Instructor: Prof. Alexander Wei  
Lectures: Tuesdays & Thursdays, 10:30–11:20 am, WTHR 200

Email: alexwei@purdue.edu  
Office Hours: Tues. 11:30 am, BRWN 4103-D.

I am happy to answer questions related to lecture materials or homework during this time! 
But for all administrative issues, please first visit the General Chemistry office.

About Chemistry 11100: This is a foundational general chemistry course for agriculture, health and human science, and other majors. The stated minimum prerequisite for Chemistry 11100 is two years of high school algebra. Our primary objective is to help you understand fundamental chemistry concepts, set up and solve calculations, balance chemical equations, and develop laboratory skills you will need in future classes. We have a diverse group of students and majors, all of whom will need to relate the principles encountered in CHM 11000 to topics in future courses.

In this course, we will first review measurements, related mathematics, and energy in different forms. We will then look at atoms and isotopes, ions, and compounds, and introduce the mole as a basic unit in chemistry. These will be applied to chemical formulas, and predicting the outcome of chemical reactions. Next, we will learn about the periodic table and how it is organized, and how atoms bond to form molecules of different shapes and sizes.

CHM 11100 emphasizes the development of both problem-solving skills and conceptual understanding. Weekly laboratories offer opportunities to reinforce and extend the topics discussed in lecture, and to develop essential hands-on skills at the laboratory bench.

The Chemistry 11100 team includes the instructor (Dr. Wei), 2 lecture and laboratory coordinators, 6 graduate teaching assistants, the General Chemistry Office staff, and the Chemistry Preparations Lab. All of us are committed and focused on helping you learn chemistry, and enabling you to achieve great things with your major!

Read on to learn about the required materials, lecture and lab schedules and policies, recommended ways to study for chemistry, grading, and other important procedures.

This course meets the Science requirement of Purdue University's Foundational Core.

General Chemistry Office, BRWN 1144 (49-45250) The Gen. Chem. office handles all the administrative details for CHM 11100. All non-chemistry questions should be directed to the General Chemistry office, including grade checks, exam conflicts, clarification on course policies, resolution of grade issues, schedule changes (Weeks 2 and 3), and signatures on University forms (e.g., add/drop forms). Instructional specialist MaryBeth Miller and Gen. Chem. office administrators Ms. Linn and Ms. Roadruck can help you to resolve a variety of issues related to course enrollment and attendance.

Lecture and Lab Coordinators: The lecture coordinator is J. Cody Martin (jcmartin@purdue.edu); the lab coordinator is Jacob Milton (miltonj@purdue.edu). Cody’s office hour will be held on Thurs. 11:30 am–12:30 pm (WTHR 116-B); Jacob’s office hour will be held on Thurs. 2:30–3:30 pm (BRWN 3151).
**Supplemental Instruction (SI):** Dedicated study groups are available and open to anyone in CHM 11100 who wants to understand the lecture material in greater depth. Participation in SI sessions is voluntary, but can be extremely beneficial. Students who attend will work with peers as they compare notes, discuss various problems and concepts, and share study tips and test-taking strategies.

This year’s SI leader is Nathaniel Macatangay (nmacatan@purdue.edu). The times and locations of Nathaniel’s SI session times will be Sundays & Wednesdays, 5:30–6:20 pm, in Shreve URSC 113B; office hour will be held Wed. 4–5 pm in WILY C215. SI updates will be posted at www.purdue.edu/si, through Blackboard (Student Success / SI link), or the Boiler Guide app. Students are asked to bring their Purdue ID card, lecture notes, and questions to these informal, peer-led study sessions.

**Online Information** is available on Blackboard Learn at [http://www.itap.purdue.edu/tlt/blackboard](http://www.itap.purdue.edu/tlt/blackboard). Lecture outlines, reading assignments, announcements, and other course information will be posted on the Blackboard page. Visit it every week for important announcements!

**Required Course Materials:** This semester’s textbook is Burdge, *Chemistry, 4th edition* (ISBN: 9781259973079). Homework problems will be taken from the McGraw-Hill Connect online program. You can purchase Connect from University Bookstores or directly through McGraw-Hill; an electronic copy of the textbook is included. If you would like to use a physical (hardbound) textbook, including older versions, you must still purchase Connect through McGraw-Hill (ISBN: 1259973085 / 9781259973086). A link to the McGraw-Hill website is available through the CHM 11100 Blackboard portal.

