CHM 11100 Course Packet Spring 2025

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Office Hours: Refer to the schedule and announcements on the course Brightspace page.

Lectures: In person, Tuesday & Thursday 10:30 am (WTHR 200) Lectures are recorded via Boilercast and posted to Brightspace

PSO/Recitations: In-person, Mondays, according to your class schedule

Labs: In-person, Tuesdays, Chaney-Hale Hall of Science (CHAS), according to your class schedule

General Chemistry Office, BRWN 1144, genchem@purdue.edu**,** 765-494-5252
Melissa Roadruck, Administrative Assistant
Marlene Miller, Administrative Assistant
Leah Everly, Instructional Specialist, lmeverly@purdue.edu

Communicating with your CHM 111 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 2 business days during normal business hours.

Course Description

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 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.

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

Learning Objectives:
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 use available software as a tool in data analysis.

Foundational Core: CHM 11100 meets the science requirement of the university's foundational core.

Course Information:
Brightspace (https://purdue.brightspace.com) is the primary course management site for the course. Assignments, checklists, links to lectures and labs, announcements, learning objectives, grades, and other course information will be posted on Brightspace. We recommend you visit Brightspace often and enable Brightspace notifications.

Required Materials:

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.

Lab Manual: We have a digital laboratory manual this semester from Bluedoor Labs/Tophat. You will purchase access to the online lab manual directly from a link that will be provided to you. This will also give you access to BeyondLabz which is an online lab simulation site that we will be using this year. YOU MUST PURCHASE TOPHAT THROUGH THE LINK THAT WILL BE PROVIDED. DO NOT ATTEMPT TO PURCHASE IT DIRECTLY.

Lab materials: In addition to the digital lab manual, you are also required to have approved safety (splash) goggles.

Office 365: You can download and use Word, Excel, and other programs free. Go to https://www.itap.purdue.edu/shopping/software/product/office365.html and log in using your Purdue account.

Calculator: A **simple battery-operated scientific calculator** with exponential, logarithm and square root functions will be needed for exams (a TI-30 works well). Two-line non-programmable calculators are allowed.

Week 1 Assignments:
For updates please always refer to the course Brightspace page especially the announcements.

- Purchase required materials when links are available through Brightspace
- Register for your Aleks account.
- Check dates for the first Aleks assignment when available on Brightspace.
- Read all the information in this course packet.
- Read the Reading Assignments and Learning Objectives (when available on Brightspace).
- Check your Purdue email frequently for information and updates.

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. *Reading the assigned material prior to attending the lecture and reading the laboratory materials is recommended.*

Lectures
Lectures are conducted at 10:30 am in WTHR 200 on T and Th. The lecture slides and notes are posted in Brightspace. The lecture videos will be recorded (Boilercast) and posted in Brightspace as they become available.

Recitation (PSO)
Recitation (PSO) takes place each week on M (check your class schedule and announcements on Brightspace). There will be a recitation guide each week that is integrated into the lecture topics (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.

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.

Extra Credit
Up to 15 points of extra credit may be available during the semester at the discretion of the instructor.

Midterm Exams and Final: For details see information posted on Brightspace.

There are 3 midterm exams and one final exam for CHM 111.

Preliminary schedule:

- Wednesday 2/12
- Wednesday 3/12
- Thursday 4/16

The final exam will take place during the week of May 5 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.

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 incomplete 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 January 13, 2025.** 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. Due dates: See weekly announcements in Brightspace!

- 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 due dates: See weekly announcements in Brightspace!

- 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. If they are unable to answer your question, please contact 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 the 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 **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)
- slippers (such as Uggs) which do not cover the **entire** heel
- 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.

Due Dates for Graded Course Components: See weekly announcements in Brightspace!

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.**

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 Math 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 2-13 @ 25 pts each)
Activities and Explorations, A&E	120 pts (best 6 out of 7 @ 20 pts each)
Exams	300 pts (3 @ 100 pts each)
Final	200 pts
Extra A&E or Worksheets	45 pts
Subtotal	**1,100 pts**
Drop (1) exam or ½ final	**−100 pts**
Total	**1,000 pts**

The schedule and assignments are subject to change if needed. Any changes will be posted on Brightspace in the weekly announcements.

