
CHM 11100 General Chemistry Course Packet, Fall 2024

Chemistry 11100 in Fall 2024
(CRN 14038, 14039, 14040)
(Brightspace page: <https://purdue.brightspace.com/d2l/home/1093277>)

Lecture: 10:30 AM, 2:30 PM, and 3:30 PM in WTHR 200 on T and Th

Lab and recitation (PSO): See your schedule!

Modality: Face-to-Face

Credit Hours: 3

Instructor: Dr. Harwood, BRWN 1153

Email: charwood@purdue.edu

Telephone: 494-7012

Student Hours: Tuesday 4:30-6:30 pm & Thursday 4:30-6 pm in BRWN 1152

Chemistry 11100 is a three-credit hour foundational general chemistry course for agriculture, health and human science, and other majors. The stated minimum prerequisite for CHM 11100 is two years of high school algebra. The course is oriented around helping you learn the fundamental chemistry concepts, calculations, and laboratory skills you need in your major. We have a diversity of majors in the course and believe that it is important to relate the chemistry you are learning to the topics you will see in other courses.

The course begins by reviewing measurements, mathematics, and energy changes. We next move to discussing atoms and isotopes then ions and compounds. We will study a bit about periodic properties and how atoms bond to form molecules. Once you know the names of ions and compounds, we study their shape, since it is the shape of molecules and ions that influences their reactivity. We discuss the chemist's basic measuring unit, the mole, and use that unit to investigate chemical reactions. Across all topics, there is a simultaneous emphasis on development of problem-solving skills and conceptual understanding. Laboratories and recitations (PSO) are scheduled weekly and offer an opportunity to reinforce and extend what is discussed in lecture, explore new topics, and to develop your hands-on laboratory skills. We strongly encourage you to attend recitation (PSO).

CHM 11100 is taught by Professor Harwood. There are 3 graduate student supervisors for lecture and lab, approximately 23 graduate teaching assistants who teach lab and recitation sections, and several undergraduate student graders. The total course enrollment is approximately 900 students.

The Chemistry 11100 team—the professor, course coordinator, lecture and laboratory supervisors, teaching assistants, undergraduate graders, administrative assistants, and general chemistry preparations lab staff—are committed to, and focused on, helping you learn chemistry. We know that this is a foundational course for your major, and to achieve your goals and dreams, you want to do well in the course! Please read on to learn about the required materials, lecture, and lab schedule, recommended ways to study, lab policies, grading, and other course policies and procedures.

Detailed learning objectives are provided for each module of the course. Broad course learning objectives are:

1. Explain the behavior of and interactions between atoms, molecules, and ions at the molecular and macroscopic levels.
2. Use standardized names and symbols to represent atoms, molecules, ionic compounds, and ions as well as chemical reactions.
3. Predict atomic structure, chemical bonding, and molecular geometry based upon scientific models.
4. Demonstrate competence in quantitative problem solving, conceptual understanding, and the ability to formulate an argument based upon evidence.
5. Demonstrate competence in collecting, analyzing, and interpreting laboratory data.
6. Use computers in data acquisition and processing and available software as a tool in data analysis.

BRWN 1144, The General Chemistry Office, 765-494-5250, genchem@purdue.edu: The General Chemistry office handles administrative details associated with the general chemistry courses.

Course Coordinator: Mrs. Leah Everly is our course coordinator. You can email her at leeverly@purdue.edu or visit her in the general chemistry office in Brown 1144. She helps us run the course and supervises teaching assistants. Please contact her about any non-chemistry concerns, such as:

- Accommodations and attendance modifications from the Disability Resource Center
- Exam conflicts and accommodations
- Absences such as grief absences, military absences, jury duty, medically excused absences, university sponsored events
- Questions about your teaching assistant (your TA)
- General study skills help

Supervising TAs: We have three TA supervisors working in CHM 11100 this semester:

- Hanna Bovill (jbovill@purdue.edu)
- Calvin (Cuong) Nguyen (nguye625@purdue.edu)
- Nicholas Koehn (koehn0@purdue.edu)

Teaching assistants: There will be approximately 23 teaching assistants to teach recitation (PSO) and lab in the course. You will be assigned a laboratory section and a recitation (also called PSO) that is taught by the same person. You will also have a Brightspace PSO section for this course where your TA may post information for you.

Communicating with your CHM 11100 Team

Please send all emails from your @purdue.edu account. We will not answer emails from any other email accounts such as gmail. Please include a subject line including your course number and indicating why you are writing to us. If you need to contact more than one person, please send one message with multiple recipients rather than several individual messages. Before you hit send, re-read the email, and edit for clarity! Finally, please sign the email with your name.

We normally respond to emails within 24 hours during normal business hours. On the weekends or holidays, it may take a longer period of time.

Course Information: Log on to Brightspace (<https://purdue.brightspace.com>) to find Chemistry 11100. Lecture outlines, reading assignments, announcements, and other course activities and information are available on the course Brightspace page. We recommend that you sign up for alerts from the webpage and visit it often!

