Instructor: Dr. Gudrun Schmidt, gudrun@purdue.edu

Head Teaching Assistants:
Lab supervisor Saniya Virani, virani0@purdue.edu
Lecture/recitation supervisor Angelique Ithier, aithier@purdue.edu

Course Coordinator: Mrs. Leah Everly, levery@purdue.edu

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, Wednesdays, 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, imeverly@purdue.edu

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, lecture and laboratory supervisors, course coordinator, teaching assistants, administrative assistants, and general chemistry 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](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 Chang, Chemistry, 14th edition (ISBN: 9781260784473). We have also chosen the McGraw-Hill ALEKS online homework program for our homework platform this year. When you purchase Aleks it includes an electronic copy of the textbook, Chang, Chemistry, 14th edition (ISBN: 9781260784473). You can purchase Connect 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). If you would like a physical textbook (loose-leaf version) as well, you must purchase Connect directly through McGraw-Hill online (ISBN: 9781264243679). If you are using an old book (any edition) you will still need to purchase access to the Connect program 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 in Brightspace. 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 PROVIDED IN BRIGHTSPACE. DO NOT ATTEMPT TO PURCHASE IT DIRECTLY.**

**Lab materials:** In addition to the digital materials, you are also required to have approved safety (splash) goggles.
Office 365: If in person office hours are not possible we will be using MS Teams. You can download and use Teams/OneNote 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 and updates/changes see the course Brightspace page. ***

Attendance and Absences
This course follows Purdue’s academic regulations regarding attendance. Only the course instructors (professors) can excuse a student from a course requirement or responsibility. If you are absent, refer to the Absence module on Brightspace and take the relevant action step.

Do not come to class if you feel ill, have a fever, or display any symptoms associated with COVID-19 or the flu. For COVID-19 concerns, please follow the guidance at https://protect.purdue.edu/updates/protect-purdue-updates-for-the-spring-2023-semester/.

Under academic regulations, excused absences may be granted by ODOS for cases of grief/bereavement, military service, jury duty, parenting leave, or emergent or urgent care medical care (details below). These are the only excused absences in CHM 11100. To request makeup work or deadline extensions for excused absences, see the Absences module on Brightspace.

To account for unexcused absences (illnesses, trips, conflicts, or other situations), the lowest score in each grade category (recitation, lab report, prelab quiz, HW) is automatically dropped at the end of the semester. This includes internet or related technology issues that may have prevented you from completing a lab report, prelab quiz, or homework. Students with unexcused absences are eligible for one lab make-up assignment, per student, per semester. Refer to the Laboratory section of this document for details. No other makeup work or deadline extensions (i.e. for prelab, recitation, HW, or exams) are possible for unexcused absences.

Absence accommodations approved by the Disability Resource Center will be handled individually. Contact Leah Everly (leverly@purdue.edu) for more information.
Grief Absence Policy for Students (GAPS)
If you experience the death of a family member or close friend, fill out the form at https://www.purdue.edu/advocacy/students/absences.html. Scores for any missed assignments covered under a verified GAPS absence are usually pro-rated (assigned a score based on your average grade for that type of assignment at the end of the semester). Refer to the Absence module on Brightspace for more information or alternatives.

Military Absence Policy for Students (MAPS)
If you are required to complete mandatory military training, fill out the form at https://www.purdue.edu/advocacy/students/absences.html. Scores for any missed assignments covered under a verified MAPS absence are usually pro-rated (assigned a score based on your average grade for that type of assignment at the end of the semester). Refer to the Absence module on Brightspace for more information or alternatives.

Medical Excused Absence Policy for Students (MEAPS)
Students may occasionally have to miss class and other academic obligations due to hospitalization, emergency department or urgent care visits, whether physical or mental health related in nature. The intention of this policy is to afford arrangements to students experiencing serious and short-term medical situations which cause them to miss coursework and/or exams. A student should complete the Medical Excused Absence Request Form (https://www.purdue.edu/advocacy/students/absences.html) to request that an absence notification be sent to instructors. You will be given the opportunity to make up work missed due to a medical excused absence. Refer to the Absence module on Brightspace for more information on requesting makeup work or deadline extensions.

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. Be sure to enable Brightspace notifications.

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

Lectures
Lecture materials for each topic are posted on Brightspace. This includes Powerpoint slides, notes and other materials. Links to the lecture videos recorded via Boilercast are also available on Brightspace (Course Tools—Kaltura Media Gallery).