**Lab Manual:** *Chemistry 11100 Laboratory Manual*, Purdue University, 2017-2018 Edition, Fountainhead Press (ISBN 978-1-68036-308-1). This is available at the local bookstores; the required laboratory notebook pages are included.

**i-Clicker:** We will use the i-Clicker response system which can be purchased at local bookstores. Register your i-Clicker ID (underneath barcode) through Blackboard, the frequency setting in WTHR 200 is “AA.” Bring your i-Clicker to every class, and earn up to 20 bonus points!

You are responsible for verifying that your i-Clicker is working properly. Running totals for i-Clicker will be updated on Blackboard whenever new exam scores are posted (you have one week to report any corrections).

**Calculator Use:** For homework and exams, you are permitted to use simple, battery-operated scientific calculators with exponential, logarithm and square root functions. Two-line (non-programmable) calculators are also acceptable. **NO PROGRAMMABLE CALCULATORS OR SMARTPHONES will be allowed for exam use!!** Calculators are available for purchase outside WTHR 200 during the first two weeks of class.

**Lab Materials:** A Sharpie™ (black, permanent ink) for marking lab glassware, padlock for your assigned lab drawer (by week 4), electronic (USB) storage device for lab data, and approved lab safety goggles. The latter are available for purchase at bookstores, outside WTHR 200 during the first two weeks of classes, and from the storeroom on the 1st or 2nd floor in BRWN.
Assignments for Week 1 (to-do list)

- Read all the information in this course packet.
- Purchase required materials (see above).
- Register for your CONNECT account, and begin your first homework assignment. You are strongly encouraged to complete your HW assignment before next week’s lectures.
- Attend lab check-in and recitation; complete Course Policies review (+5 bonus points)
- Complete Reading Assignments and Learning Objectives (on Blackboard).
- Complete safety certification on Blackboard, and earn a score of at least 20 out of 25. You must complete your safety certification by Tues. Jan. 23, 11:59 PM, in order to perform experiments in lab (and receive credit for lab assignments).

Weekly Routine

- Check Blackboard for announcements and new information.
- Complete reading assignments before lecture (see schedule at the end of this document).
- Attend lectures, recitation, and lab.
- Complete your Connect homework assignment by the end of the week (for maximum flexibility, hard deadline is the following Friday, 11:59 pm— but don’t put off the HW to the last minute!!).
- Prepare for weekly lab by reading the relevant chapter in your lab manual, reading the textbook assignment for lab (see lab/lecture schedule), and completing pre-lab exercises including lab procedure outline.

Need Help?

There are several free resources for CHM 11100 students. In addition to your instructor and TA office hours every day of the week, there is the Chemistry Resource Room in WTHR 116, with student volunteers who can help you understand and solve homework problems. We also encourage students to take advantage of our Supplemental Instructions (SI) sessions (see page 2).

For other resources, check out the “Important Purdue Resources Handout” on the Purdue University Foundations of Excellence page at: http://www.purdue.edu/foundationsofexcellence.
Overview of CHM 11100 Activities and Policies
***For more detailed information, see the CHM 11100 Blackboard page***

**Reading**
See the lecture schedule for the reading assignments. *We strongly recommend reading all assigned materials prior to lecture and laboratory.* Some material will be covered in lecture, but some must be reviewed on your own.

**Lectures**
Student versions of the lecture notes will be posted on Blackboard prior to each lecture, as aids for note-taking and in-class problem solving. These are just outlines of the lectures, and may differ slightly in content or page numbering. They are not substitutes for lecture attendance!

To review recent lecture materials online, audio recordings and video capture of lecture slides will also be made available from the BoilerCast website: [http://www.itap.purdue.edu/tlt/BoilerCast/](http://www.itap.purdue.edu/tlt/BoilerCast/)

PLEASE turn off cell phones, iPods, and other audio-electronic devices!! They are a distraction to everyone in a learning environment. Respect your instructor and classmates by leaving personal electronics off during lectures, as well as in recitations and labs. Personal laptops and tablets should only be used for note-taking or following lecture materials; do not engage in text messaging or social networking during class.

Talking during lecture is also distracting and disrespectful to the lecturer and other students. If you have a question, please ask by raising your hand, but otherwise remain quiet and allow everyone around you the opportunity to pay full attention to the lecture.