Learning Resources, Technology, and Texts

Textbook: The textbook we have chosen for you this semester is Overby, Chemistry, 15th edition). We have also chosen the McGraw-Hill **ALEKS** online homework program for our homework platform this year. You will purchase ALEKS 360 access which includes an electronic copy of the textbook, Overby, Chemistry, 15th edition (ISBN: 9781264396313). You can purchase ALEKS 360 access from the University bookstores or directly through McGraw-Hill (it's cheaper directly from McGraw-Hill because the bookstore adds a small markup to the McGraw-Hill price). You can purchase a physical textbook (loose-leaf version) directly through McGraw-Hill online separately from a link in ALEKS. If you are using an old book (any edition) you will still need to purchase access to ALEKS 360 and that will automatically include an electronic copy of the text. A link on the course Brightspace page will direct you to the McGraw-Hill site where you can make your purchases.

Calculator: A **simple battery-operated scientific calculator** with exponential, logarithm and square root functions is required for this course (a TI-30 works well, but other brands are also acceptable) for the exam and the final. Two-line non-programmable calculators are allowed. Alpha-numeric and programmable calculators will NOT be allowed for the exams or the final.

Lab Manual: We will use a digital laboratory manual this semester from Top Hat and the online laboratory simulation program BeyondLabz. You can purchase access to Top Hat (which includes an access code for BeyondLabz) directly from the link Dr. Harwood will email you at the end of Week 2.

Lab Materials: In addition to Top Hat access, you are also required to have **indirectly vented** chemical splash goggles that must be worn while in the laboratory. Goggles may be purchased in CHAS, in bookstores, or online. Goggles may not have exposed holes on the sides, top or bottom that would allow chemicals or vapors to damage the eyes (must meet the ANSI Z87.1:2020 (+D3) standard).

You should bring a notebook of your choice to lab for note taking. If you choose, you may take digital notes on your electronic device. You may bring your laptop to lab each week to access your digital lab manual and digital lab report. There are iPads in each of the laboratories for you to use as well.

Supplemental Instruction: Supplemental Instruction (SI) is a program built around peer-led group study sessions. Our SI Leaders Brandon and Owen are undergraduate students at Purdue and know what it takes to succeed. They facilitate or guide learning through fun, collaborative activities that provide more practice with challenging course material and concepts. SI attendance is correlated with higher grades in the paired course, but it shouldn't be thought of as a quick fix or a place to go for last minute help before a quiz or exam. To get the most benefit, you should attend SI early in the semester and continue in SI as often as you can. Keep in mind that 1 hour of productive group study is equal to 2 hours of solo studying – *SI helps you maximize your study time while also getting to know your peers and having fun.* Students attending SI regularly earn a letter grade higher than those who do not.

Times and locations for the study session can be found here: <https://www.purdue.edu/asc/si/> and you can access the sessions from Brightspace. Brandon and Owen's SI sessions, office hours, and email addresses are:

SI Leader: Brandon Czerak (bczerak@purdue.edu)

SI Sessions: Tuesday, BRNG 1248, 6:30-7:20 pm; Thursday, BRNG 1248, 6:30-7:20 pm

Office Hour: Thursday, WILY C215, 12:00-1:00 pm

SI Leader: Owen Wesling (owesling@purdue.edu)

SI Sessions: Monday, LWSN 1106, 4:30-5:20 pm; Wednesday, LWSN 1106, 4:30-5:20 pm

Office Hour: Wednesday, WILY C215, 2:00-3:00 pm

Week #1 Assignments:

- Purchase ALEKS 360 (homework and Overby, Chemistry, 15th edition package).
- Register for your ALEKS account if you have a printed code.
- Complete the ALEKS Initial Knowledge Check.
- Review the information in the Lab Safety Brightspace Module and complete the Safety Certification Quiz by Sunday, September 8 with a score of 20/25.
- Begin the ALEKS Review Module. (DUE September 6 @ 11:59 pm)
- Begin the first ALEKS weekly homework assignment. (DUE August 30 @11:59 pm)
- Complete the *Getting to Know You* survey by Friday, August 23 @ 11:59 pm)
- Read all the information in this course packet.
- Read the Reading Assignments and Learning Objectives for Module 1 (on Brightspace).
- Complete the *Syllabus Quiz* by August 30 @ 11:59 pm (will be available soon)

Weekly Keys to Success:

(Also refer to the "Some Ways to Study Chemistry" on the course Brightspace page.)

- Attend lecture, recitation, and lab.
- Check Brightspace often so you know when work is due!
- Complete the reading assignment *before* lecture (see lab/lecture schedule at end of packet).
- Complete your ALEKS homework assignment (due each Friday at 11:59 pm).
- Prepare for lab: read the relevant lab manual chapter and complete the pre-lab exercises (due on Sunday at 11:59 pm).
- Complete any Activities & Explorations (due on Friday at 11:59 pm).
- Complete weekly lab reports and pre-labs (due on Sunday at 11:59 pm).

Overview of CHM 11100 Activities and Policies

For more detailed information, see the course Brightspace page.