PSO/Recitation
There will be recitation guides each week containing relevant practice problems. Upcoming labs will be discussed during recitation, and it is also a chance to ask questions about homework and lecture topics.

Homework (Aleks)
Each week your online homework assignment will be completed in Aleks. A few homework problems will likely appear as questions on quizzes.

Deadlines for completing the assignments will be listed on the online Aleks assignment page and in
Brightspace. You will have 5 attempts per problem on the homework assignment. Your best attempt is the one that is recorded (not the average). Homework will be scored and recorded on-line and there is no hand grading or regrading of homework.

Activities and Explorations
These are activities where you might explore a simulation and learn more about the behavior of atoms, or engage in writing about your understanding of polar molecules. You might watch a demonstration video and answer questions about the demonstration. There will be 13 of these activities at 10 points each and we will count your highest 12 scores.

Quizzes
There will be about 12 online quizzes, administered through Brightspace, worth 30 points each. The content will include problems and concepts from the prior or present week of class. We will announce on Brightspace when quizzes will open and close.

Exams
There will be an in-person midterm exam worth 100 points (8:00 PM on Monday 3/6/22) and an online final exam worth 150 points (date and time TBA).

Laboratory
Laboratory exercises are an integral part of CHM 11100 and we will complete our labs this year using Top Hat Labs. Please see the Brightspace course webpage to get connected to Top Hat!

Your lab report will be completed online. You should make sure to always:
- Click SAVE or SUBMIT after you type your responses!
- 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.

You will be able to review your graded lab reports online within one week after they are submitted. If you have questions about your grade, speak with your lab instructor or the lab coordinator, Saniya Virani (virani0@purdue.edu)

Laboratory Attendance and Participation
Lab attendance is required since CHM 11100 is a laboratory course. Replacement assignments (online makeup labs) are possible for absences documented through the Disability Resource Center or The Office of the Dean of Students (GAPs, MAPS, MEAPS, Jury Duty). To account for absences due to circumstances NOT documented through DRC or ODOS, all students will be given the opportunity to apply for one makeup assignment (See Absences Module in Brightspace for details). The one lowest lab score is dropped at the end of the semester to account for all other absences as well as for reports that are not submitted due to technical or other issues.

To avoid a fundamental alteration to the course curriculum, no student will be permitted to complete more than 4 makeup assignments for any reason during the semester.
The cases below result in a score of zero and constitute a **Failure to Complete**.

- being absent from lab other than situations addressed in the paragraph above
- being dismissed from lab for an incomplete Safety Certification (score <20/25)
- being dismissed from lab for safety violations, including dress and goggle violations
- arriving more than 10 minutes late
- leaving lab early or otherwise not completing the lab project
- inadequate preparation that hinders lab participation
- not contributing constructively to the group’s work in lab
- not recording appropriate data and/or observations during lab
- failure to submit a lab report, even if you attended the lab

**Failure to complete three labs will result in your final grade for the semester being reduced by one full letter grade. An additional letter grade penalty will be applied for each additional failure to complete.** (For example, if you earned a B at the end of the semester but failed to complete 3 labs, your final letter grade would be a C. If you failed to complete 4 labs, your final letter grade would be a D)

**Lab Safety**

*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.*

- All students will complete the online safety certification during lab check-in in Week 1. You must score at least 20/25. The safety certification quiz may be taken as often as needed to pass.
- If you miss lab check-in, or score less than 20/25, then you must complete the safety certification on your own before you will be allowed to work in lab. You will be sent home and will receive a zero for each lab you miss due to an incomplete safety certification.
- Dress appropriately (see image below)
- Goggles are required at all times in the laboratory, including during clean up, report-writing, and lab check-out. If you are in lab and your goggles are not covering your eyes, you will be sent home and will receive a zero for the lab and the lab report (failure to complete). Once you remove your goggles, you must walk out of the lab immediately. In other words, you must put everything away, pack-up, and chat with classmates before removing your goggles.
- Wear gloves when specified in the lab instructions or by your instructor.
- 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.
- Food and beverages, including water bottles, are not allowed in the labs.
- 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 and shoes) is required. Your clothing must **cover you from your neck (collarbone) to your ankles** when sitting, standing or reaching. Your feet must be completely covered by your shoes (see image below). Your TA or lab supervisor might ask you to raise your arms or bend your knees to check if you are violating proper dress.