**Recitation**
Your TA conducts weekly recitations designed to help you understand laboratory that week, and to discuss any questions you might have from lecture or homework. Take advantage of this time to ask questions and check your approach to homework and pre-lab problems (so bring your homework questions and lab manual with you to recitation!).

**Online homework (CONNECT)**
Your weekly online homework (HW) assignment will consist of required problems plus some optional questions to further test your understanding. Required questions will contribute toward your homework grade; Optional questions and tutorials are useful to better understand how to approach homework problems, and also as practice and review for exams. Often, these extra problems will appear as questions on the exams themselves!

*We strongly recommend* that you complete weekly online HW assignments before lecture of the following week. *Hard* deadlines for completing online assignments (posted on the CONNECT Assignment page and Blackboard) are typically on Fridays at 11:59 pm, the week after it is assigned.

For each HW question, you will have up to **three attempts** to obtain the correct answer before online submission. All HWs will be scored and recorded online; there is no hand grading or regrading. If you are not satisfied with your entries upon completion, Connect gives you the option of repeating the entire HW set, prior to the hard deadline. Whichever total score is higher will then be added to your grade. No time extensions are possible for online HW assignments, **EXCEPT** in the case of technical difficulties that affect the entire class (this is very rare).

Weekly HW assignments will be worth 10 or 20 points (to be announced each week); The 14 assignments add up to 200 points; at the end of the semester, we will drop two 10-pt. assignments or one 20-pt. assignment, whichever is in your favor. **Your final HW grade will be based on a maximum of 180 points.**
LABORATORY

Laboratory exercises are an integral part of CHM 11100, and are opportunities for you to directly experience the chemical concepts discussed in lectures.

Laboratory Attendance

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.

- Lab attendance is required, as CHM 11100 is also a lab course. There are NO make-up labs or excused absences, except if covered by MAPS or GAPS policies.
- You are required to complete 9 of the 11 scheduled lab projects (Labs 2–12) to pass the course. If you miss more than two lab projects (not including the Excel Lab, Lab 1), an automatic grade of “F” will be assigned at the end of the semester, regardless of your HW and test scores.
- You must complete the online safety certification on Blackboard with a score of 20 or better, by 11:59 pm on Tuesday, January 23. If you do not complete it in time for Lab 2, you will not be allowed to participate and will receive a zero for that lab (no make-ups are possible).

Weekly Laboratory Preparation

The following is expected before coming to lab:

1. Read the experiment and attend recitation to help you prepare. During recitation or office hours, consult your TA to clarify questions ahead of time.
2. Complete all pre-lab exercises, and prepare an experimental procedure in your lab notebook the day before. Pre-labs are due at the beginning of the lab period, you cannot work on them during the lab.
3. Always dress appropriately for lab, and arrive on time. If you do not come with appropriate clothing, footwear, and eyewear, or arrive more than 10 minutes late, you will not be permitted in the laboratory and will receive a score of zero.

Appropriate Clothing: The Chemistry Safety Committee requires everyone in laboratory to wear clothing that protects your skin, from your neck to your feet, whether you are sitting, standing or reaching on your tiptoes. Shoes must cover your feet entirely—no sandals or flip-flops!

**Recommended** chemistry lab attire: T-shirt, jeans (no holes), sneakers with socks. Long-sleeved shirts are best.

**Unacceptable** clothing includes (but are not limited to):
- Tops that are sleeveless, low-cut or V-neck (below the collar bone), bare midriff or tank-style;
- Pants that are ripped or have holes in the fabric that expose skin;
- Tights or thin (translucent or transparent) leggings, including silk or nylon stockings
- Capri or cropped pants that expose your ankles
- Shorts
- Skirts without appropriate leggings (again, nylon stockings are unacceptable)
- Open-toed and/or open-heeled shoes (including Crocs, Birkenstocks, clogs), sandals, boat shoes, ballet flats, slippers, moccasins, or any footwear that doesn’t cover the entire foot, with or without socks
**Lab safety:**

Safe laboratory practices is a top priority! **Everyone** is required to comply.