Brightspace

This is the learning management system (LMS) that we use in the course. We will post all the course resources on our Brightspace page, and you will need to access this page multiple times each week. The course content is broken up into 3 major topics that are explained on the course lecture schedule at the end of this document.

Reading

See the lecture schedule in the course syllabus for the reading assignments. These are also posted on our Brightspace. *Reading the assigned material prior to attending the lecture and reading the laboratory materials is recommended.*

Lectures

Lectures are conducted at 10:30 am, 2:30 pm, and 3:30 pm in WTHR 200 on T and Th. The Powerpoint slides for the lecture are posted in Brightspace. The lectures will be recorded (Boilercast) and posted in Brightspace as they become available.

Recitation (PSO)

Recitation (PSO) takes place each Thursday or Friday (check your class schedule). There will be a recitation guide each week that is integrated into the lecture topics with the answers on the bottom of the page (most, if not all weeks). PSO is also a place where you can ask questions about lab, lecture, homework, or other content areas.

Homework (ALEKS)

Each week you will turn in an online homework assignment in ALEKS. These are low-stakes (low points) assessments. A few homework problems will likely appear as questions on exams.

Deadlines for completing the on-line assignments will be listed on the online ALEKS assignment page, in Brightspace, and in the title of the homework. Homework will be due on Fridays at 11:59 pm. You will have a maximum of **three (3) question attempts and three (3) submission attempts** to complete each ALEKS assignment before the listed due date. ALEKS homework will be scored and recorded on-line and there is no hand grading or regrading of homework. Your **best score** is the one that is recorded (not the average). There will be 13 ALEKS assignments and your lowest score is dropped at the end of the semester for a total of 120 points.

Activities and Explorations

These are graded, low-stakes activities in which you might

- complete a worksheet
- explore a simulation to learn more about the behavior of atoms
- engage in writing about your understanding of bonding
- watch a demonstration video and answer questions about the demonstration.

You will upload a pdf document with your answers to Brightspace. There will be 7 of these activities and your lowest score is dropped at the end of the semester for a total of 120 points.

Surveys, In-Class Work, Discussion Posts

There are 70 points of surveys, in-class work, and discussion posts during the semester.

Extra Credit

We will have electronic questions during lecture to check your understanding and to help inform my teaching in real time. I will award up to 10 points for participating in these questions.

Midterm Exams and Final

There are 3 midterm exams for CHM 111

- Wednesday 9/18 8:00 pm Elliott Hall of Music
- Wednesday 10/16 8:00 pm Elliott Hall of Music
- Thursday 11/14 6:30 pm Elliott Hall of Music

The final exam will take place during the week of December 9 with the specific time announced later in the semester. Please do not make any travel plans until you know when the final exam will take place—final exams cannot be rescheduled to accommodate travel plans. We will announce seat assignments and other details via Brightspace. Bring your PUID, seat assignment, an appropriate calculator, and #2 lead pencils with you to the exam and plan to arrive 20 minutes before the exam begins. You may not share a calculator with another student.

Due to the size of the class, students with testing accommodations are expected to schedule and take their examinations through the DRC's Testing Center. Students are expected to respond in a timely manner and meet all communicated deadlines to schedule their examinations with the DRC testing center. Students with accommodations who fail to respond and fail to schedule their test with the testing center may not be able to have all their accommodations met. Thus, it is critically important that all students read their Purdue email daily and respond in a timely manner to requests or directives, especially if you have accommodations related to testing.

- All exams have a free-response portion to assess your ability to reason with concepts and create evidence-based arguments. We will practice in lecture and through our activities and explorations, so you have a sense of the types of questions and level of response we are seeking. This will also be part of our laboratory activities.

The free-response portions will be graded by TAs and the professor in the course. Grading the free-response portion takes time. Expect to see your exam score within one week of the exam date.

Laboratory

Laboratory exercises are an integral part of CHM 11100 and are an opportunity for you to experience, in a hands-on way, the chemical concepts discussed in the lecture. We will be using a Top Hat digital Lab Manual and BeyondLabz laboratory simulation program that you will need to purchase using a specific link that will be provided at the end of the second week of class.

Laboratory Expectations

- Lab attendance is required since CHM 11100 is a laboratory course. Specific information concerning attendance and makeup policies can be found in the Brightspace Absence Module.
- **You are required to complete at least 9 of the 11 scheduled lab projects (Labs 2-12) to maintain your grade in the course. Lab projects are completed by either attending lab and submitting a lab report, or by submitting an approved makeup assignment following an absence. If you fail to complete more than 2 lab projects (not including the Excel Lab), your final grade will be dropped by one letter grade for each subsequent missed lab after 2.**
- **You must complete the online safety certification in Brightspace with a score of 20/25 or better by 11:59 pm on Sunday, September 8, 2024.** You may not engage in in-person laboratory activities if you have not completed the safety certification.
- Follow all lab safety regulations (see below). These regulations may seem inconvenient, but they are **necessary for your safety and the safety of others in lab.**

