

Chemistry 1071H - Welcome!

Honors General Chemistry I Fall Semester, 2023

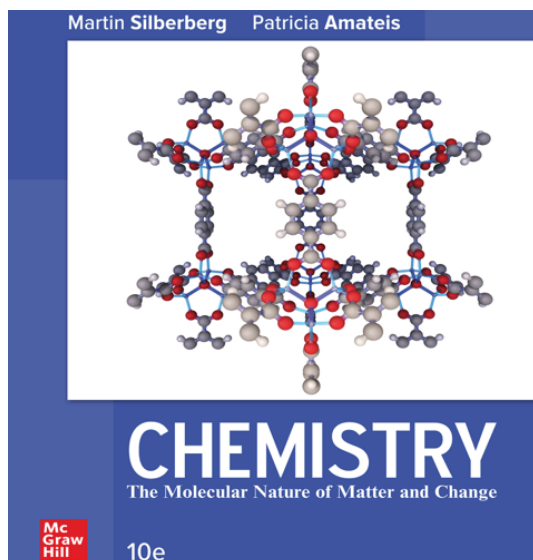
Professor Lee Penn (they/them)

Official meeting time is MWF 9:05 am – 9:55 am

HOMEWORK: We will be using ALEKS for homework and access to our electronic textbook (Silberberg and Amateis, 10e)

Go to [aleks.com](https://www.aleks.com) and enter Class Code: LPNAL-9G6YM.

You should then see: Honors General Chemistry 1 (CHEM 1071H) - Fall 2023, with access to Silberberg and Amateis 10e.



IN PERSON CLASS LOCATION -- Bruininks 432

We will use in person instruction during our regularly scheduled class time. Some classes will be flipped, which will mean your homework will be watching pre-recorded videos and class time will focus on solving problems.

Fridays -- every other Friday will be a quiz Friday.

On the course website (through CANVAS), you will find the syllabus content (specific course information and policy statements). In this document, you'll find that content all in one place. This publication/material is available in alternative formats upon request. Please contact me at rleepenn@umn.edu.

I am committed to fostering a diverse welcoming climate for chemistry 1071H. Further, I strive to integrate diversity and inclusiveness into my work and daily life. This ongoing work is essential to developing and maintaining a positive and welcoming climate for all students in our course (and on our campus). I will work hard to create and foster a welcoming and affirming climate for students who hold various identities. If you have concerns / comments, please feel absolutely invited to send me a message via email or even a paper note slid under my office door (Smith Hall 225).

The Course: The main themes of Chemistry 1071 include an advanced introduction to atomic theory; periodic properties of the elements; behavior of gases, liquids, and solids; the first law of thermodynamics; molecular/ionic structure and bonding; aspects of organic chemistry, spectroscopy, polymers and energy sources. 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 help prepare you to be an informed citizen and life-long learner.

Prerequisite: Honors student or Honors Office permission. Inasmuch as this is an honors course, a certain amount of prior knowledge will be assumed, and the lecture material will begin with Chapter 5 of the text by Silberberg and Amateis. You should be familiar with the material covered in Chapters 1–4, and you are encouraged to read these chapters and do practice problems to test your readiness and refresh your memories; this material is fundamental to any continued study of chemistry and will be incorporated into the exams.

[The Lecture Video Navigator \(asynchronous and organized by chapter\)](#) page contains the lecture videos used during fall 2020. If you are feeling unwell, please skip class AND watch the videos for the content you missed. I care about YOUR health and also MY health and the health of everyone around us. I will not come to class if I'm feeling unwell. Instead, I will come to class via zoom session OR assign videos OR invite a guest lecturer for that day. I expect students to SKIP CLASS if they are feeling unwell and will THANK YOU for staying home when you are not well. ALSO -- these lectures could be useful if you miss something during class, if you'd like to hear something explained again, or if you miss class due to athletics, other university-related activities, or other reasons.

VIRTUAL ACCESS: I'll run a zoom session for every class. I can't promise great quality -- but I will do my best to make it as good as possible. ALL THE CONTENT is

contained on the lecture video navigator page, which contains asynchronous videos organized by chapter. Any student can attend class using a 100% virtual modality. The main goal for virtual students is to keep an eye on the announcements so you know what each quiz will contain.

Official syllabus statement: Students are responsible for all information disseminated in class and all course requirements, including deadlines and examinations. The instructor will specify whether class attendance is required or counted in the grade for a class. FOR THIS CLASS -- I do not take attendance for in person class. Exception -- quizzes! You must come to class for quizzes, unless you have an excused absence.