- Again, appropriate clothing and shoes and goggles are required. Refer to the previous page for proper laboratory dress code.
- Wear gloves when specified. Nitrile (non-latex) gloves will be provided in the laboratory.
- Food and beverages are not allowed on lab benches, and must be kept with your personal belongings in fully closed containers.
- If your hair is longer than shoulder length, you must tie it behind your head.
- Contact lens wearers are strongly encouraged to wear glasses in the laboratory.
- Follow your lab instructor’s guidance on appropriate handling of hazardous materials and disposal of chemical waste.
- Promptly clean up spills, and tidy the laboratory before leaving.

**Lab Reports:**

Lab reports are due before leaving lab for the day, i.e. by 2:20 pm for the 11:30 am labs, and 5:40 pm for the 2:50 pm labs.

Graded lab reports will typically be returned one week after they are submitted. For questions about your grade, speak with your lab instructor or the lab coordinator.

Below are some tips for getting high marks on your lab reports.

- Use pen, and write neatly.
- Label all graphs and tables, made from the data you collected in lab.
- Make sure you are using the correct units of measurement and significant figures.
- Check all chemical terms and concepts for correct usage.
- Ensure results and conclusions are consistent with your data and observations.
- Do your best to work as an effective member of a lab team.
EXAMS
Exams allow you to demonstrate your understanding of course material. They are worth more than 50% of your final grade. As a benefit to students, your lowest exam score or ½ your final exam score will be dropped at the end of the semester.

Spring 2017 hourly exam schedule:

<table>
<thead>
<tr>
<th>Exam I:</th>
<th>Wed., Feb. 07</th>
<th>8:00 pm – 9:00 pm</th>
<th>CL50 224</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam II:</td>
<td>Wed., Mar. 07</td>
<td>8:00 pm – 9:00 pm</td>
<td>CL50 224</td>
</tr>
<tr>
<td>Exam III:</td>
<td>Thur., Apr. 05</td>
<td>8:00 pm – 9:00 pm</td>
<td>CL50 224</td>
</tr>
</tbody>
</table>

Final Exam: time and place to be announced – see below

- Attendance at exams is required. There are NO make-up exams and absences cannot be excused. If you are absent for one exam, your score will appear as a zero until the end of the semester, at which time one zero score can be dropped. You will receive no score (zero points) for additional missed exams.

- Preparation: Hourly exams will be based on weekly lectures and related HW assignments as follows:
  - Exam 1: Weeks 1–4
  - Exam 2: Weeks 5–8
  - Exam 3: Weeks 9, 11–13

  In addition to completing HW assignments as directed, you may also wish to work on the optional questions accompanying each weekly assignment on CONNECT, and questions in your textbook.

- If you have a direct conflict with another exam, class, or required university activity, you will need to contact the General Chemistry office (BRWN 1144) at least one week before the conflict. You will be asked to provide written verification of the exam conflict. According to university regulations, a student is entitled to reschedule one of two conflicting exams and instructors shall not penalize a student who chooses to reschedule an exam under these conditions. In the event the student is unable to reach an agreement with the course instructors to reschedule one of the exams, the student will contact the Office of the Registrar; the Registrar will make the final decision as to which exam is to be rescheduled and offered at an alternate time; the Registrar will communicate this decision to the course instructor and relevant department head. If an emergency occurs, contact the General Chemistry office (BRWN 1144) as soon as possible.

- Hourly exams are exactly one hour in length. You should arrive at least 15-20 minutes before the exam start time. If you arrive more than 15 minutes after the exam begins, you will not be allowed to take the exam and will receive a zero.

- Evening exams are given in the CL50 building, Room 224. Prior to the first exam, you will receive a seat assignment in CL50 224 for the entire semester. Bring your PUID, seat assignment card, an appropriate calculator (see details on page 2), and #2 lead pencils with eraser. You may not share calculators, or exchange information of any sort, with another student during the exam.
Final Exam

- The final is a 2-hour comprehensive exam. Time and place will be announced mid-semester.

- Preparation: The final exam is cumulative, but with added emphasis on materials not tested in the first three hourly exams (that is, more weight will be given to topics in Weeks 14 and 15). As before, we recommend reviewing both the HW problems and optional questions accompanying weekly assignments on CONNECT, and questions in your textbook. Also, in case some topics require extra attention, check Announcements on Blackboard for special review sessions or workshops.

- Alternate Exam Time: University policy on Final Exams states: “Students scheduled for more than two (final) examinations in one calendar day are entitled to reschedule any examination in excess of two... It is the responsibility of the student to make necessary arrangements before the last week of regularly scheduled classes.”

