Foundational Core: This course meets the Science requirement of the university's foundational core.
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: The General Chemistry office handles all the administrative details associated with the course. All non-chemistry questions about the course should be directed to this office. For example, go to BRWN 1144 to get grade checks, to discuss exam conflicts, to get clarification on course policies, to resolve grade issues, to change your schedule (weeks 2 and 3), and to get signatures on university forms such as add/drop forms. Instructional specialist Mrs. Leah Everly and assistants Mrs. Marlene Miller and Mrs. Melissa Roadruck can help you with a variety of requests so you can maximize your success in general chemistry.

Course Supervisor: We are delighted to have Mrs. Leah Everly as our course supervisor. You can email her at leverly@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 the following issues or concerns:
- 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, and isolation and quarantine
- Grading questions on Badges and Activities and Explorations
- Questions about your teaching assistant (your TA)
- General study skills help

Lecture and Lab Coordinators: We have two course coordinators this fall who will cover lecture and lab: Victoria Paluzzi is the lab coordinator, vpaluzzi@purdue.edu; and Hanna Bovill, jbovill@purdue.edu will coordinate lecture. The General Chemistry Office is in Brown 1144 and the staff in that office can also answer questions for you at genchem@purdue.edu (preferred method) or by telephone at 494-5250, or direct them to Dr. Harwood or Dr. Towns.

Teaching assistants: There will be approximately 15-16 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 professors, course supervisor, and teaching assistants
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 indicating why you are writing to us. 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 Chang, Chemistry, 14th edition (ISBN: 9781260694857). We have also chosen the McGraw-Hill ALEKS online homework program for our homework platform this year. When you purchase ALEKS access it includes an electronic copy of the textbook, Chang, Chemistry, 14th edition (ISBN: 9781260694420). You can purchase ALEKS 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 (ISBN: 9781260694857). If you are using an old book (any edition) you will still need to purchase access to ALEKS 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 and BeyondLabz directly from the link in your PSO Brightspace page.

**Lab Materials:** Approved safety goggles are available at the bookstores or from the storerooms on the 1st and 4th floor in CHAS. 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 Chloe and Mallory 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/](https://www.purdue.edu/asc/si/) and you can access the sessions from Brightspace. Chloe and Mallory’s SI sessions, office hours, and email addresses are:

SI Leader: Chloe Culbertson ([cculber@purdue.edu](mailto:cculber@purdue.edu))
SI Sessions: Tuesday, ME 1006 at 4:30 pm; Thursday, ME 1006, at 4:30 pm
Office Hour: Tuesday, Wiley C215 at 11:30 AM

SI Leader: Mallory Gagliardi ([mngaglia@purdue.edu](mailto:mngaglia@purdue.edu))
SI Sessions: Monday, UNIV 019 at 5:30 pm; Wednesday, UNIV 019 at 5:30 pm
Office Hour: Thursday, Wiley C215 at 1:30 pm
Week #1 Assignments:

- Purchase required materials (see above).
- Complete the Initial Course Survey in Module 1 and enter the code given to you in Quiz 0 by Friday August 26 at 11:59 PM.
- Register for your ALEKS account if you received a printed code.
- Complete the ALEKS Initial Knowledge Check. (This is due September 2 @11:59 pm)
- Begin the first ALEKS weekly homework assignment. (Due September 2 @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 September 2 @ 11:59 PM

Weekly Keys to Success:
(Also refer to the “Some Ways to Study Chemistry” on the course Brightspace page.)

- Attend lecture, recitation, and lab.
- Read the syllabus 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 and Explorations (due on Sunday at 11:59 pm).
- Complete each quiz as assigned (due Thursday 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 modules 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 webpage in the appropriate learning module. Reading the assigned material prior to listening to the lecture and 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 schedule). There will be a recitation guide each week (starting on Thursday, August 25) that is integrated into the modules with the answers on the bottom of the page (most, if not all weeks).

