitted to use AI tools embedded within the Mastering Chemistry system, but using other AI tools to do homework tends to make it *harder* to successfully complete *quizzes* and *exams*.

PLNU Recording Notification

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel.

Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

PLNU copyright policy: Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU academic behavior policy: Both faculty and students at Point Loma Nazarene University have the right to expect a safe and ordered environment for learning. Any student behavior that is disruptive or threatening is a serious affront to Point Loma Nazarene University as a learning community. Students who fail to adhere to appropriate academic behavioral standards may be subject to discipline. In the context of our course, good behavior includes being present in class (mentally as well as physically), actively participating in group work, and asking questions when you need help or clarification. See Academic Policies in the online PLNU catalog for additional definitions of different kinds of disruptive behavior and for further policy information.

PLNU academic accommodations policy

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2533). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. Professors are able to view a student's approved accommodations through Accommodate.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course. Accommodations are not retroactive so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any accommodations.

Language and Belonging

Point Loma Nazarene University faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age, disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. Inclusive language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality.

If you (or someone you know) have experienced other forms of discrimination, you can find more information on reporting and resources at www.pointloma.edu/nondiscrimination.

Sexual misconduct and discrimination:

In support of a safe learning environment, if you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that accommodations and resources are available through the Title IX Office at pointloma.edu/Title-IX. Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at counselingservices@pointloma.edu or find a list of campus pastors at pointloma.edu/title-ix

If you (or someone you know) have experienced other forms of discrimination or bias, you can find more information on reporting and resources at www.pointloma.edu/bias

Spiritual care: PLNU strives to be a place where students grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith.
If you have questions, a desire to meet with the chaplain, or if you have prayer requests, you can contact the Office of Student Life and Formation.

State authorization: State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on State Authorization to view which states allow online (distance education) outside of California.

General Education Mission:
PLNU provides a foundational course of study in the liberal arts informed by the life, death, and resurrection of Jesus Christ. In keeping with the Wesleyan tradition, the curriculum equips students with a broad range of knowledge and skills within and across disciplines to enrich major study, lifelong learning, and vocational service as Christ-like participants in the world's diverse societies and culture.

General Education Learning Outcome 1e Quantitative Reasoning: Students will be able to solve problems that are quantitative in nature. This learning outcome will be assessed directly using problems on the final exam that are quantitative in nature.

Note: CHE 1052 is a major requirement for several majors in STEM and health fields, and the level of mastery required to pass the course is very different from what you might expect in a typical General Education course. If you simply need to fulfill a GE science requirement and you do not need CHE 1052 specifically for your program or career goals, you may wish to switch to a GE-focused course like CHE 1002/CHE 1002L.

PLNU Mission: To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Academic Success

Almost everyone takes General Chemistry because it is a requirement for their program, which means you can expect to see at least some of the concepts covered in this course pop up again long after you finish the quizzes and exams of General Chemistry. When I took Gen Chem, I took the approach of doing whatever I was told, assuming that was enough, and then relying on memorization for exams. It worked okay in the moment, but I had to re-learn everything the next time I needed it… and the time after that, and the time after that…. In the long run, it was a lot of extra work, it was frustrating, and it was embarrassing. I would prefer to spare you that.

General Chemistry is a challenging course. Most students who do well in it are using strategies for learning that go well beyond what would have been necessary to pass a high school chemistry course. A big part of that is ***metacognition*** ("thinking about your thinking"). Ask yourself serious questions about how well you understand what you're studying, not just whether you could pass the next exam. Better yet, ask yourself if you could teach someone else… or *actually* teach someone else, whether it's a study buddy, a friend, a pet, or a rubber duck.

I strongly recommend watching "Strategic Learning", a talk given at PLNU in 2022 by Dr. Saundra McGuire. She is an award-winning expert in chemistry and in teaching and learning. In the linked talk, she provides a lot of practical strategies AND a broader way of thinking that will help you figure out where you need to focus your efforts.

A lot of the advice you will get from me or from Dr. McGuire will feel like it will take more time than you can afford. You may actually save time over the semester as you get more practiced in good study strategies, but it is true that General Chemistry requires a substantial time investment.

The PLNU Credit Hour Policy states that 2 hours of preparation per 1 hour of class time is "normal", meaning 6.5 hours per week (besides lecture itself) for the CHE 1052 lecture course. You may need additional time if you find chemistry intimidating, or if you have not taken chemistry in a long time, or if you took high school chemistry in an online setting. There is no shame in needing more time. If you work strategically and put effort into learning *how* to learn, you will probably understand chemistry much better than a student who seems to get all the right answers in the first few minutes of trying.

You can also maximize the effectiveness of your time by giving yourself a focused environment. Do not try to "multitask" with videos or social media while you are working on chemistry. I also recommend caution when consulting other resources on the internet. Even outside of the well-known hallucination problems in AI, there is an abundance of misinformation online in general. Much of it is intentional.