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

**Unacceptable** clothing includes, *but is not limited to*:
- tops that are sleeveless, low-cut, V-neck or scoop neck (below the collar bone), bare midriff or crop tops, or tank-style
- loose-knit sweaters that expose your skin due to holes or baggy style
- pants that are ripped or have **holes** in the fabric of **any size**
- tights or thin (translucent or transparent) **leggings** or those that have holes or mesh inserts
- Capri or cropped pants
- skinny or ankle pants that reveal skin between the shoe and the bottom of the pant leg (wear boot or long socks if your ankle shows)
- shorts
- short skirts (i.e. shorter than floor length)
- 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 and ankle, with or without socks

►If you come to lab wearing anything in the list above, you will be sent home and you will get a zero for that lab.

Your best option for chemistry lab attire is a crew neck t-shirt, jeans without holes, and sneakers with socks that cover your ankles.

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**Proper Lab Attire**

![Diagram of proper lab attire](image)
Determining your Course Grade, Spring 2023

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) Activities and Exploration score
- your lowest (1) homework score
- your lowest (1) lab score
- your lowest (1) prelab score

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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>120 pts</td>
<td>(best 12 of 13 @ 10 pts. each)</td>
</tr>
<tr>
<td>Quizzes</td>
<td>330 pts</td>
<td>(best 11 of 12 @ 30 pts. each)</td>
</tr>
<tr>
<td>Labs</td>
<td>290 pts</td>
<td>(Excel lab 15 pts, best 11 of 12 remaining labs @ 25 pts. each)</td>
</tr>
<tr>
<td>Activities and Explorations</td>
<td>120 pts</td>
<td>(best 12 of 13 @10 pts. each)</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>100 pts</td>
<td>(comprehensive)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>150 pts</td>
<td>(comprehensive)</td>
</tr>
<tr>
<td>Total</td>
<td>1110 pts</td>
<td></td>
</tr>
</tbody>
</table>

Up to 15 points of extra credit assignments may be made available throughout the semester.

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>999 pts and above</td>
</tr>
<tr>
<td>B</td>
<td>888 – 998 pts</td>
</tr>
<tr>
<td>C</td>
<td>777 – 887 pts</td>
</tr>
<tr>
<td>D</td>
<td>666 – 776 pts</td>
</tr>
<tr>
<td>F</td>
<td>0 – 665 pts</td>
</tr>
</tbody>
</table>

Save all returned graded assignments until after you have received your course letter grade for CHM 11100. To resolve any discrepancies, your assignments will need to be reviewed. At the discretion of the professor 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 classes, watching demonstrations, completing homework and assignments and explorations, quizzes, and lab assignments.

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. Supplemental Instruction (SI, www.purdue.edu/SI) is offered for CHM 11100. Please visit Brightspace to access information about connecting with SI sessions for your course(s).
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

<table>
<thead>
<tr>
<th>Chemistry Department Deadlines for Adding or Switching Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fri. Jan 13:</strong> last day to add CHM 11100 or switch lab sections <em>without</em> instructor approval</td>
</tr>
<tr>
<td><strong>Fri. Jan. 27:</strong> last day to switch lab sections <em>with</em> instructor approval*; last day to add CHM 11500 with instructor approval*</td>
</tr>
<tr>
<td><strong>Fri. Feb. 3:</strong> last day to switch from another CHM course to CHM 11100 <em>with</em> instructor approval*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Drop Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mon. Jan. 23:</strong> Last day to drop (cancel) a course via myPurdue without it appearing on your record.</td>
</tr>
<tr>
<td><strong>Wed. Mar 15:</strong> Last day to drop (cancel) a course (with a passing or failing grade).</td>
</tr>
</tbody>
</table>

*Submit request 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 Mrs. Leah Everly 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.

Online quizzes and exams 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. Instructor 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.

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
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).
## Course Schedule by Week

