Chemistry 11100 is a 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’s 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.

There are three lecture sections of CHM 11100 taught by Professors Towns and Harwood. There are approximately 24 graduate teaching assistants who teach laboratory and recitation sections. Combined, the course enrollment is approximately 1100 students.

The Chemistry 11100 team—the professor, lecture and laboratory coordinators, 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, lecture and lab schedule, recommended ways to study, lab policies, grading, and other course policies and procedures.

BRWN 1144, The General Chemistry Office, 49-45250 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. Miller and assistants Mrs. Linn and Mrs. Roadruck are able to help you with a variety of requests so you can maximize your success in general chemistry.

***For more information on the topics in this course summary, please see course Blackboard page.***

Foundational Core: This course meets the Science requirement of the university's foundational core.
**Lecture and Lab Coordinators:** Jared Breakall is the lecture coordinator, BRWN 1144, phone: 49-45250, jbreakal@purdue.edu; Kevin Wee is the lab coordinator, BRWN 1144, phone: 49-45250; kwhee@purdue.edu. The General Chemistry Office is in Brown 1144 and the staff in that office can also answer questions for you, or direct them to Dr. Harwood.

**Supplemental Instruction:** There are Supplemental Instruction (SI) study sessions available for this course. These peer-led study sessions are open to anyone enrolled in this course who would like to stay current with the course material and understand the material better. Attendance at these sessions is voluntary, but extremely beneficial. Times and locations for the study session can be found here: www.purdue.edu/si or on the Boiler Guide app. Students who attend these interactive sessions will find themselves working with peers as they compare notes, demonstrate and discuss pertinent problems and concepts, and share study and test-taking strategies. Students are asked to arrive with their student ID card, lecture notes and questions to these informal, peer-led study sessions. The SI leaders this semester are Johanna Carroll and Kayli Decocker. Johanna’s SI sessions will be held on M and W, 5:30 pm - 6:30 pm, in UNIV 017, and Kayli’s sessions are T and Th, 5:30 pm - 6:30 pm, in WILY C215. Kayli’s office hour is T, 1:00 pm - 2:00 pm, WILY C215, and Johanna’s office hour is F, 12:00 – 1:00 pm, WILY C215.

**Course Information:** Log on to Blackboard (https://mycourses.purdue.edu/) to find Chemistry 11100. Lecture outlines, reading assignments, announcements, and other course information are available on the course Blackboard page. We recommend you visit it often!

**Required Materials**

**Textbook:** The textbook we have chosen for you this semester is Chang, Chemistry, 13th edition (ISBN: 9781259911156). We have also chosen the McGraw-Hill Connect online homework program for our homework platform this year. When you purchase Connect it includes an electronic copy of the textbook, Chang, Chemistry, 13th edition (ISBN: 9781260694420). 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: 9781260694857). 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 Blackboard page will direct you to the McGraw-Hill site where you can make your purchases.

**Lab Manual:** Chemistry 11100 Laboratory Manual, Purdue University, 2018-2019 Edition, Fountainhead Press, ISBN #9781680367645. The required laboratory notebook pages are included in the lab manual, which is available at the local bookstores.

**i-Clicker:** The i-Clicker response system will be used this semester. iClickers will be sold by one of the Chemistry Department student organizations outside WTHR 200 during the first two weeks of the semester between 9 am and 3 pm (no credit cards). You can also purchase one in the bookstores. You may use the same iClicker for multiple courses in the same semester.

**Calculator:** A simple battery operated scientific calculator with exponential, logarithm and square root functions will be needed for exams. Two-line non-programmable calculators are allowed. Alpha-numeric and programmable calculators will NOT be allowed for exams. Calculators are available for purchase outside WTHR 200 during the first two weeks of class.

**Lab Materials:** The Chemistry 11100 Laboratory Manual, a Sharpie™ (black, permanent ink) for marking lab glassware, a padlock for your assigned lab drawer (by September 10-14, week 4), an electronic storage device for lab data, and approved safety goggles, available at the bookstores, outside WTHR 200 during the first two weeks of classes, or from the storeroom on the 1st or 2nd floor in BRWN.
**Week #1 Assignments:**
- Purchase required materials (see above).
- Register for your Connect account.
- Complete the LearnSmart Prep assignments 1 & 2.
- Begin the first Connect weekly homework assignment.
- Read all the information in this course packet.
- Read the Reading Assignments and Learning Objectives (on Blackboard).
- Complete the safety certification available on the course Blackboard page with a score of at least 20/25 by your lab period in week 4. *You must complete your safety certification before you can work in lab.*
- Attend recitation and lecture.