The advice I'm giving you is based on my own experiences, but you don't have to take my word alone. I had a student in General Chemistry who made a lot of intentional changes over the course of CHE 1052, carried those changes forward into CHE 1053, and saw a drastic improvement in grades as a result. They were kind enough to share the following tips:

Tips from a previous Gen Chem student:

- Go to office hours as frequently as you are confused or have questions after spending time trying to figure it out for yourself.
- Take all the quizzes seriously and study for them.
- Do the mastering chemistry homework and pre-lectures when you have a dedicated amount of time to do them; take them seriously and use them to practice and learn.
- Take notes in class! It helps you stay engaged and ask questions when you are confused about something.
- Study with other people and by yourself.
- Make sure you know the material well enough that you can try to explain it to someone else, and actually explain it to someone else, it helps you see where you are still not sure about some concepts.
- Surround yourself with people who are also taking this course seriously!

- Don't cram before a test, study a week, preferably two in advance, this way it gives you the opportunity to get help, and not be too stressed right before an exam.
- Develop a routine on exam days, and make sure you get a lot of sleep the night before.
- Go through your notes frequently.
- Do extra practice problems, especially with problems/concepts you are stuck on… even if you don't feel like doing it.

Schedule: This schedule is accurate as of the posting of this syllabus. Canvas will have the most up-to-date information.

Date	Topic	Textbook sections
Wed, Sep 3	Scientific Approach, Classification of Matter, Physical/Chemical Changes and Properties	1.1-1.4
Fri, Sep 5	Energy, Units, Measurements, Solving Chemical Problems	1.5-1.8, Appendix I-A
Mon, Sep 8	Atoms, Atomic Structure, Subatomic Particles	2.1-2.6
Wed, Sep 10	Periodic Table, Atomic Mass, Molar Mass	2.7-2.9
Fri, Sep 12	Chemical Bonds, Formulas, Composition of Compounds	3.1-3.4, 3.8-3.9
Mon, Sep 15	Chemical Nomenclature, Molar Mass, Structure of Solids	3.5-3.7
Wed, Sep 17	Composition of Compounds, Determining Chemical Formulas	3.9-3.10
Fri, Sep 19	Chemical Equations; Reaction Stoichiometry	4.1-4.3
Mon, Sep 22	Exam 1: 1.1-3.10	
Wed, Sep 24	Limiting Reactant; Theoretical and Percent Yield	4.4-4.5
Fri, Sep 26	Solution Concentration and Stoichiometry	5.1-5.4
Mon, Sep 29	Solubility; Precipitation Reactions	5.5-5.6
Wed, Oct 1	Acid–Base, Gas Evolution, and Redox Reactions	5.7-5.9
Fri, Oct 3	Pressure; Gas Laws	6.1-6.4
Mon, Oct 6	Applications of the Ideal Gas Law, Gas Mixtures and Stoichiometry	6.5-6.7
Wed, Oct 8	Kinetic Molecular Theory, Diffusion, Effusion, and Real Gases	6.8-6.10
Fri, Oct 10	Exam 2: 4.1-6.10	
Mon, Oct 13	Energy, Heat, and Work	7.1-7.4
Wed, Oct 15	Calorimetry and Enthalpy	7.5-7.6
Fri, Oct 17	Calorimetry and Enthalpy of Reaction	7.7-7.8

Date	Topic	Textbook sections
Mon, Oct 20	Hess' Law	7.9
Wed, Oct 22	Nature of Light; Atomic Spectroscopy	8.1-8.3
Fri, Oct 24	Fall Break (no class)	
Mon, Oct 27	Wave Nature of Matter and Quantum Mechanics	8.4-8.5
Wed, Oct 29	Atomic Orbitals; Electron Configurations	8.6, 9.1-9.3
Fri, Oct 31	Periodic Table, Electron Configurations, and Valence Electrons	9.4-9.5
Mon, Nov 3	Periodic Trends and Ions	9.6-9.7
Wed, Nov 5	Electron Affinities, Metallic Character	9.8-9.9
Fri, Nov 7	Exam 3: 7.1-9.9	
Mon, Nov 10	Lewis Structures	10.1-10.4
Wed, Nov 12	Electronegativity, Bond Polarity	10.5-10.7
Fri, Nov 14	Resonance, Formal Charge, Octet Rule Exceptions, Bond Energies, and Bond Lengths	10.8-10.10
Mon, Nov 17	VSEPR Theory and Molecular Geometries	11.1-11.4
Wed, Nov 19	Molecular Shape, Polarity and Valence Bond Theory	11.4-11.7
Fri, Nov 21	Molecular Orbital Theory	11.8
Mon, Nov 24	Intermolecular Forces	12.1-12.3
Wed, Nov 26	Thanksgiving Recess (no class)	
Fri, Nov 28	Thanksgiving Recess (no class)	
Mon, Dec 1	Intermolecular Forces, Vaporization and Vapor Pressure	12.4-12.5
Wed, Dec 3	Sublimation, Fusion, and Heating Curves	12.6-12.7
Fri, Dec 5	Phase Diagrams; Water	12.8-12.9
Mon, Dec 8	Review and catch-up day	
Wed, Dec 10	Exam 4: 10.1-12.9	
Fri, Dec 12	Solids, Unit Cells, Polymers	13.1, 13.3, 13.9
Wed, Dec 17	Final Exam: 4:30-7:00pm	