**Homework (ALEKS)**
Each week your online homework assignment will consist of required questions and possibly optional assignments (these orient you to ALEKS and to the course). Required assignments will contribute to your homework point total, while optional assignments will not. However, optional assignments and tutorials can be used to help understand how to work problems or to practice and review for exams. A few homework problems will likely appear as questions on quizzes.

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 usually be due on Fridays at 11:59 pm. You will have a maximum of three (3) submission attempts to complete each homework assignment before the listed due date. 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).

**Activities and Explorations**
These are graded 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. Or, you might watch a demonstration video and answer questions about the demonstration. You will upload a pdf document with your answers to Brightspace which will ensure that we can see and grade your answers. There will be a maximum 15 of these activities and your lowest score is dropped at the end of the semester for a total of 140 points.

**Badges**
There are four badging exercises totaling 40 points. All these badges require you to submit a video in Brightspace demonstrating your ability to name and/or safely use glassware and equipment used in laboratory. Given that many of you completed between zero and five laboratories in high school chemistry, these digital badges are a critical course component that will help you be more successful in lab!

**Quizzes**
There will be 6 online quizzes administered through Brightspace, worth 30 points each. The best 5 out of 6 scores will count toward your final grade. The content will include problems and concepts from the prior or present weeks of class. Quizzes will open at 12:01 am (one minute past midnight) on Thursday of the assigned date week and be due on that same Thursday at 11:59 pm (one minute before midnight). Brightspace has a running calendar of these due dates!

**Surveys and In-Class Work**
There are 20 points of surveys and other in-class work that will be carried out in the semester. The first survey is due Friday, August 26th at 11:59 PM.

**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 lecture. We will be using a Top Hat digital Lab Manual and BeyondLabz laboratory simulation program. Please see your Brightspace PSO page to purchase access and get connected to Top Hat/BeyondLabz.

**Laboratory Expectations**
- Lab attendance is required since CHM 11100 is a laboratory course. There are no make-up labs or excused absences, except for GAPS, MAPS, and MEAPS.
- You are required to complete 9 of the 11 scheduled lab projects (Labs 2-12) to pass the course. If you fail to complete more than 2 lab projects (not including the Excel
Lab) by missing laboratory or being asked to leave laboratory, an automatic grade of “F” will be assigned for the course at the end of the semester.

- You must complete the online safety certification in Brightspace with a score of 20/25 or better by 11:59 pm on Sunday September 4, 2022. 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 the lab.

- Before lab, read the experiment and attend recitation 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, will be asked to leave the lab, and will receive a score of zero and this absence counts as one of your missed laboratories.

- 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 Wednesday at 11:59 pm.

- You will be able to review your graded lab reports online within 1-2 weeks after they are submitted. If you have questions about your grade, speak with your lab instructor or the lab coordinator.

**Laboratory Policies**

You will be sharing laboratory equipment with the students in 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-useable 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 $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.

Exam and Final
There is one exam on October 5 at 8:00 PM in the Elliot Hall of Music and a final during the week of December 12.
Due Dates for Graded Course Components

- Wednesday @11:59 pm – Lab Reports
- Thursday @11:59 pm – Quizzes
- Fridays @ 11:59 pm – ALEKS Homework (weekly!)
- Sundays @ 11:59 pm – Pre-labs, Activities & Explorations, Badges

Due Dates
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. Extensions are only granted in alignment with university policies (GAPS, MAPS, MEAPS, Jury Duty, etc.) and DRC modified attendance policies.

Attendance
Attendance of lecture, lab, and recitation is key for success in the course. If you miss or asked to leave laboratory for more than 2 laboratories you automatically fail the course. Please carefully read the laboratory section to understand the attendance requirements.

Please read the sections pertaining to grief absences, military absences, medically excused absences, and university related event absences to understand how we implement those policies. Additionally, if you are called for jury duty, please provide documentation to the instructors so you can make up your work.