- Before lab, read the experiment and attend recitation (PSO) to help you prepare.
- Complete the pre-lab exercises in Top Hat before coming to lab. Pre-labs are due at 11:59 pm on Sunday.
- Arrive on time, properly dressed, and prepared for lab work. If you arrive at lab more than 10 minutes late or improperly dressed, you will be asked to leave the lab, and will receive a score of zero. This is considered a failure-to-complete.
- Endeavor to work as an effective member of the team.
- Your lab report will be completed online. You should make sure to always:
 - Label graphs and tables.
 - Use the data you collected for the calculations and analysis.
 - Use correct units of measurement and significant figures.
 - Use chemical terms and concepts correctly.
 - Ensure results and conclusions are consistent with your data and observations.
- Lab reports are due on Sunday at 11:59 pm.
- You will be able to review your graded lab reports online within about 1 week after the due date. If you have questions about your grade, speak with your lab instructor, or one of the supervising TAs.

Laboratory Policies

You will be sharing laboratory equipment with the students in the laboratory. Students in CHM 11100 have a history of functioning as a responsible community. Your lab partners will depend upon your commitment to keeping the equipment clean and in good working condition.

- It is important that you do your part to maintain the equipment throughout the semester by cleaning all the pieces of equipment after use by washing with hot water, soap, and a brush, rinse with tap water, then rinse with deionized water (it's a 3-step process to get the glassware clean and you will have better experimental results with clean glassware).
- If you are responsible for a piece of equipment becoming un-usable i.e., the piece becomes chipped, cracked, stained, broken, etc., you must go to the storeroom (immediately) and purchase a replacement.
- Should you discover that a piece of equipment is missing, first check with the other students in the lab and the lost and found box. If the piece is still missing, your group must replace it immediately. The storeroom staff can split the cost of a replacement among all or any number of lab partners.
- Often pieces of equipment are broken accidentally; for instance, a thermometer rolls off the bench and breaks. Replacing the thermometer is still the responsibility of the group and the storeroom staff can split the cost of a replacement among the lab partners.
- You will not have the opportunity to store personal items such as your goggles in the laboratory. Please remember to bring them to class.
- Failure to check out of your lab drawer at the end of the course, or if you drop the course and do not check out of your lab drawer, results in a \$45 fee + cost of replacement glassware being added to your account. In other words, it **costs a minimum of \$45+ if you do not check out** of your laboratory drawer.

Lab Safety Regulations

Students' safety in the laboratory is a priority and everyone is required to comply with the following safety regulations. Failure to comply will result in being sent home from lab with a score of zero, which counts as a lab absence.

- Dress appropriately (see below).
- Wear gloves when specified. Nitrile (non-latex) gloves will be provided in the laboratory.
- Food and beverages are not allowed in the labs. **(This includes water bottles.)**
- If your hair is longer than shoulder length you must tie it behind your head.
- Contact lens wearers are encouraged to wear glasses in the laboratory.
- Follow your instructor's guidance on appropriate handling of hazardous materials and disposal of chemical waste.
- Promptly clean up spills and tidy the laboratory before leaving.
- Proper dress (clothing, socks, and shoes) is required. Chemistry department regulations state that you must wear clothing in the laboratory that protects your skin. Your clothing must **cover you from your neck (collarbone) to your ankles (thus, you need socks, not footies, SOCKS)** when sitting, standing, or reaching. Your feet must be completely covered by your shoes.

If you attend lab in unacceptable attire, you will be sent home and will receive a zero for the lab (this will also count as a failure to complete a lab).

Unacceptable clothing includes, but is not limited to:

- tops that are sleeveless, low-cut or V-neck (below the collar bone), bare midriff or tank-style
- see-through, transparent, or sheer clothing
- pants that are ripped or have **holes** in the fabric of any size
- tights or thin (translucent or transparent) **leggings**
- capri or cropped pants
- shorts
- skirts (unless they extend to the floor)
- open-toed and/or open-heeled shoes (including Crocs, Birkenstocks, or other clogs)
- sandals (with or without socks)
- boat shoes, ballet flats, slippers, moccasins, **or any shoe that doesn't cover the entire top of your foot, with or without socks**

If you come to lab wearing anything in the list above, you will be sent home and you will receive a zero for that lab (and that lab will count as a missed lab).

► Your best option for chemistry lab attire is a crew neck t-shirt, jeans without holes, and sneakers (tennis shoes) with socks.

Proper Lab Attire



Due Dates for Graded Course Components

- Sunday @ 11:59 pm – Lab Reports, Pre-labs
- Fridays @ 11:59 pm – weekly ALEKS Homework, Activities & Explorations

The pace of the course is designed to help you make steady and productive progress toward the course learning objectives thus we expect all work (labs, quizzes, homework, activities and explorations, badges, etc.) to be submitted by the due date. Please avoid last-minute submissions. Extensions are not granted for last-minute technical issues that prevent you from turning in your work. **Extensions are only granted in alignment with university policies (GAPS, MAPS, MEAPS, Jury Duty, etc.) and DRC modified attendance policies. Students with prearranged absences (NCAA, Professional Development, etc.) are expected to plan ahead and submit assignments by the posted deadlines.**

Attendance

Attendance in lecture, lab, and recitation is key for success in the course. **If you miss or are asked to leave laboratory for more than 2 laboratories your grade will be dropped by one letter grade for each subsequent absence over 2.** Note that labs for which you complete an approved makeup are not considered missed labs. Please carefully read the laboratory section to understand the attendance requirements.