*** Wait for the date of the final exam before you make travel plans that might conflict with the exam. Final exams will NOT be rescheduled to accommodate your travel plans. ***

Determining your Course Grade

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

- your lowest homework score(s) (max. 180 / 200 pts)
- your lowest lab score (max 220 / 240 pts)
- your lowest exam score or ½ of your final exam score, whichever is less

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>Homework</td>
<td>180 pts (Connect Homework, best of 14 assignments; see p. 4)</td>
</tr>
<tr>
<td>Labs</td>
<td>220 pts (best 11 of 12, 20 pts each)</td>
</tr>
<tr>
<td>Exams</td>
<td>450 pts (3 exams, 150 pts each)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>300 pts (comprehensive, worth 2 regular exams)</td>
</tr>
<tr>
<td>Sub-total</td>
<td>1,150 pts</td>
</tr>
</tbody>
</table>

Drop: -150 pts (drop lowest exam score or ½ final exam score, whichever is less)
Total: 1,000 pts

In addition, bonus points can be earned through Course Policies Review (+5 pts), Lab Badge Exercises (up to +15 pts), and i-Clicker participation (up to +20 pts; see p. 2 for details)

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>875 pts and above</td>
</tr>
<tr>
<td>B</td>
<td>775 – 874 pts</td>
</tr>
<tr>
<td>C</td>
<td>675 – 774 pts</td>
</tr>
<tr>
<td>D</td>
<td>575 – 674 pts</td>
</tr>
<tr>
<td>F</td>
<td>0 – 574 pts OR if you have fail-to-complete scores for 3 or more of the 11 scheduled lab projects (Labs 2–12). <strong>Missing more than 2 labs will result in an automatic F.</strong></td>
</tr>
</tbody>
</table>

Save all returned graded papers and your exams until after you have received your course letter grade for CHM 11100. These will be needed in order to resolve any grade discrepancies.
Administrative Policies

Studying Chemistry
Students should expect to spend at least 6–9 hours per week on CHM 111 outside of normal class time. This time includes regular reading and preparations for lecture, reviewing notes after lecture, timely submission of online homework and lab assignments, and of course preparing for exams.

Sources of Help
There are several free sources of help for CHM 11100 students, including: Professor office hours, TA office hours, SI sessions, and the Chemistry Resource Room in WTHR 117B. Further resources can be found on the “Important Purdue Resources Handout” on the Purdue University Foundations of Excellence page at: http://www.purdue.edu/foundationsofexcellence/.

Emergencies
In the event of a major campus emergency, course requirements, deadlines and grading schemes may be subject to changes due a revised semester calendar or other circumstances beyond the instructor's control. Any major changes will be posted on the course Blackboard site, or can be obtained by contacting the General Chemistry office by phone (765-494-5250), or by contacting the instructor or head TAs via email.

- “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 environment, 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. Please note there is no “all safe” siren; the notification will come via text, internet, or e-mail announcement.

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

Absences

- The lowest score in each category (lab grade, HW, exam) will be dropped at the end of the semester to accommodate unforeseen or unavoidable absences. If you have concerns about multiple absences affecting your grade, contact the Gen. Chem. Office.

- Verified grief and military absences are the only excused absences accepted in CHM 11100, not related to other University activities.

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. Scores for any missed assignments under a verified GAPS absence will be prorated (assigned a score based on your average and the class average). Final arrangements will be determined by course instructor (Prof. Wei).

Military Absence Policy for Students (MAPS)
In the case of a mandatory call to duty, students should contact the Office of the Dean of Students (ODOS) and request that a leave notice be sent to instructor, as soon as the student is informed of the dates of mandatory absence. Given proper documentation, the instructor will excuse the student from class and provide opportunities to earn equivalent credit and/or demonstrate evidence of achieving the learning outcomes for missed assignments or assessments.
If you anticipate or experience an absence that will be for an extended period (one week or more), contact the Office of the Dean of Students at 765-494-1747. A member of the Dean of Students staff will notify the student’s instructor(s) of the circumstances. The student should be aware that this intervention does not change in any way the outcome of the instructor’s decision regarding the students’ academic work and performance in any given course.