**Weekly Assignments:**
(Also refer to the “Some Ways to Study Chemistry” on the course Blackboard page.)
- Attend lecture, recitation, and lab.
- Complete the reading assignment before lecture (see lab/lecture schedule, pp. 11-12).
- Complete your Connect homework assignment (due each Friday at 11:59 pm).
- Prepare for lab: read the relevant lab manual chapter, do the textbook reading assignment for lab (see lab/lecture schedule), and complete the pre-lab exercises including the lab procedure outline.

**Overview of CHM 11100 Activities and Policies**
***For more detailed information, see the course Blackboard page. ***

**Reading**
See the lecture schedule for the reading assignments. *Reading the assigned material prior to lecture and laboratory is recommended.* Some of the material will be covered in lecture and some on your own.

**Lectures**
Student versions of the lecture notes will be posted on Blackboard prior to each lecture. These are not verbatim copies of the lectures, but are outlines of the lectures. Audio recordings and video capture of lecture slides can be accessed through the Boilercast link on the course Blackboard site.

Cell phones, computers, iPods or other electronic devices that are not being used for instruction purposes are distracting for everyone in a learning situation. Please respect your classmates and turn off your cell phones and iPods in lectures as well as in recitations and labs. Electronic devices can be used to take notes and follow lecture, but you should not be using Facebook, texting, snapping, Pokemon Go, etc. during class. Talking out loud to classmates during lecture is distracting to other students and is disrespectful to your classmates. If you have a question please ask, but otherwise remain quiet and allow the students around you the opportunity to pay attention. Talking is encouraged, however, during active learning activities in the classroom.

**Recitation**
Your teaching assistant conducts a weekly recitation designed to help you understand the laboratory for the week and to discuss any questions you may have from lecture or the homework. You will have time to ask questions and check your homework and pre-lab answers so take your homework questions and lab manual with you to recitation.
**Homework (Connect)**
Each week your online homework assignment will consist of required questions and possibly optional questions. Required questions will contribute to your homework point total, while optional questions will not. However, optional questions 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 exams.

In addition to the Connect homework questions you will also have LearnSmart assignments for each chapter that we cover this semester. LearnSmart is an adaptive learning program that will test and retest your understanding of the key concepts in each chapter. Your grade for LearnSmart assignments is based on completion. The concepts covered in the LearnSmart assignments are directly related to the learning objectives that you will be tested on during exams.

Deadlines for completing the on-line assignments will be listed on the online Connect assignment page. Homework will usually be due on Fridays at 11:59 pm, 11 days after it is assigned. You will have a maximum of three attempts to complete each homework question before the listed due date. Homework will be scored and recorded on-line and there is no hand grading or regrading of homework.

No time extensions are possible for homework assignments unless there is a class-wide technical problem.

**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.

- Lab attendance is required since CHM 11100 is a laboratory course. There are no make-up labs or excused absences.

- 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), an automatic grade of “F” will be assigned for the course at the end of the semester.

- **You must complete the online safety certification found on Blackboard with a score of 20/25 or better by 11:59 pm on Sunday, September 9, 2018.** We encourage (and may require) all students to complete the safety certification during check-in during the first week of lab so that everyone has completed the certification. You may not engage in 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 and prepare an experimental procedure in your lab notebook before coming to lab. Pre-labs are due at the beginning of the lab period.

- 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.

- Endeavor to work as an effective member of the team.

- Complete the lab report appropriately:
  - Use pen and write neatly.
  - 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 before leaving lab the day lab work is completed and the lab is closed, that is 10:20 am, 2:20 pm, or 5:40 pm.
- Lab reports will be returned one week after they are submitted. If you have questions about your grade, speak with your lab instructor or the lab coordinator.

**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.*

- 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 (failure to complete).

**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.

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

**Exams**
Exams are a chance for you to demonstrate your comprehension of the course material and are worth approximately 56% of your final grade. Your lowest exam score or ½ your final exam score will be dropped at the end of the semester.