The Brightspace Absence Module explains attendance, makeup, and deadline extension policies. Please familiarize yourself with these policies and procedures so that you know what to do if you need to miss a CHM 111 class.

Determining your Course Grade, Fall 2024

The points for each of the assigned course activities for CHM 11100 are listed below. Before course grades are finalized at the end of the semester the following scores will be dropped:

- your lowest (1) ALEKS homework score
- your lowest (1) lab score (excluding Excel Lab 1)
- your lowest (1) Activity and Exploration score
- your lowest exam score (or ½ of your score on the final exam)

The total number of points for CHM 11100 will be distributed as follows:

ALEKS Review Module	20 pts
ALEKS Homework ..	120 pts (best 12 of 13 @10 pts each)
Labs	270 pts (Excel lab at 20 pts + best 10 of 11 Labs 2-12 @ 25 pts each)
Activities and Explorations ..	120 pts (best 6 out of 7 @ 20 pts each)
Exams.....	300 pts (3 @ 100 pts each)
Final	200 pts
Surveys & in-class work	70 pts
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Subtotal	1,100 pts
Drop (1) exam or ½ final	-100 pts
Total	1,000 pts

After the Final Exam your course grade will be based on the following scale:

- A: 900 pts and above
- B: 800 – 899 pts
- C: 700 – 799 pts
- D: 600 – 699 pts
- F: 0 – 599 pts

If you fail to complete more than 2 lab projects (not including the Excel Lab) by missing laboratory or being asked to leave laboratory, your final grade will be dropped one letter grade for each subsequent incomplete lab. (If you fail to complete 3 labs, your letter grade will drop by one full letter, if you fail to complete 4 labs, it will drop by two full letter grades.)

To resolve any discrepancies, your assignments will need to be reviewed. At the discretion of the professors there may be extra credit assignments in the course.

Course Activities, Policies and Procedures

Studying Chemistry

Expect to spend at least 8-12 hours per week on chemistry. This time includes reading course materials, attending lectures, watching demonstrations, completing homework, activities and explorations, lab assignments, and studying for exams.

Sources of Help

There are several **free** sources of help for CHM 11100 students: (1) professor office hours, (2) TA office hours, and (3) SI sessions with Brandon and Owen.

CHM 111 Absence Policies

CHM 111 absence policies along with the procedures for requesting makeup work and deadline extensions are explained in the Brightspace Absence Module. Please read the information in the module and contact Leah Everly (leverly@purdue.edu) with any questions or concerns. Please note that it is your responsibility to be familiar with the information in this module so you

understand the steps to take should you need to miss class.

Changing Sections/Dropping

CHEMISTRY DEPARTMENT DEADLINES FOR ADDING OR SWITCHING SECTIONS

Fri., Aug. 23: last day to add CHM 111 or switch lab sections without departmental approval.

Mon., Sep. 6: last day to switch lab sections with departmental approval.

Request changes to your schedule through the Scheduling Assistant on My Purdue.

UNIVERSITY DEADLINES - Fall 2023

Fri., Sep. 6: Last day to drop (cancel) a course using Scheduling Assistant without it appearing on your record.

Tue., Sep. 13: Last day to cancel (drop) a course with a grade of "W".

Leaving the Course: If you change sections, drop the course, or withdraw from the university, it is your responsibility to check out of your assigned drawer during your scheduled lab period. **Failure to check out of lab will result in a \$45 fee**, and forfeiture of the right to determine the acceptability of all drawer equipment. In other words, you will be charged for all equipment that is unacceptable (dirty, broken, chipped, missing, etc.).

Check-out day:

- On the last of laboratory, you and your lab partners will check-out of your lab drawer. You must arrive on time, properly dressed and wear goggles. If you arrive more than 15 minutes late, you will be asked to leave the lab and assessed a fee of \$45.
- You and your lab partners will clean and inventory the drawer for your TA's inspection. All missing or un-useable equipment must be replaced at that time.

Adding the Course/Late Registration: Students are usually not permitted to add CHM 11100 after week 2 of the semester (Friday, August 30). Notify the course supervisor (Mrs. Leah Everly, leaverly@purdue.edu) within 24 hours of adding the course if you register late.

Emergencies

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to CHM 11100 will be posted on the course Brightspace site or can be obtained by contacting the instructors or TAs via email or the General Chemistry office via phone at 765-494-5250. You are expected to read your @purdue.edu email on a frequent basis.

Again: You are expected to read your @purdue.edu email on a frequent basis.

- **"Shelter in Place"** means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, earthquake, release of hazardous materials in the outside air, active shooter, building intruder, or a civil disturbance. If you hear the **All Hazards Outdoors Emergency Warning Sirens** or are notified via text or other means, immediately go inside a building to a safe location and use all communication means available to find out more details about the emergency. **Remain in place** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave. There is no "all safe sirens;" the notification will come via text, internet, or email announcement.