Changing Sections/Dropping

**University Deadlines – Spring 2018**
- **Mon. Jan 22:** Last day to cancel (drop) a course without it appearing on your record.
- **Mon. Feb 5:** Last day to cancel (drop) a course without a grade.
- **Fri. Mar 9:** Last day to cancel (drop) a course (with passing or failing grade).

**Chemistry Department Deadlines – Spring 2018**
- **Tue. Jan. 16:** LAST day to add chemistry or switch lab sections without instructor approval
- **Fri. Jan. 26:** LAST day to switch lab sections or LAST day to add CHM 11100 (if not enrolled in another CHM course)
- **Fri. Feb. 2:** LAST day to switch from another CHM course to CHM 11100 (subject to instructor approval)

**Changing Sections:** A change in lecture or lab section requires the approval of the course coordinator in BRWN 1144 after the first week of classes. Because of the processes associated with lab drawer assignments, Blackboard, and Connect enrollment, we will not make a section change for students after the third week of the semester (deadline January 26). If you change sections after checking into a locker drawer, you must first check out before receiving a new drawer in your reassigned section.

**Adding the Course/Late Registration:** Students are usually not permitted to add CHM 11100 after the third week of the semester (by Jan. 27). In any case, the Gen. Chem. Office must be notified no later than the fourth week (by Feb. 2) in order to make up missed assignments for credit.

**Dropping the Course:** If you drop CHM 11100 after having checked into a lab drawer, it is your responsibility to check out of your assigned drawer during your scheduled lab period. Failure to check out of lab will result in your padlock being cut, a $45 fee, and forfeiting the right to determine the acceptability of all locker drawer equipment.

**Disability Accommodations**
If you require special accommodations to access course activities or materials, they must be described and approved by the Disability Resource Center (Young Hall Rm. 830, 302 Wood St., 765-494-1247, [www.purdue.edu/drc](http://www.purdue.edu/drc)). To implement accommodations, follow the instructions listed as “Responsibilities of the Student” in the letter prepared by the DRC. **Take a copy of this letter to the course coordinator in BRWN 1144 within the first three weeks of the semester (by Jan. 27) or within one week of the date of the letter to discuss your accommodation needs.** Timely notification of the course coordinator is critical for implementation. Please also take your letter to BRWN 1144 so that your exams can be scheduled to be taken within the Chemistry Department.
Academic Integrity: Statement and consequences
Please visit: http://www.purdue.edu/odos/osrr/academic-integrity/index.html

Diversity Statement
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, countries of origin, disabilities, education, ethnicities, family status, genders, military experiences, political views, races, religions, sexual orientations, socioeconomic status, and work experiences. See: http://www.purdue.edu/diversity-inclusion/