Homework:

We'll be using an online homework system. It's fiddly, but I've seen very positive results with using it. Students who do the homework consistently DO BETTER in this course. Links available on the course website and above.

Some classes will run with a semi-flipped format, which means a homework task might include watching a short video or two before the next class.

Homework will include a combination of the required electronic homework problems and RECOMMENDED end-of-chapter problems (see course website for the list of recommended problems) from the text book and RECOMMENDED problems for problem solving sessions (also available on the course website).

The first homework covers chapters 1-4, which students need to complete by 9am on 15 Sept 2023. These chapters will not be covered during class. This covers material folks should have seen during their high school chemistry class. Take your time in these chapters! Start NOW if you want to! Reviewing chapters 1-4 will help set you up for success in chem 1071H. We start with chapter 5 on the very first day of class, and that chapter focuses on GASES ($PV=nRT$ and beyond).

If it's been a while since you've taken chemistry, this introductory material (chapters 1-4) will help refresh your knowledge. If you're just NERVOUS about chem 1071H, reviewing this introductory material will build your confidence! If this homework assignment seems tremendously difficult -- see me asap please! Let's talk!

For each chapter, a series of problems have been chosen to help you understand the concepts and **practice** the material. My experience teaching this course has shown me that students who practice problems do better! There are a lot of problems! What's listed in the table below represents my recommendation for practicing chemistry

problems. If you're struggling, the best use of your time is to practice **more** problems! Come meet with me to talk about how to best spend your time if you feel unsure. I'm very happy to talk to you about study strategy etc....

I recommend you do the problems through the online system (worth 18% of your final grade) AND the recommended book problems according to the table below AND the problems for the problem solving sessions (some of those actually are based on connect problems and end of chapter problems).

*****Your final connect homework average (counting only your highest scoring attempt for each assignment) will count as 18% of your final course grade -- that's the SAME as with the final exam!*****

Group work on homework is both acceptable and encouraged! That's worth repeating -- WORK TOGETHER ON HOMEWORK! You are invited to work together on the online homework problems AND on the recommended book problems AND on the problem solving session problems. However, everyone needs to be sure they can complete problems independently in preparation for quizzes and the final exam.

Office/Student hours:

What happens during the office/student hours? We will work problems. We go around the room, and folks ask questions about problems on homework, problems during class, etc.... If we run out of class content to discuss, then we talk about other stuff, including research opportunities and yes -- the weather and our pets (pets are absolutely welcome during virtual office hours). PLEASE COME!

In hopes of choosing office hours that work for the most people -- please complete this office hour survey:

<https://forms.gle/37yN9XneeVbVGhZv5>

Quizzes and Final Exam:

Quiz content will be posted in the "announcement thread" on quizzes. Please go there! I will update the thread by the Monday before each quiz.

There will be one credit/no credit quiz (quiz zero), six graded quizzes, and one graded Final exam. You will enter answers using the canvas interface. So you will need to bring

your computer / tablet to class on quiz Fridays. If you encounter a problem with your computer/tablet -- I can probably help connect you with a loaner laptop for the purpose of taking a quiz. Advisors in your college can also help you with this (but only in advance).

Quiz zero is a practice quiz. The purpose of this quiz is to practice using the Canvas interface and also review content from chapters 1-4. If you complete the quiz you get 100% of the points. Canvas will record your highest score on this quiz, and I will convert that number to 100% when I compute final grades.

If you have a testing accommodation related to a documented disability - please let me know! For extended time, quiet space accommodations, etc... you will take your exam at the DRC (Disability Resource Center).

For other accommodations, we should meet to discuss!

I highly recommend getting sorted with the DRC so that if you need your accommodations, they are available without delay.

It's CONVENIENT but not required to buy the laminated periodic table and formula sheet so that you won't have to scroll up and down while taking a quiz. You can also print it yourself.

Graphing and programmable calculators are **forbidden** on exams. Their use will be considered an act of scholastic dishonesty (see section on scholastic dishonesty below). The TI-30X is the suggested calculator for this and most introductory chemistry and physics courses. It is available in the bookstore for about \$10. If you have any questions about your particular calculator, email me asap. If you are concerned about battery failure, have extra batteries or a second calculator available.

No other electronic devices or physical items are allowed. If you need another physical item available while taking a quiz or the final exam (e.g., something related to disability or stress relief), please let me know in advance. Any student is invited to bring a non-electronic fidget style object, as long as it doesn't make noise or otherwise disturb your neighboring test takers.

Exams and quizzes can only be taken at the scheduled time. There are no exceptions.