- In the case of a major campus emergency involving a shelter-in-place, **all** laboratory experiments will be halted while students shelter in lab. Students' lab grades will **not** be penalized in this situation.

Accessibility and Accommodations:

Purdue University is committed to making learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let us know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247.

If you require accommodations to access course activities or materials, the accommodations must be described and approved by Disability Resource Center, Young Hall Room 830, 302 Wood Street, 494-1247, drc@purdue.edu, www.purdue.edu/drc. These accommodations are then sent to the professors and can be accessed by the professors online.

- If you have extended time, Brightspace allows for a time multiplier (for example, if you have 150% time the multiplier is 1.5) to be applied to all timed tasks.
- If you have a modified attendance accommodation, we will provide an agreement to be signed by both you and Leah Everly outlining policies and procedures associated with this accommodation.
- All lectures are recorded on Boilercast.
- If you have any other questions about your accommodation, please contact Leah Everly (leverly@purdue.edu).

Academic Integrity Statement and Consequences.

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern." Please read <http://www.purdue.edu/odos/osrr/academic-integrity/index.html>.

In CHM 11100, academic integrity means "doing your own work" at all times. Discussion of chemical concepts and problem-solving methods is encouraged but sharing your answers and work on social media for the express purpose of letting other students copy it is not acceptable. Such a use of technology does not help you learn and is considered academic dishonesty.

Using online resources such as Chegg to gain answers to any graded assignment (including homework, labs, quizzes, activities, and explorations, etc.) is *not* allowed. Posting any course materials to websites is a violation of copyright laws and is not allowed. Instructors can obtain user information from Chegg and other sites when inappropriate course material is posted and investigate it.

Consequences of academic dishonesty include receiving a lower or failing grade for an assignment, being required to repeat the assignment, receiving a lower or failing grade for the course and/or dismissal from the University. Incidents of academic integrity are referred to the Office of the Dean of Students. A student accused of academic dishonesty will be afforded due process as defined by Purdue University procedures.

Artificial Intelligence (AI) Usage Policy in CHM 11100

Artificial intelligence (AI) and large language models (LLMs) such as ChatGPT, Bard, Claude, etc., can assist with explanations, suggestions, and brainstorming ideas. While these tools can be highly useful when employed correctly, they should be viewed as supplements to your learning

rather than replacements for your creativity, critical thinking, or judgment. Remember that AI does not differentiate between fact and fiction, and the information it provides can be inaccurate or incomplete.

Authorized AI Usage by Students in CHM 11100:

In CHM 11100, you are encouraged to use AI for:

- Generating additional study questions and problems,
- Creating “quizlets,”
- Assisting with editing and proofreading your written work,
- Generating and exploring examples of specific chemistry concepts to enhance your learning.

If you use AI as part of any submitted work in this course, you must explicitly describe how you used it and provide a link to your chat history. Examples of specific AI inputs for the aforementioned purposes can be found in the AI Information document on the course Brightspace page.

Prohibited AI Usage by Students in CHM 11100:

The use of AI tools to obtain answers for graded assignments (including activities, labs, and ALEKS homework) **or to cut, paste, and submit AI-generated content as your own work is strictly forbidden.** Such actions are considered cheating and plagiarism. If your use of AI is suspected of plagiarism, I will contact you to discuss acceptable use and potential penalties. If you are unsure whether a specific use of AI is acceptable, please ask for clarification.

AI Usage by Your Instructor:

Throughout the semester, we will use AI tools to sort and categorize some of your coursework, including graded discussion posts and exams. Your exams will be entered into Gradescope, a university-approved online grading tool. We do not use Gradescope as a “black box” tool; your instructor, course supervisor, or TA supervisor will oversee and ensure the quality of the grading process. Please note that all free-response questions are hand-graded by our team. You will access Gradescope via an instructor-provided link within Brightspace, which ensures that all your personal data (such as name and PUID) remains within Purdue’s systems. Any course work entered into third-party AI tools (such as ChatGPT) will not include personally identifiable student information.

If we need to share data regarding your interactions with AI in the course (e.g., for a research study on student use of AI tools), we will obtain your individual consent and the University will oversee our activities.

Purdue Honor Pledge

We support and affirm the academic integrity of Purdue in accordance with the Purdue Honors Pledge:

“As a Boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together – we are Purdue.”

See: <https://www.purdue.edu/provost/teachinglearning/honor-pledge.html>

Diversity Welcome

We believe every student in this course has something of value to contribute. Please take care to respect the different experiences, beliefs and values expressed by students and staff involved in this course. We support Purdue’s commitment to diversity, and welcome individuals of all ages, backgrounds, citizenships, disabilities, education, ethnicities, family/parental statuses, genders, geographical locations, languages, military experience, political views, races, religions, sexual orientations, socioeconomic statuses, and work experiences.