**Fall 2018 hour exam schedule:**

<table>
<thead>
<tr>
<th>Exam I:</th>
<th>September 20, 2018</th>
<th>8 pm – 9 pm</th>
<th>Elliott Hall of Music</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam II:</td>
<td>October 16, 2018</td>
<td>8 pm – 9 pm</td>
<td>Elliott Hall of Music</td>
</tr>
<tr>
<td>Exam III:</td>
<td>November 15, 2018</td>
<td>8 pm – 9 pm</td>
<td>Elliott Hall of Music</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 are not excused. If you are absent for one exam, your score will appear as a zero until the end of the semester, at which time your lowest score will be dropped. You will receive no score (zero points) for additional missed exams.

- Scores for approved GAPS/MAPS absences and absences for university sponsored activities will be handled individually. Contact the lecture coordinator or Dr. Towns or Dr. Harwood for more information.

- If you have a direct conflict with another exam, class, or required university activity, contact the General Chemistry office (BRWN 1144) at least one week before the conflict. You will be asked to provide written verification of the 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.

- Hour exams are 60 minutes 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.

- Exams are given in the Elliott Hall of Music. Before Exam I, you will receive an exam seat assignment for the entire semester. Take your PUID, seat assignment, appropriate calculator (see details on the front page), and #2 lead pencils with you to the exam and plan to arrive 20 minutes before the exam begins. You may not share a calculator with another student.

- Regrade policy for exams with free response items:
  - Deadline: If the exam is returned in lab, then you must submit your regrade request accompanied by a regrade request form available in the general chemistry office (BRWN 1144) by the end of your lab period. Staple the regrade request form to the front cover of your exam and hand it in to BRWN 1144. Note that the regrade procedure is intended to correct for serious errors in grading. If there was an arithmetic error in adding up points, simply note the error on the front of the exam and turn it in to BRWN 1144 – this is not a regrade request, it is a score adjustment.
  - Any indication that a regrade has been requested for a modified exam (meaning the exam was modified after it was graded and has been turned in for a regrade) will be considered a breach of academic integrity and will be reported to the Office of the Dean of Students. The student will automatically fail the course. Note that a random sample of the examinations have been scanned or photocopied before they have been returned.
  - What merits a regrade
    - Your answer is the same as the one on the key, but the grader didn’t realize it. Your explanation should make it clear why you believe your answer is the same!
    - Your answer is different from the one provided on the answer key, but your answer is also correct. Your explanation should make it clear that you have read the answer key, and why you think your answer is also correct.

Final Exam
- The final exam is a 2-hour comprehensive exam. The time and place for the final exam will be announced mid-semester.

- Wait until you know 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.

- 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.”
Determining your Course Grade, Fall 2018

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

- your lowest (1) homework score
- your lowest (1) lab score
- your lowest (1) exam score or ½ your final exam score, whichever is lower

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>145 pts</td>
</tr>
<tr>
<td>Labs</td>
<td>265 pts</td>
</tr>
<tr>
<td>Badges</td>
<td>30 pts</td>
</tr>
<tr>
<td>Exams</td>
<td>420 pts</td>
</tr>
<tr>
<td>Final Exam</td>
<td>280 pts</td>
</tr>
<tr>
<td>Sub-total</td>
<td>1,140 pts</td>
</tr>
<tr>
<td>Drop</td>
<td>-140 pts</td>
</tr>
<tr>
<td>Total</td>
<td>1,000 pts</td>
</tr>
</tbody>
</table>

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

- A: 875 pts and above
- B: 775 – 874 pts
- C: 675 – 774 pts
- D: 575 – 674 pts
- F: 0 – 574 pts OR if you have fail-to-complete scores for more than 2 of the 11 (Labs 2-12) scheduled lab products (i.e. if you miss more than 2 of Labs 2-12, your course grade is automatically an F)

Save all returned graded papers and your exams until after you have received your course letter grade for CHM 11100. To resolve any discrepancies, your paper(s) will need to be reviewed.

Extra Credit: Up to 20 points of extra credit is available during the course by answering iClicker questions during class.

Course Activities, Policies and Procedures

Studying Chemistry

Expect to spend at least 8-12 hours per week on chemistry outside of the normal class time. This time includes preparing for lecture, paying attention and taking notes during lecture, reviewing your notes after lecture, and completing homework, reading, 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, (3) SI sessions with Johanna or Kayli, and (4) the Chemistry Resource Room, WTHR 117B. Further sources of help can be found on the “Important Purdue Resources Handout” at [http://www.purdue.edu/foundationsofexcellence/](http://www.purdue.edu/foundationsofexcellence/).