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.)

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 SI leaders (See weekly announcements in Brightspace).

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 Sohan Shah or Osama Abuhammad (see emails on the top of page 1) 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.

UNIVERSITY AND COURSE POLICIES

Details of the following policies are listed under the *University Policies and Statements* module on the CHM 11100 Brightspace page: Academic Integrity, Nondiscrimination, Class Absences, Attendance, Amorous Relationships, Emergency Preparedness, Violent Behavior, Use of Copyrighted Materials, and Land Acknowledgement.

Adding/ Dropping/Changing Sections

CHEMISTRY DEPARTMENT DEADLINES FOR ADDING OR SWITCHING SECTIONS
Fri. Jan 17: last day to add CHM 11100 or switch lab sections *without* instructor approval
Fri. Jan. 31: last day to switch lab sections *with* instructor approval; last day to add CHM 11100 with instructor approval **Fri. Feb. 7:** last day to switch from another CHM course to CHM 11100 *with* instructor approval

UNIVERSITY DROP DEADLINES
Mon. Jan. 27: Last day to drop (cancel) a course via myPurdue without it appearing on your record.
Fri. Apr. 18: Last day to drop (cancel) a course with a W

Submit all requests using Scheduling Assistant

Leaving the Course: If you drop your laboratory course after having checked into a lab drawer, it is YOUR responsibility to check out of your assigned drawer during your scheduled lab period. You are encouraged to check out as soon as possible rather than waiting until the end of the semester.

Failure to check out of lab will result in $45 fee, and forfeiture of the right to determine the acceptability of all drawer equipment.

►**Late Registration** If you register late, notify Sohan Shah or Osama Abuhammad (see emails on the top of page 1) within 24 hours of registration to see about the possibility of making up missed assignments.

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.

Disability Accommodations

If you require accommodations to access course activities or materials, the accommodations must be described and approved by the Disability Resource Center, Young Hall Room 830, 302 Wood Street, 765-494-1247, www.purdue.edu/drc. To implement accommodations, you must follow the instructions provided by the Disability Resource Center, *in addition to* doing the following.
Share your "Notification of Course Accommodations" with the CHM 11100 instructors via the AIM system *at least one week before* an exam or assessment for which accommodations are desired.
We may require an in-person or virtual meeting to discuss certain accommodations.

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 (including the final) 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.

Implementation of accommodations may not be possible if insufficient notification is given.

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.

Any online quizzes and exams that may be used in CHM 11100 are open book and open note, however all collaboration with others (such as Group Me, Zoom, discussion boards, text, in-person, etc.) during a quiz or exam is prohibited. Using online resources such as Chegg to gain answers to any graded assignment (including homework, labs, quizzes, activities and explorations, and exams) is *not* allowed. Posting any course materials to websites is a violation of copyright laws and is *not* allowed.

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.

Purdue Honors 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."
https://www.purdue.edu/provost/teachinglearning/honor-pledge.html

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 may use AI for:

- 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.

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, we will contact you to discuss acceptable use and potential penalties.

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 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 each individual 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 ideas, and enriches campus life. Purdue's nondiscrimination policy can be found at https://www.purdue.edu/purdue/ea_eou_statement.php

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, 8:00 a.m.- 5:00 p.m.

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 (https://www.purdue.edu/recwell/fitness-wellness/wellness/one-on-one-coaching/wellness-coaching.php). 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'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 of 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 a.m.-5 p.m. Monday through Friday. Considering the significant disruptions caused by the current global crisis as it related to COVID-19, students may submit requests for emergency assistance from the Critical Needs Fund (https://www.purdue.edu/odos/resources/critical-need-fund.html).