See: <http://www.purdue.edu/diversity-inclusion/>

Nondiscrimination Statement

Purdue university is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages everyone to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life. Purdue's nondiscrimination policy: https://www.purdue.edu/purdue/ea_eou_statement.php.

Grief Absence Policy for Students (GAPS)

If you experience the death of a family member or close friend, notify the Office of the Dean of Students at 765-494-1747 (odos@purdue.edu). See the Brightspace Absence Module for more information.

MAPS Absence Policy for Students (MAPS)

If you are required to perform mandatory military training, notify the Office of the Dean of Students at 765-494-1747 (odos@purdue.edu). See the Brightspace Absence Module for more information.

Medically Excused Absence Policy for Students (MEAPS)

Students experiencing an absence due to hospitalization or emergency department visits should notify the Office of the Dean of Students at 765-494-1747 (odos@purdue.edu). This policy is intended for **emergent care only (note that urgent care visits are no longer included in this policy)**. Emergent medical issues are those that pose a threat to loss of life or limb (e.g., serious burns, seizures, severe cuts requiring stitches, broken/dislocated limbs or joints, head injuries). The Office of the Dean of Students will not provide notes to instructors for primary care medical appointments or routine care (e.g., overall wellness, dental care, general behavioral health care) nor occasional symptoms (e.g., pink eye, colds, flu). If your illness is not a medical emergency, then your missed work will be handled either by the One Free Lab Makeup policy or the dropped score policy. For special consideration, contact Leah Everly (leverly@purdue.edu). Please note that for privacy reasons we are prohibited from accepting medical documentation, so do not include it. See the Brightspace Absence Module for more information.

Absences Due to University Sponsored Activities

If you have a professional development opportunity or a required university sponsored activity related to your course of study, you should provide your documentation to Leah Everly (leverly@purdue.edu) as far in advance as possible to request approval. See the Brightspace Absence Module for more information.

Mental Health and Wellness Statement

If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try [WellTrack](#). Sign in and find information and tools at your fingertips, available to you at any time.

If you need support and information about options and resources, please contact or see the [Office of the Dean of Students](#). Call 765-494-1747. Hours of operation are M-F, 8 am- 5 pm.

If you find yourself struggling to find a healthy balance between academics, social life, stress, etc. sign up for free one-on-one virtual or in-person sessions with a [Purdue Wellness Coach at RecWell](#). Student coaches can help you navigate through barriers and challenges toward your goals throughout the semester. Sign up is completely free and can be done on

BoilerConnect. If you have any questions, please contact Purdue Wellness at evans240@purdue.edu.

If you're struggling and need mental health services: Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact [Counseling and Psychological Services \(CAPS\)](#) at 765-494-6995 during and after hours, on weekends and holidays, or by going to the CAPS office on the second floor of the Purdue University Student Health Center (PUSH) during business hours.

Basic Needs Security

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. There is no appointment needed and Student Support Services is available to serve students 8 am-5 pm Monday through Friday. Students may submit requests for emergency assistance in the form of an emergency loan or funds from the [Critical Needs Fund](#).

The campus also has a food pantry open to the entire Purdue community: *The [ACE Campus Food Pantry](#)*

Policy on Children in the Classroom

Currently, Purdue does not have a formal policy on children in the classroom. This policy reflects our own beliefs and commitments to our students who happen to also be parents.

1. Children and babies are not allowed in the laboratories in CHAS.
2. Babies and/or children are welcome in lecture at any time.
3. For older children and babies, minor illnesses and unforeseen disruptions in childcare can put parents in a difficult position. Occasionally bringing a child to class to cover gaps in care is acceptable (but it is not meant to be a long-term childcare solution).
4. If you bring your child or baby to lecture in WTHR 200, please sit close to the door (likely at the bottom of the lecture hall), so if your little one(s) need special attention and is disrupting learning for other students you may step outside until the need is met.
5. As instructors with children, we understand some (but not all!) of the struggles you are facing. We hope that you will feel comfortable disclosing your student-parent status to us and we are happy to problem solve with you in a way that makes you feel supported as you strive for a school-parenting balance.

Course Evaluation

Toward the end of this semester, you will be provided with an opportunity to give feedback on this course and your instructor. Purdue uses an online course evaluation system. You will receive an official email from evaluation administrators with a link to the online evaluation site and will receive a prompt to complete the survey when you login to Brightspace. Your participation is an integral part of this course, and your feedback is vital to improving education at Purdue University. We strongly urge you to participate in the evaluation system because it helps us improve the course!

Disclaimer

This syllabus is subject to change. You will be notified of any changes as far in advance as possible via an announcement on Brightspace. Monitor your Purdue email daily for updates.

For details about other Purdue University policies, including academic integrity, class attendance and absence reporting, emergency, nondiscrimination, and disability services, see

the course Brightspace page.