Changing Sections/Dropping

<table>
<thead>
<tr>
<th>UNIVERSITY DEADLINES - Fall 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon. Sept 3: Last day to cancel (drop) a course without it appearing on your record.</td>
</tr>
<tr>
<td>Mon. Sept 17: Last day to cancel (drop) a course without a grade.</td>
</tr>
<tr>
<td>Tue. Oct 23: Last day to cancel (drop) a course (with a passing or failing grade).</td>
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</tbody>
</table>
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 assigned lab drawers and Blackboard enrollment, section changes for students will not be made after week #3 of the semester. If you change sections after you check into a lab drawer, you must check out of your old lab drawer before checking into a drawer in your new section.

Adding the Course/Late Registration: Students are usually not permitted to add CHM 11100 after week 3 of the semester (Friday, September 7). Notify the course coordinator no later than Friday, September 7, if you register late to see about making up missed assignments.

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 forfeiture of the right to determine the acceptability of all locker drawer equipment.

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 Blackboard 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. |

- “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 siren;” 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 strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me 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.”

Disability Accommodations

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, [www.purdue.edu/drc](http://www.purdue.edu/drc). To implement accommodations you must follow the instructions listed as “Responsibilities of the Student” in the letter prepared by the Disability Resource Center. **Take a copy of this letter to the course coordinator in BRWN 1144 within the first three (3) weeks of the semester or within one week of the date of the letter to discuss your accommodations.** Letters must be received in BRWN 1144 **at least** one week before an exam to be eligible for accommodations (unless your letter is dated within a week of the exam).
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

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/

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 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) to request that a notice of the 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.

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.

