In CHM 11600, General Chemistry II, the following topics will be covered:

- Chemical kinetics, and the quantitative application of kinetics concepts to understand the factors that determine the rate of a reaction under specified conditions.
- Chemical equilibria, including gas phase reactions and acid-base reactions; and the application of quantitative equilibrium concepts to selected chemical reactions.
- Electrochemical equilibria, voltaic cells, and prediction of the potentials and energy changes associated with reactions in these cells.
- The quantitative relationships between quantities in thermodynamics, electrochemistry, and equilibria to understand the factors that determine the extent of a reaction under specified conditions.

Course Information: Blackboard  http://www.itap.purdue.edu/tlt/blackboard
Assignments, announcements and other course information are available on the course Blackboard page. We recommended you visit it often.

Foundational Core: This course meets the science requirement of Purdue University's foundational core curriculum. Learning Objectives will be provided in lecture and on Blackboard.
Purdue’s Honor 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)

Mental Health

Purdue University is committed to advancing the mental health and well-being of its students. Services are available if you or someone you know is feeling overwhelmed, depressed, and/or in need of support. For help, contact Counseling and Psychological Services (CAPS) at (765)494-6995 and http://www.purdue.edu/caps/ during and after hours, on weekends and holidays, or through its counselors physically located in the Purdue University Student Health Center (PUSH) during business hours.

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/

Emergencies

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor’s control. Relevant changes to CHM 11600 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.
**Required Course Materials**

**Textbook:** The textbook used in CHM 11600 is *Chemistry: The Molecular Nature of Matter and Change*, 8th edition, by Silberberg and Amateis. There are several options available for purchasing a paper and/or electronic version of the book. See the course Blackboard page for further information.

**Sapling Online Homework:** In CHM 11600, you are required to complete homework assignments online using the Sapling program. You can purchase instant access via the link on Blackboard or you can purchase a code from a local bookstore that you can then redeem via the link on Blackboard.

**Lab Manual:** For lab, you are required to purchase the *CHM 11600 Laboratory Manual*, Purdue University, 2019-2020 Edition, ISBN 978-1-64485-066-4, Fountainhead Press, Inc., which is available in local bookstores. The lab manual can be purchased with or without the lab notebook. (You can use your lab notebook from CHM 11500 if you still have blank pages.)

**Lab materials:** In addition to a lab manual, you are also required to have approved safety goggles, available for purchase 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.

**Calculator:** A simple battery-operated scientific calculator with exponential, logarithm and square root functions is needed for exams. Two-line non-programmable calculators are allowed. Alpha-numeric and programmable calculators are NOT allowed for exams. Solar calculators do not function well in some areas of the Hall of Music. Exam-approved calculators are available for purchase outside WTHR 200 during the first two weeks of class.

**Weekly Assignments:**
- Attend lecture, recitation, and lab.
- Do the reading assignment for lecture (see your lecture notes or Blackboard).
- Complete your homework assignment(s) (Sapling, usually due each Sunday at 11:59 pm).
- Prepare for lab: read the relevant lab manual chapter and assigned textbook sections (see Blackboard), and complete the prelab questions, and take the prelab quiz on Blackboard.
- Work on optional Extra Credit assignments (in Sapling).
- Refer to the course schedule on pp. 17-18 or Blackboard

**Week #1 Assignments:**
- Purchase required materials including access to Sapling (see above).
- Read all the information in this course packet.
- Read the textbook reading assignment, usually assigned in lecture and posted on Blackboard.
- Complete the safety certification available on the course Blackboard page with a score of at least 20/25 by Wed. Jan. 22 at 11:59 PM. **You must complete your safety certification before you can work in lab. See p. 7.**
- Attend recitation and lecture.

►**Late Registration** If you register late, notify the course coordinator Marybeth Miller no later than Fri. Jan. 31 to see about the possibility of making up missed assignments.
Overview of CHM 11600 Activities and Policies

How to Study for CHM 11600 (written by Dr. John Nash and Dr. Marcy Towns)

It will take you at least two hours out of class for every hour we spend in class in order to study and learn the material. This means about 8-12 hours of distraction-free studying and working with chemistry each week. You may spend this time working on your lecture notes, reading the text, studying the required material, doing homework, studying for exams, or other things. You may find yourself spending more than 8-12 hours per week if your math skills need improvement or if it has been a few years since you took a chemistry course. If you are committed to your goals and dreams, then dedicate yourself to spending the necessary time to study and do well.