Determining your Course Grade, Fall 2022
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
- your lowest (1) quiz score
- your lowest (1) Activity and Exploration score

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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALEKS Homework</td>
<td>135 pts (15 pts of prep assignments + best 12 of 13 @10 pts each)</td>
</tr>
<tr>
<td>Quizzes</td>
<td>150 pts (best 5 out of 6 @30 pts each)</td>
</tr>
<tr>
<td>Labs</td>
<td>265 pts (Excel lab at 15 pts + best 10 of 11 Labs 2-12 @25 pts each)</td>
</tr>
<tr>
<td>Badges</td>
<td>40 pts (four laboratory badges @10 pts each)</td>
</tr>
<tr>
<td>Activities and Explorations</td>
<td>140 pts (best 14 out of 15 @10 pts each)</td>
</tr>
<tr>
<td>Exam 1</td>
<td>100 pts</td>
</tr>
<tr>
<td>Final</td>
<td>150 pts</td>
</tr>
<tr>
<td>Surveys &amp; in-class work</td>
<td>20 pts</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,000 pts</strong></td>
</tr>
</tbody>
</table>

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

Automatic F: If you fail to complete more than 2 lab projects (not including the Excel Lab) by missing laboratory or being asked to leave laboratory, an automatic grade of “F” will be assigned for the course at the end of the semester regardless of scores on any other course elements.
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 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, listening to lectures, watching demonstrations, completing homework, activities 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 with Chloe and Mallory.

**Changing Sections/Dropping**

<table>
<thead>
<tr>
<th>UNIVERSITY DEADLINES - Fall 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fri. Sept 2: Last day to cancel (drop) a course without it appearing on your record.</td>
</tr>
<tr>
<td>Mon. Sept 19: Last day to cancel (drop) a course without a grade.</td>
</tr>
<tr>
<td>Tue. Oct 25: Last day to cancel (drop) a course (with a passing or failing grade).</td>
</tr>
</tbody>
</table>

**Adding the Course/Late Registration**: Students are usually not permitted to add CHM 11100 after week 2 of the semester (Friday, September 2). Notify the course supervisor (Mrs. Leah Everly, leverly@purdue.edu) no later than Friday, September 2, if you register late to see about making up missed assignments.

**Emergencies**

In the event of a major campus emergency, course requirement, 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 reach out to you to discuss.
- All lectures are recorded on Boilercast.
- If you have any other questions about your accommodations, please contact us.

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 in CHM 11100 are open book and open note, however all collaboration with others (such as GroupMe, Zoom, discussion boards, text, in-person, etc.) during a quiz is prohibited. 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.

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/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 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). Scores for any missed assignments under a verified GAPS absence will be pro-rated (assigned a score based on your average and the class average). See the Lecture or Lab Course Coordinator for more information.

MAPS Absence Policy for Students (MAPS)
A student should contact the Office of the Dean of Students (ODOS, 765-494-1747, odos@purdue.edu) to request that a notice of leave be sent to instructors as soon as the student is informed of the dates of mandatory military training. Given proper documentation, the instructor will excuse the student from class and provide the opportunity to earn equivalent credit and to demonstrate evidence of meeting the learning outcomes for missed assignments or assessments.

Medically Excused Absence Policy for Students (MEAPS)
A student should contact the Office of the Dean of Students (ODOS) at 765-494-1747 (odos@purdue.edu) to request that a notice of the leave be sent to instructors if you have experienced hospitalization, emergency department or urgent care visits. ODOS will require documentation. Please follow up with your instructors to make arrangements per this policy.

Absences Due to University Sponsored Activities
A student should bring his or her letter stating the reason for the absence to the instructor as far in advance as possible. The student and instructor will meet to discuss the absence and how, if possible, the learning outcomes associated with any missed class activities may be addressed.

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. 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.

The campus also has a food pantry open to the entire Purdue community: The ACE Campus Food Pantry

Classroom Guidance Regarding Protect Purdue
Any student who has substantial reason to believe that another person is threatening the safety of others by not complying with Protect Purdue protocols is encouraged to report the behavior to and discuss the next steps with their instructor. Students also have the option of reporting the behavior to the Office of the Student Rights and Responsibilities. See also Purdue University Bill of Student Rights and the Violent Behavior Policy under University Resources in Brightspace.