For details about other Purdue University policies, including academic integrity, class attendance and absence reporting, emergency, nondiscrimination, and disability services, see the course Blackboard site.
## Lecture, Lab and Exam Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture Topic</th>
<th>Reading (textbook)</th>
<th>Week</th>
<th>Laboratory (M &amp; T) (laboratory manual)</th>
<th>Exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>21-Aug</td>
<td>Course Overview</td>
<td></td>
<td>1</td>
<td>Labs will NOT meet: August 20 and 21 (Compensation for evening exams.) Complete Safety Certification on Blackboard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>23-Aug</td>
<td>Scientific Notation; Significant Figures; Dimensional Analysis and Unit Conversions <em>(You are responsible for sections 1.1-1.7 &amp; 2.1-2.2, on your own.)</em></td>
<td>1.8-1.9; pp. 18-27</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>28-Aug</td>
<td>Atomic Number &amp; Mass; The Periodic Table</td>
<td>2.3-2.4; pp. 48-51</td>
<td>2</td>
<td>Check-Into Lab Drawers Safety Certification L1: Introduction to Excel, Chapter 1 <em>(lab notebook, safety goggles, and proper clothes for lab work are required)</em></td>
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<td></td>
<td>30-Aug</td>
<td>EM Radiation and Energy; Modern Model of the Atom</td>
<td>7.1; pp. 275-178</td>
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<td></td>
<td>04-Sep</td>
<td>Electron Configurations; Valence and Core Electrons</td>
<td>7.2; pp. 282-286</td>
<td></td>
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<tr>
<td></td>
<td>06-Sep</td>
<td>Periodicity of Electron Configurations; Electron Configuration of Ions; Atomic &amp; Ionic Size</td>
<td>7.5; p. 294</td>
<td></td>
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<tr>
<td>3</td>
<td>11-Sep</td>
<td>Molecules and Molecular Compounds; Naming Molecular Compounds</td>
<td>2.5-2.7; pp. 52-57; pp. 61-63</td>
<td>3</td>
<td>No labs Sept 3 and 4 US Labor Day Holiday</td>
<td></td>
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<tr>
<td></td>
<td>13-Sep</td>
<td>Naming Acids and Bases; Monatomic Ions; Polyatomic Ions; Naming Ionic Compounds</td>
<td>2.7; pp. 58-61, 64-66</td>
<td></td>
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<tr>
<td>4</td>
<td>18-Sep</td>
<td>Ionic &amp; Covalent Bonding; Electronegativity</td>
<td>9.1-9.2; pp. 367-370</td>
<td>4</td>
<td>L2: Introduction to Laboratory Techniques Part I, Chapter 2 Pipetting badge exercise (personal padlock for lab drawer needed)</td>
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<td></td>
<td>20-Sep</td>
<td>Lewis Structures</td>
<td>9.4-9.5; pp. 375-380</td>
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<td>9.6; pp. 381-384</td>
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<td>5</td>
<td>25-Sep</td>
<td>Lewis Structures (cont’d); Shapes of Molecules</td>
<td>9.8; pp. 387-389</td>
<td>5</td>
<td>L3: Introduction to Laboratory Techniques: Part II, Chapter 3 Volumetric Flask badge exercise</td>
<td>Exam I Thur, Sept 20 8-9 pm ELLT 116</td>
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<td></td>
<td>27-Sep</td>
<td>Shapes of Molecules (cont’d); Polarity</td>
<td>10.1; pp. 411-420</td>
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<td>10.2; pp. 421-426</td>
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<td>6</td>
<td>02-Oct</td>
<td>Atomic &amp; Molecular Mass; Avogadro's Number; Moles</td>
<td>3.1-3.3; pp. 79-86</td>
<td>6</td>
<td>L4: Measuring Density, Chapter 4 Pipetting badge due September 26</td>
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<td>04-Oct</td>
<td>Using Moles; Percent Composition</td>
<td>3.5; pp. 88-91</td>
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<td>7</td>
<td>09-Oct</td>
<td>October Break</td>
<td>4.1; pp. 122-124</td>
<td>7</td>
<td>L5: Isolation of Fat from Chips and Cookies, Chapter 5 Volumetric flask badge due October 3</td>
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<td>11-Oct</td>
<td>Solutions; Concentration and Dilution</td>
<td>4.5; pp. 147-151</td>
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<td>12.3; pp. 517-518</td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Lecture Topic</td>
<td>Reading (textbook)</td>
<td>Week</td>
<td>Laboratory (M &amp; T) (laboratory manual)</td>
<td>Exams</td>
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<td>9</td>
<td>16-Oct</td>
<td>Chapter 3 &amp; 4 Grams/Moles/Molecules &amp; Solutions Practice</td>
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<td>L6: Molecular Geometry and Polarity, Chapter 6</td>
<td>Exam II Thur, Oct 16 8-9 pm ELLT 116</td>
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<td>18-Oct</td>
<td>Chemical Reactions and Equations</td>
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<td>25-Oct</td>
<td>Acid-Base Reactions; Redox Reactions</td>
<td>4.3-4.4; pp. 130-146</td>
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<td>11</td>
<td>30-Oct</td>
<td>Quantities in Chemical Reactions</td>
<td>3.8; pp. 98-102</td>
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<td>L8: Chemical Interactions, Chapter 8</td>
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<td></td>
<td>01-Nov</td>
<td>How Light Interacts with Matter; Spectroscopy; Solution Stoichiometry</td>
<td>PDF file on Bb 4.7; pp. 153-156</td>
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<td>12</td>
<td>06-Nov</td>
<td>Solution Stoichiometry</td>
<td>4.7; pp. 153-156</td>
<td>12</td>
<td>L9: Techniques to Determine Concentration, Chapter 9 Buret badge exercise</td>
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<td>08-Nov</td>
<td>Energy Changes in Reactions</td>
<td>6.1; pp. 231-234</td>
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<td></td>
<td>15-Nov</td>
<td>Specific Heat and Calorimetry</td>
<td>6.5; pp. 246-247, 249-252</td>
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<td>14</td>
<td>20-Nov</td>
<td>Stoichiometry Practice</td>
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<td>14</td>
<td>L11: The Analysis of Wine, Chapter 11</td>
<td>Buret Badge Due November 21</td>
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<td>22-Nov</td>
<td>Thanksgiving Break</td>
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<td>15</td>
<td>27-Nov</td>
<td>Limiting reactants</td>
<td>3.9; pp. 102-106</td>
<td>15</td>
<td>L12: Chemical Reactions and Heat Changes, Chapter 12</td>
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<td></td>
<td>29-Nov</td>
<td>Limiting reactants; Percent Yield</td>
<td>3.10; pp. 106-109</td>
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<td>16</td>
<td>04-Dec</td>
<td><em>Final Review</em></td>
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<td>16</td>
<td>Check out of lab drawers Dec 3 and 4 (Safety goggles and proper clothes for lab work are required.)</td>
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<td>06-Dec</td>
<td><em>Final Review</em></td>
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<td>17</td>
<td>10-Dec – 15-Dec</td>
<td>FINAL EXAMS</td>
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<td>17</td>
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<td>Final Exam TBA!!</td>
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