For details about other Purdue University policies, including academic integrity, class attendance and absence reporting, emergency, nondiscrimination, and disability services, visit the course Blackboard portal.
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture Topic</th>
<th>Reading (Textbook)*</th>
<th>Week</th>
<th>Laboratory &amp; Pre-lab/ HW (Laboratory Manual)</th>
<th>Exams &amp; Hard deadlines</th>
</tr>
</thead>
</table>
| 1    | 9 – Jan    | Orientation; Scientific Notation; Significant Figures                         | Appendix; Mathematical Operations A-1  
1.1 – 1.4; pp. 3-15; 1.5 – 1.6; pp. 16–25  
2.1 – 2.3; pp. 37–47 | 1    | Check-Into Lab Drawers  
Course Policies Review (+5 pts.)  
Complete Safety Certification on Blackboard (mandatory)  
Online (Connect) homework, Week 1 | Week 1 HW: hard deadline on 19-Jan, 11:59 pm |
|      | 11 – Jan   | Atomic Theory; Isotopes; Ions                                                 |                                 |      |                                                                                                                                              |                                                                                        |
| 2    | 16 – Jan   | Atomic Mass; The Periodic Table                                               | 2.3 – 2.5; pp. 46–52           | 2    | L1: Introduction to Excel, Chapter 1  
(Lab notebook, proper lab clothes required)  
Online (Connect) homework, Week 2 | Week 2 HW: hard deadline on 26-Jan, 11:59 pm |
|      | 18 – Jan   | EM Radiation and Energy; Modern Model of the Atom; Periodicity of Electron Configurations | 6.1 – 6.2; pp. 227 – 232  
6.5; p. 249  
6.8 – 6.9; pp. 256 – 263 |      |                                                                                                                                              |                                                                                        |
| 3    | 23 - Jan   | Valence and Core Electrons; Condensed Electron Configurations; Electron Configuration of Ions | 6.8 – 6.9; pp. 256 – 263  
7.2 – 7.4; pp. 281 – 286  
7.5 – 7.6; pp. 293 – 295  
7.6; pp. 296 – 298  
2.7; pp. 60 – 61 | 3    | L2: Introduction to Laboratory Techniques: Part 1, Chapter 2  
(Lab notebook, safety goggles and proper lab clothes required)  
Pipetting Badge Exercise  
Online (Connect) homework, Week 3 | Online Safety Certification (Blackboard): 23-Jan, 11:59 pm |
|      | 25 - Jan   | Atomic Size  
Monatomic Ions; Polyatomic Ions |                                 |      |                                                                                                                                              |                                                                                        |
| 4    | 30 – Jan   | Naming Ionic Compounds; Naming Molecular Compounds                            | 2.6; pp. 52 – 57  
2.7; pp. 60 – 67 | 4    | L3: Introduction to Laboratory Techniques: Part 2, Chapter 3  
(Personal lock for lab drawer needed)  
Volumetric Badge Exercise  
Online (Connect) homework, Week 4 | Week 3 HW: hard deadline on 2-Feb, 11:59 pm |
|      | 1 – Feb    | Naming Molecular Compounds; Acids, Bases, and Electrolytes                    | 4.1; pp. 130 – 133  
4.3; pp. 139 – 142 |      |                                                                                                                                              |                                                                                        |
| 5    | 06 – Feb   | Types of Bonding; Electronegativity; Ionic Bonding                            | 8.1 – 8.4; pp. 319 – 332       | 5    | L4: Measuring Density, Chapter 4  
Online (Connect) homework, Week 5 | Exam I: Wed. 7-Feb, 8–9 pm, CL50 224 |
|      | 08 – Feb   | Covalent Bonding; Lewis Structures                                            | 8.3; pp. 328 – 330  
8.5 – 8.6; pp. 337 – 341 |      |                                                                                                                                              | (HW4 deadline: 1 week delay)                                                                 |