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.
## Course Schedule

### Fall 2022

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>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>23-Aug</td>
<td>Course overview</td>
<td></td>
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<td>Quiz 0 Th. Aug. 26 due 11:59 pm</td>
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<tr>
<td></td>
<td>25-Aug</td>
<td><em>Scientific Notation; Significant Figures; Unit Conversion Practice</em> (You are responsible for sections 1.1-1.3; 1.6-1.9; 2.2)</td>
<td>1.4-1.5; pp 13-23</td>
<td><em>NO LABS WEEK 1</em> Purchase and set up TopHat lab manual and BeyondLabz access</td>
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<tr>
<td>2</td>
<td>30-Aug</td>
<td>Atomic Number &amp; Mass; Periodic Table</td>
<td>2.3-2.4; pp 49-53</td>
<td><em>Check-Into Lab / Safety Certification</em></td>
<td>Quiz 1 Th. Sept. 1 due 11:59 pm</td>
</tr>
<tr>
<td></td>
<td>01-Sep</td>
<td>EM Radiation; Orbitals; Electron Configuration; Valence &amp; Core Electrons</td>
<td>7.1; pp 271-276, 278-280 7.8-7.9; pp 305-314</td>
<td><em>Lab 1: Introduction to Excel</em> Glassware Badge Exercise (due Sep 11) (Safety goggles and proper lab attire required)</td>
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<td>3</td>
<td>06-Sep</td>
<td>Periodicity of Electron Configurations; Electron Configuration of Ions</td>
<td>8.2; pp 331-336</td>
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<td>No Quiz</td>
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<td></td>
<td>08-Sep</td>
<td>Atomic &amp; Ionic Size; Ionic &amp; Covalent Bonding</td>
<td>8.3; pp 336-343</td>
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<td>4</td>
<td>13-Sep</td>
<td><em>Naming Molecular/Ionic Compounds, Acids Practice</em></td>
<td>2.5-2.7; pp 54-69</td>
<td><em>Lab 2: Intro to Lab Techniques, Part I</em> Pipetting Badge Exercise (due Sep 25)</td>
<td>Quiz 2 Th. Sept. 15 due 11:59 pm</td>
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<tr>
<td></td>
<td>15-Sep</td>
<td>Ionic &amp; Covalent Bonding; Electronegativity</td>
<td>9.1-9.2; pp 371-373 9.4-9.5; pp 380-387</td>
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<td>5</td>
<td>20-Sep</td>
<td>Lewis Structures</td>
<td>9.6; pp 388-391</td>
<td><em>Lab 3: Intro to Lab Techniques, Part II</em> Volumetric Flask Badge Exercise (due Oct 2)</td>
<td>No Quiz</td>
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<tr>
<td></td>
<td>22-Sep</td>
<td>Resonance; <em>Lewis Structure Practice</em></td>
<td>9.8; pp 394-396</td>
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<td>Week</td>
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<td>6</td>
<td>27-Sep</td>
<td>Polarity; <em>Shapes of Molecules Practice</em></td>
<td>10.1-2; pp 419-434</td>
<td>Lab 4: Measuring Density</td>
<td>Quiz 3</td>
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<td>29-Sep</td>
<td>Atomic &amp; Molecular Mass; Avogadro’s Number; Moles</td>
<td>3.1-3.3; pp 80-88</td>
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<td>Th. Sep 29 due 11:59 pm</td>
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<td>7</td>
<td>04-Oct</td>
<td>Using Moles; Percent Composition</td>
<td>3.5; pp 90-92</td>
<td>Lab 5: Isolation of Fat from Chips and Cookies</td>
<td>Exam 1</td>
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<td>06-Oct</td>
<td><em>Grams/Moles/Molecules Practice</em></td>
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<td>Wed. Oct 5, 8:00-9:00 pm Elliott Hall of Music</td>
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<td>8</td>
<td>11-Oct</td>
<td><strong>October Break</strong></td>
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<td></td>