Colors indicate Modules

Topic 1: Fundamentals, atoms, bonding, and naming (4 wks)
 Topic 2: Structure, concentration, reactivity (6 wks)
 Topic 3: How much can be made and how much energy is absorbed/released? (6 wks)

Week	Date	Lecture Topic	Reading (textbook)	Video Lectures (required + example)	Laboratory (Top Hat lab manual)	Other
1	20-Aug	Course overview		Required:	NO LABS WEEK 1 Compensation for Evening Exams	
	22-Aug	<i>Scientific Notation; Significant Figures; Unit Conversion Practice</i> (You are responsible for sections 1.1-1.3; 1.6-1.9; 2.2)	1.1-1.9, 2.2	<ul style="list-style-type: none"> Scientific Notation, Significant Figures and Unit Conversions Example: <ul style="list-style-type: none"> Significant Figures 1-3 Unit Conversions w/Complex Units 		
2	27-Aug	Atomic Number & Mass; Periodic Table	2.3-2.4	Required:	Check-Into Lab / Safety Certification (Safety goggles & proper lab attire required) Lab 1: Introduction to Excel	
	29-Aug	Orbitals; Electron Configuration; Valence & Core Electrons	7.1,7.8-7.9	<ul style="list-style-type: none"> Electromagnetic Radiation Example: <ul style="list-style-type: none"> Electron Configurations 		
3	03-Sep	Periodicity of Electron Configurations; Electron Configuration of Ions	8.2		No labs Sept 5 ,6 US Labor Day Holiday	
	05-Sep	Atomic & Ionic Size; Ionic & Covalent Bonding	8.3			
4	10-Sep	Ionic & Covalent Bonding; Electronegativity	2.5-2.7	Required: (Naming Compounds)	Lab 2: Intro to Lab Techniques, Part I	
	12-Sep	<i>Naming Molecular & Ionic Compounds & Acids Practice</i>	9.1-9.2 9.4-9.5	<ul style="list-style-type: none"> Naming Molecular Covalent Compounds Naming Ionic Compounds (3 vids) 		
5	17-Sep	Lewis Structures; Resonance	9.6		Lab 3: Measuring Density	Exam 1 8:00 PM 18-Sep Elliott Hall of Music
	19-Sep	Shapes of Molecules; Polarity	9.8			

Week	Date	Lecture Topic	Reading (textbook)	Video Lectures (required + example)	Laboratory (Top Hat laboratory manual)	Other
6	24-Sep	<i>Lewis Structure & Shapes of Molecules Practice</i>	10.1-2	Example: • Lewis Structures • Shapes of Molecules (VSEPR) • Determine the Shape of a Molecule	Lab 4: Intro to Lab Techniques, Part II	
	26-Sep	Atomic & Molecular Mass; Avogadro's Number; Moles	3.1-3.3			
7	01-Oct	Using Moles; Percent Composition	3.5	Example: • Percent Composition by Mass	Lab 5: Molecular Geometry and Polarity	
	03-Oct	<i>Grams/Moles/Molecules Practice</i>				
8	08-Oct	October Break		Example: • Molarity 1 & 2 • Dilutions	No Labs October Break	
	10-Oct	Solutions; Concentration and Dilution	4.1, 4.5, 12.3			
9	15-Oct	<i>Moles & Solutions Practice</i>		Example: • Balancing Chemical Equations • Writing Net Ionic Equations	Lab 6: Isolation of Fat from Chips and Cookies	Exam 2 8:00 PM 16-Oct Elliott Hall of Music
	17-Oct	Chemical Reactions and Equations	3.7			
10	22-Oct	Precipitation Reactions	4.2	Example: • Writing Net Ionic Equations	Lab 7: Electrolytes and Non-electrolytes	
	24-Oct	Net Ionic Equations; Acid-Base Reactions; Combustion Reactions	4.3			
11	29-Oct	Quantities in Chemical Reactions	3.8	Example: • Stoichiometry 1 & 2 • Solution Stoichiometry	Lab 8: Chemical Interactions	
	31-Oct	Solution Stoichiometry	4.7			

Week	Date	Lecture Topic	Reading (textbook)	Video Lectures (required + example)	Laboratory (Top Hat laboratory manual)	Other
12	05-Nov 07-Nov	<i>Solution Stoichiometry Practice</i> Limiting Reactants	3.9	Required: • Spectroscopy Example: • Limiting Reactants	Lab 9: Techniques to Determine Concentration I – Titrations	
13	12-Nov 14-Nov	Limiting Reactants; Percent Yield <i>Limiting Reactant Practice</i>	3.9-3.10		Lab 10: Techniques to Determine Concentration II – Spectroscopy	Exam 3 6:30 PM 14-Nov Elliott Hall of Music
14	19-Nov 21-Nov	Energy Changes in Reactions Specific Heat and Calorimetry	6.1-6.2 6.5	Required: • Calorimetry Example: • Energy in Chemical Reactions	Lab 11: Chemical Reactions and Heat Changes	
15	26-Nov 28-Nov	<i>Energy & Stoichiometry Practice</i> Thanksgiving Break			Lab 12: Online Thermochemistry Lab	
16	03-Dec 05-Dec	<i>Review</i> <i>Review</i>			Mandatory Lab Checkout Dec 2 and 3 (<i>Safety goggles and proper lab attire required</i>)	
17	09-14 Dec	FINAL EXAMS (date/time to be announced midsemester by university)				