Missed quizzes and/or final exam: A student can be excused from one quiz for a true emergency, serious illness, or University sponsored activity. The student should contact the instructor as soon as circumstances allow, and appropriate documentation

must be provided. If the circumstances are deemed as appropriate for an excused absence on the quiz, the unweighted average score of all other quizzes will be used in place of the missed quiz. If circumstances lead to a student missing more than one quiz, the student should immediately schedule a meeting with the instructor to discuss options.

Legitimately excusable absences include 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>.

Course Grading: The final course grade will be determined by the combined performance on six quizzes and the final exam.

Each of these will be weighted with the following percentages in the determination of the final grade:

Quiz 0 (credit or no credit) = 4%

Quizzes 1-6 = 10% each

Final exam = 18%

Connect Homework = 18%

Note: There are no extra credit assignments in CHEM 1071H.

Note: If you complete quiz 0, you get 100% of the points. Canvas will record your highest score on this quiz, and I will convert that number to 100% when I compute final grades.

Your final homework average (counting only your highest scoring attempt submitted before the due date for each assignment) will count as 18% of your final course grade.

NOTE ON WORKING TOGETHER: Please feel invited to work together on both ungraded and graded homework. Not only do I think that's just fine -- I strongly encourage it! Do, however, make sure you can work problems in advance of taking quizzes and the final.

You may NOT work with others nor consult outside resources during graded quizzes nor the final exam.

Grade cutoffs:

90% and higher: A

85% to the next: A-

80% to the next: B+

75% to the next : B

70% to the next: B-

65% to the next: C+

60% to the next: C

55% to the next : C-

50% and higher: D

Below 50%: F

Grading and Transcripts: The University uses plus and minus grading on a 4.000 cumulative grade point scale in accordance with the following:

A 4.000 Represents achievement that is outstanding relative to the level necessary to meet course requirements

A- 3.667

B+ 3.333

B 3.000 Represents achievement that is significantly above the level necessary to meet course requirements

B- 2.667

- C+ 2.333
- C 2.000 Represents achievement that meets the course requirements in every respect
- C- 1.667
- D+ 1.333
- D 1.000 Represents achievement that is worthy of credit even though it fails to meet fully the course requirements
- S Represents achievement that is satisfactory, which is equivalent to a C- or better.

*[For additional information, please refer to
http://policy.umn.edu/education/gradingtranscripts.](http://policy.umn.edu/education/gradingtranscripts)*

Note: There are no extra credit assignments in CHEM 1071H.

Schedule: Quiz Dates Will Not Change

Schedule is organized by week, with the date listed the date of that week's Monday.

Week of:	
4 Sept	Chapter 5 – Gases and the Kinetic-Molecular Theory
11 Sept	Finish Chapter 5 and start Chapter 6 – Thermochemistry: Energy Flow and Chemical Change

18 Sept	Finish Chapter 6 and start Chapter 7 - Quantum Theory and Atomic Structure Quiz One Friday
25 Sept	Chapter 7 – Quantum Theory and Atomic Structure
2 Oct	Chapter 8 - Electron Configuration and Chemical Periodicity Quiz Two Friday
9 Oct	Chapter 9 – Models of Chemical Bonding
16 Oct	Chapter 10 – The Shapes of Molecules Quiz Three Friday
23 Oct	Chapter 11 – Theories of Covalent Bonding
30 Oct	Chapter 12 – Intermolecular Forces: Solids, Liquids, and Phase Changes Quiz Four Friday
6 Nov	Finish Chapter 12 and <u>Nanotechnology</u> (not in text)
13 Nov	Finish chapter 12

	Quiz Five Friday
20 Nov	Start Chapter 13 – The Properties of Mixtures: Solutions and Colloids <u>Happy Thanks Giving Break!</u>
27 Nov	Finish chapter 13, start <u>Chapter 15 – Organic Compounds and the Atomic Properties of Carbon</u>
4 Dec	Finish Chapter 15 and Green Chemistry (not in text) Quiz Six Friday
11Dec	<i>Last Day Of Instruction for Fall 2023 is Wed, Dec 13, 2023</i> <i>Course overview and prep for Final exam</i>
	<i>Final Exam</i> <i>OFFICIAL EXAM TIME is 1:30 to 3:30 p.m., Tuesday, December 19</i> NOTE ABOUT THE FINAL: DRC Testing Center Finals Scheduling Deadline: The DRC has set deadlines for scheduling exams in the Testing Center during the University's official finals week (December 15-21): November 21: priority deadline, <u>space guaranteed</u> <u>DRC portal</u>