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<th>Reading (Textbook)</th>
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<th>Laboratory &amp; Pre-lab/ HW (Laboratory Manual)</th>
<th>Exams &amp; Hard deadlines</th>
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<tr>
<td>6</td>
<td>13 - Feb</td>
<td>Covalent Bonding; Lewis Structures</td>
<td>8.7; pp. 342 – 347</td>
<td>6</td>
<td>L5: Isolation of Fat from Chips and Cookies, Chapter 5</td>
<td>Week 4 HW: 16-Feb, 11:59 pm</td>
</tr>
<tr>
<td></td>
<td>15 - Feb</td>
<td>Shapes of Molecules</td>
<td>9.1; pp. 365 – 371</td>
<td></td>
<td>Online (Connect) homework, Week 6</td>
<td>Week 5 HW: 16-Feb, 11:59 pm</td>
</tr>
<tr>
<td>7</td>
<td>20 - Feb</td>
<td>Shapes of Molecules; Polarity; Percent Composition</td>
<td>9.2; pp. 373 – 375</td>
<td>7</td>
<td>L6: Molecular Geometry and Polarity (posted on Blackboard)</td>
<td>Week 6 HW: 23-Feb, 11:59 pm</td>
</tr>
<tr>
<td></td>
<td>22 - Feb</td>
<td>Moles and How to Use Them</td>
<td>3.1–3.2; pp. 80 – 83</td>
<td></td>
<td>Online (Connect) homework, Week 7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>27 - Feb</td>
<td>Solutions; Concentration; Molarity; Dilution Factors</td>
<td>13.3; pp. 561 – 565</td>
<td>8</td>
<td>L7: Electrolytes and Nonelectrolytes, Chapter 7</td>
<td>Week 7 HW: 2-Mar, 11:59 pm</td>
</tr>
<tr>
<td></td>
<td>01 - Mar</td>
<td>Chemical Reactions and Equations; Electrolytes, Acids, and Bases</td>
<td>4.1; pp. 125 – 130; 4.5; pp. 150 – 157; 3.3; pp. 83 – 89; 4.2; pp. 132 – 133</td>
<td></td>
<td>Online (Connect) homework, Week 8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>06 - Mar</td>
<td>Predicting Chemical Reactions; Oxidation Numbers</td>
<td>3.3; pp. 83 – 89*</td>
<td>9</td>
<td>No labs on 07-Mar (compensation for evening exams)</td>
<td>Exam II: Wed. 7-Mar, 8–9 pm, CL50 224</td>
</tr>
<tr>
<td></td>
<td>08 - Mar</td>
<td>Net Ionic Equations; Quantities in Chemical Reactions</td>
<td>4.3–4.4; pp. 140 – 145 (** p.142 **)</td>
<td></td>
<td>Online (Connect) homework, Week 9</td>
<td>(hard deadline for HW 8 delayed)</td>
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<td></td>
<td></td>
<td></td>
<td>4.2; pp. 130 – 135; 3.6; pp. 98 – 101</td>
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<tr>
<td>10</td>
<td></td>
<td><strong>Spring Break: Mar. 12th – Mar. 17th</strong></td>
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<tr>
<td>11</td>
<td>20 – Mar</td>
<td>Quantities in Chemical Reactions</td>
<td>3.6; pp. 98 – 101</td>
<td>11</td>
<td>L8: Chemical Interactions, Chapter 8</td>
<td>Week 8 HW: 23-Mar, 11:59 pm</td>
</tr>
<tr>
<td></td>
<td>22 – Mar</td>
<td>How Light Interacts with Matter; Spectroscopy</td>
<td>4.5; pp. 157 – 160</td>
<td></td>
<td>Online (Connect) homework, Week 11</td>
<td>Week 9 HW: 23-Mar, 11:59 pm</td>
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<tr>
<td></td>
<td>29 - Mar</td>
<td>Solution Stoichiometry</td>
<td>4.5; pp. 157 – 158</td>
<td></td>
<td>Buret Badge Exercise</td>
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<tr>
<td>13</td>
<td>03 - Apr</td>
<td>Solution Stoichiometry</td>
<td>(cont’d from Week 12)</td>
<td>13</td>
<td>L10: How Hard is “Hard” Water?, Chapter 10</td>
<td>Week 12 HW: 6-Apr, 11:59 pm</td>
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<td></td>
<td>05 –Apr</td>
<td>Energy Changes in Reactions</td>
<td>4.6; pp. 160 – 166</td>
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<td>Online (Connect) homework, Week 13</td>
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<td></td>
<td></td>
<td>5.1; pp. 183 – 187</td>
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<tr>
<td>14</td>
<td>10 – Apr</td>
<td>Solution Stoichiometry and Energy Practice</td>
<td>*</td>
<td>14</td>
<td>L11: Analysis of Wine, Chapter 11</td>
<td>Exam III: Thur. 5-Apr, 8–9 pm, CL50 224 (HW13 deadline: 1 week delay)</td>
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<tr>
<td></td>
<td>12 - Apr</td>
<td>Limiting Reactants</td>
<td>3.7; pp. 101 – 103</td>
<td></td>
<td>Online (Connect) homework, Week 14</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>17 - Apr</td>
<td>Limiting Reactants; Percent Yield</td>
<td>3.7; pp. 103 – 106</td>
<td>15</td>
<td>L12: Chemical Reactions and Heat Changes, Chapter 12</td>
<td>Week 13 HW: 20-Apr, 11:59 pm</td>
</tr>
<tr>
<td></td>
<td>19 - Apr</td>
<td>Stoichiometry Problem Solving</td>
<td>*</td>
<td></td>
<td>Online (Connect) homework, Week 15</td>
<td>Week 14 HW: 20-Apr, 11:59 pm</td>
</tr>
<tr>
<td>16</td>
<td>24 - Apr</td>
<td>Final Review</td>
<td></td>
<td>16</td>
<td>Check out of lab drawers by Apr. 25 (Safety goggles and proper lab clothes still required!)</td>
<td>Week 15 HW: 27-Apr, 11:59 pm</td>
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<tr>
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<td>26 - Apr</td>
<td>Final Review</td>
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<td>17</td>
<td></td>
<td><strong>Finals Week: April 30&lt;sup&gt;th&lt;/sup&gt; – May 5&lt;sup&gt;th&lt;/sup&gt;</strong></td>
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<td>Final Exam: Time and Place TBA</td>
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*Additional materials may be handed out during in class, and/or posted on Blackboard.*