<td>13-Oct</td>
<td>Solutions; Concentration and Dilution</td>
<td>4.1; pp 125-127</td>
<td>No Labs October Break</td>
<td>No Quiz</td>
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<td>4.5; pp 150-154</td>
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<td>12.3; pp 532-535</td>
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<td>9</td>
<td>18-Oct</td>
<td>How Light Interacts w/Matter; Spectroscopy</td>
<td>PDF on Brightspace</td>
<td>Lab 6: Molecular Geometry and Polarity</td>
<td>No Quiz</td>
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<tr>
<td></td>
<td>20-Oct</td>
<td><em>Solutions Practice</em></td>
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<tr>
<td>10</td>
<td>25-Oct</td>
<td>Chemical Reactions and Equations</td>
<td>3.7; pp 95-100</td>
<td>Lab 7: Electrolytes and Non-electrolytes</td>
<td>Quiz 4</td>
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<td>27-Oct</td>
<td>Precipitation Reactions; Net Ionic Equations</td>
<td>4.2; pp 127-132</td>
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<td>Th. Oct 27, due 11:59 pm</td>
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<tr>
<td>11</td>
<td>01-Nov</td>
<td>Acid-Base Reactions; Redox Reactions</td>
<td>4.3-4.4; pp 132-143</td>
<td>Lab 8: Chemical Interactions</td>
<td>No Quiz</td>
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<td>03-Nov</td>
<td>Quantities in Chemical Reactions</td>
<td>3.8; pp 100-104</td>
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<td>12</td>
<td>08-Nov</td>
<td>Solution Stoichiometry</td>
<td>4.7; pp 157-160</td>
<td>Lab 9: Techniques to Determine Concentration I – Titrations</td>
<td>Quiz 5</td>
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<td>10-Nov</td>
<td><em>Solution Stoichiometry Practice</em></td>
<td></td>
<td>Buret Badge Exercise (due Nov. 20)</td>
<td>Th. Nov 10, due 11:59 pm</td>
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<tr>
<td>13</td>
<td>15-Nov</td>
<td>Energy Changes in Reactions</td>
<td>6.1-2; pp 231-234</td>
<td>Lab 10: Techniques to Determine Concentration II – Spectroscopy</td>
<td>No Quiz</td>
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<td>17-Nov</td>
<td>Stoichiometry and Energy Problem Solving</td>
<td>6.4; pp 241-244</td>
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<td>14</td>
<td>22-Nov</td>
<td>Specific Heat and Calorimetry</td>
<td>6.5; pp 247, 250-253</td>
<td>Lab 11: Chemical Reactions and Heat Changes</td>
<td>No Quiz</td>
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<td>24-Nov</td>
<td><em>Thanksgiving Break</em></td>
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<td>15</td>
<td>29-Nov</td>
<td><em>Stoichiometry Practice</em></td>
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<td>Lab 12: Chemical Reactions and Heat Changes, Lab report workup</td>
<td>Quiz 6</td>
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<tr>
<td></td>
<td>01-Dec</td>
<td>Limiting Reactants</td>
<td>3.9; pp. 104-107</td>
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<td>Th. Dec.1 due 11:59 pm</td>
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<td>16</td>
<td>06-Dec</td>
<td>Limiting Reactants; Percent Yield</td>
<td>3.10; pp. 10108-112</td>
<td>Check out of lab Dec 5 and 6</td>
<td>No quiz</td>
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<td></td>
<td>08-Dec</td>
<td><em>Limiting Reactant/Percent Yield Practice</em></td>
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<td><em>(Safety goggles and proper lab attire required)</em></td>
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<tr>
<td>17</td>
<td>12-17 Dec</td>
<td>FINAL EXAMS (date/time to be announced midsemester by university)</td>
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