Colors indicate Modules
Module 1: Fundamentals, atoms, bonding, and naming (4 wks)
Module 2: Structure, concentration, reactivity (6 wks)
Module 3: How much can be made / what is the energy? (5 wks)

Week	Date	Lecture Topic	Reading (textbook)	Laboratory (Top Hat laboratory manual)	Other
1	Week of Jan 13	Course overview Scientific Notation; Significant Figures; Unit Conversion Practice (*You are responsible for working through sections 1.1-1.7; 2.1-2.2.*)	Chapter 1 1.8-1.9 Chapter 2 2.1-2.2	**Check-in and Lab 1** Check In / Introduction to Excel	
2	Week of Jan 20	Atomic Number & Mass; The Periodic Table, EM Radiation; Orbitals; Electron Configuration; Valence & Core Electrons	Chapter 2 2.3-2.4 Chapter 7 7.1, 7.8-7.9	**No Lab**	
3	Week of Jan 27	Periodicity of Electron Configurations; Electron Configuration of Ions Atomic & Ionic Size; Ionic & Covalent Bonding	Chapter 8 8.2, 8.3	**Lab 2** Intro to Lab Techniques, Part I	
4	Week of Feb 3	*Naming Molecular/Ionic Compounds, Acids Practice* Ionic & Covalent Bonding; Electronegativity	Chapter 2 2.5-2.7 Chapter 9 9.1-9.2 9.4-9.5	**Lab 3** Intro to Lab Techniques, Part II	
5	Week of Feb 10	Lewis Structures Resonance; *Lewis Structure Practice*	Chapter 9 9.6, 9.8	**Lab 4** Measuring Density	**Exam 1** **2.12**
Week	**Date**	**Lecture Topic**	**Reading (textbook)**	**Laboratory (Top Hat laboratory manual)**	**Other**
6	Week of	Polarity; *Shapes of Molecules Practice*	Chapter 10 10.1-10.2	**No Lab**	

	Feb 17	Atomic & Molecular Mass; Avogadro's Number; Moles	Chapter 3 3.1-3.3		
7	Week of Feb 24	Using Moles; Percent Composition *Grams/Moles/Molecules Practice*	Chapter 3 3.5	**Lab 5** Isolation of Fat from Cookies and Potato Chips	
8	Week of Mar 3	Solutions; Concentration and Dilution How Light Interacts w/Matter; Spectroscopy	Chapter 4 4.1, 4.5 Chapter 12 12.3	**Lab 6** Molecular Geometry and Polarity	
9	Week of Mar 10	Chemical Reactions and Equations Precipitation Reactions; Net Ionic Equations	Chapter 3 3.7 Chapter 4 4.2	**Lab 7** Electrolytes and Non-electrolytes	**Exam 2** **3.12**
10	Week of Mar 17	**No Lecture** **Spring Break**		**No Labs** **Spring Break**	
11	Week of Mar 24	Acid-Base Reactions; Redox Reactions	Chapter 4 4.3-4.4	**Lab 8** Chemical Interactions	
11	Week of Mar 24	Quantities in Chemical Reactions	Chapter 3 3.8		

Week	Date	Lecture Topic	Reading (textbook)	Laboratory (Top Hat laboratory manual)	Other
12	Week of Mar 31	Solution Stoichiometry *Solution Stoichiometry Practice*	Chapter 4 4.7	**Lab 9** Techniques to Determine Concentration - Titrations	
13	Week of Apr 7	Energy Changes in Reactions Stoichiometry and Energy Problem Solving	Chapter 6 6.1, 6.4	**Lab 10** Techniques to Determine Concentration - Spectroscopy	
14	Week of Apr14	Specific Heat and Calorimetry	Chapter 6 6.5	**Lab 11** Online Thermochemistry Lab	**Exam 3** **4.16**
15	Week of Apr21	*Stoichiometry Practice* Limiting Reactants	Chapter 3 3.9	**Lab 12** Chemical Reactions and Heat Changes	
16	Week of Apr28	Limiting Reactants; Percent Yield *Limiting Reactant/Percent Yield Practice*	Chapter 3 3.10	**Mandatory Lab Checkout** (safety goggles and proper attire required!)	
17	**Week of May5**	**Final Exam (date / time to be announced midsemester by university)**			