**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 and how much energy is absorbed/released? (5 wks)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture Topic</th>
<th>Reading (textbook)</th>
<th>Laboratory (Top Hat laboratory manual)</th>
<th>Quizzes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Week of Jan 9</td>
<td>Course overview</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scientific Notation; Significant Figures; Unit Conversion Practice</td>
<td>1.4-1.6; pp 13-25 2.1-2.2; pp 42-48</td>
<td>Lab Week 1 Check In / Introduction to Excel</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Week of Jan 16</td>
<td>Atomic Number &amp; Mass; The Periodic Table</td>
<td>2.3-2.4; pp 49-52 7.1; pp 274-279 7.8-7.9; pp 305-312</td>
<td>Lab Week 2 Intro to Lab Techniques, Part I</td>
<td>Quiz 1 Jan 19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EM Radiation; Orbitals; Electron Configuration; Valence &amp; Core Electrons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Week of Jan 23</td>
<td>Periodicity of Electron Configurations; Electron Configuration of Ions</td>
<td>8.2; pp 331-336</td>
<td>Lab Week 3 Intro to Lab Techniques, Part II</td>
<td>Quiz 2 Jan 26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Atomic &amp; Ionic Size; Ionic &amp; Covalent Bonding</td>
<td>8.3; pp 336-341</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Week of Jan 30</td>
<td>Naming Molecular/Ionic Compounds, Acids Practice</td>
<td>2.5-2.7; pp 54-69 9.1-9.2; pp 371-374 9.4-9.5; pp 380-387</td>
<td>Lab Week 4 Measuring Density</td>
<td>Quiz 3 Feb 2</td>
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<td>Ionic &amp; Covalent Bonding; Electronegativity</td>
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<td>5</td>
<td>Week of Feb 6</td>
<td>Lewis Structures</td>
<td>9.6; pp 388-390 9.8; pp 394-396</td>
<td>Lab Week 5 Isolation of Fat from Cookies and Potato Chips</td>
<td>Quiz 4 Feb 9</td>
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<td>Resonance; Lewis Structure Practice</td>
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**Lab Week 1**
- Check In / Introduction to Excel

**Lab Week 2**
- Intro to Lab Techniques, Part I

**Lab Week 3**
- Intro to Lab Techniques, Part II

**Lab Week 4**
- Measuring Density

**Lab Week 5**
- Isolation of Fat from Cookies and Potato Chips
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<th>Reading (textbook)</th>
<th>Laboratory (Top Hat laboratory manual)</th>
<th>Quizzes</th>
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| 6    | Week of Feb 13 | Polarity; Shapes of Molecules Practice; Atomic & Molecular Mass; Avogadro's Number; Moles | 10.1; pp 419-428  
10.2; pp 428-434  
3.1-3.3; pp 80-89 | Lab Week 6 Molecular Geometry | Quiz 5 Feb 16 |
| 7    | Week of Feb 20 | Using Moles; Percent Composition; Grams/Moles/Molecules Practice | 3.5; pp 90-92      | Lab Week 7 Molecular Polarity | Quiz 6 Feb 23 |
| 8    | Week of Feb 27 | Solutions; Concentration and Dilution; How Light Interacts w/Matter; Spectroscopy | 4.1; pp 125-127  
4.5; pp 150-154  
12.3; pp 532-535 See PDF files | Lab Week 8 Electrolytes and Non-electrolytes | Quiz 7 Mar 7 |
| 9    | Week of Mar 6  | Chemical Reactions and Equations; Precipitation Reactions; Net Ionic Equations | 3.7; pp 95-100  
4.2; pp 127-131 | No Labs | Midterm Exam March 6 |
<p>| 10   | Week of Mar 13 | No Lecture Spring Break |                | No Labs Spring Break | No Quiz       |
| 11   | Week of Mar 20 | Acid-Base Reactions; Redox Reactions | 4.3-4.4; pp 132-150 | Lab 9 Chemical Interactions | Quiz 8 Mar 23 |
| 11   | Week of Mar 20 | Quantities in Chemical Reactions | 3.8; pp 100-103 | Lab 9 Chemical Interactions |               |</p>
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<td>Mar 27</td>
<td>Solution Stoichiometry</td>
<td>4.7; pp 157-161</td>
<td>Lab 10 Techniques to Determine Concentration - Titrations</td>
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<td>Apr 3</td>
<td>Energy Changes in Reactions</td>
<td>6.1; pp 231-234</td>
<td>Lab 11 Techniques to Determine Concentration - Spectroscopy</td>
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<td>Stoichiometry and Energy Problem Solving</td>
<td>6.3; pp 234-236</td>
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<td>Apr 10</td>
<td>Specific Heat and Calorimetry</td>
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<td>pp 241-253</td>
<td>Quiz 11</td>
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<td><em>Stoichiometry Practice</em></td>
<td>3.9; pp 104-107</td>
<td>Lab 13 Chemical Reactions and Heat Changes</td>
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<td>Limiting Reactants</td>
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<td>Quiz 12</td>
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<td>Apr 24</td>
<td>Limiting Reactants; Percent Yield</td>
<td>3.10; pp 108-112</td>
<td>Check-out</td>
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<td>May 1</td>
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