Before Class
- Review your notes from the previous class.
- Review the assigned reading and read the sample problems within the assigned section of the textbook.

Use the textbook in ways that work best for you.
- Use the textbook as a reference when you study your lecture notes. Fill in any gaps and correct any information.
- Processing technical information will be more effective in the absence of Netflix, TVs, radios, headphones, etc. Turn your phone on silent and set it aside.
- With technical material, the subheadings often carry important information. This is different from the chapter headings in a novel that usually contain no information.
- Read technical material (like your Chemistry textbook) differently than you would read a novel. Read in short "chunks" and give yourself time to reflect and interpret the information presented. With technical material, it is often difficult to pick up the "story" in the second paragraph if you did not process the first paragraph.
- Try the problems in the book without looking at the solutions! If you have understood what you have read, then you should be able to do the problems. First, cover the solution and try the problem. Second, quickly look at the answer to see if you are correct. If your answer is incorrect, try re-reading the section to see if you missed anything. Third, look at your work again to find your mistake. Fourth, look at the solution of the problem presented in the book. The key is to force yourself to recall and apply material.

During Class
- Take notes!
- Write down each step of every problem or example even if you do not understand the step. You can always ask about it later.
- Try to answer all the questions and work all the problems that the professor presents.
- Write a question mark next to things you don't understand so you can return to them after class.
- Use shorthand or abbreviations so that you can write quickly, but understandably.
- Periodically note the time in the margin so that you can quickly find a certain section of the lecture when you review the lecture in Boilercast.
- Turn off distractions (i.e. Netflix, other HW, social media, etc.).
After Class

- Review your notes while things are still fresh in your mind.
- Listen to the Boilercast lecture recordings on Blackboard to fill in things you missed.
- Attend graduate instructor (TA) office hours to ask questions and get help.
- Never miss lecture. Chemistry is cumulative. What is presented tomorrow depends upon your knowledge of what was covered today. If you will miss class, then get a friend to take notes for you or get the notes from the Boilercast recording.

When Should I do the Homework?

- Do some work in chemistry every day. Work at least two chemistry problems each day. If you are drawing a blank about the problem after 5-10 minutes, go on to another a problem. Seek help from a graduate instructor (TA) the next day during office hours. After a day or so, work related problems in the textbook.
- Review your class notes and the assigned pages in the textbook before you attempt any of your homework problems.

Practice, Practice, Practice

- Work additional problems at the end of each chapter that were not assigned as homework.
- Look for similarities and differences in problems (homework questions, lecture examples). Classify problems by the type of knowledge that is needed to solve the problem.

Sources of Help

There are several free sources of help for CHM 11600 students, including professor office hours (schedule on Blackboard), TA office hours (in WTHR 116C, schedule on Blackboard), Supplemental Instruction (SI, www.purdue.edu/SI), PARTÉ sessions (see below), and the Chemistry Resource Room (WTHR 117B). Note that you can attend the office hour of any 11600 TA, not just your TA. Find more information in the “Resources” folder on Blackboard.

Reading Assignments and Learning Objectives

- Reading assignments will be provided in lecture and/or posted on Blackboard. 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.

- Learning Objectives list the concepts you are expected to understand and the skills (calculations) you are expected to demonstrate for each topic covered in the course. Exam questions are based on the Learning Objectives.

Recitation

- You will have the chance in every recitation to ask questions about homework, lab, exams, and lecture. It is not your TA’s role to provide you with answers to homework or prelab questions. Rather, they are expected to guide you to the correct solutions, help you identify mistakes, and add details to help you further understand concepts.

- Attendance at recitation is crucial for successful preparation for lab. A 2-point penalty will be assessed on your lab grade if you do not attend recitation that week.
Lectures

- Lecture attendance is required and is integral to learning the material presented.
- If slides are used, then student versions of lecture slides may be posted on Blackboard. These are outlines of the lectures and are not a substitute for taking notes in lecture.
- Recordings and slide capture of lectures may be viewed or downloaded using the Boilercast link on Blackboard.
- Cell phones, computers, iPods or other electronic devices not being used for instruction purposes are distracting for everyone in a learning situation. Computers can be used to take notes and follow lecture, but please respect your classmates by not using Facebook, texting, surfing the internet, watching Netflix, etc. during class.
- Talking aloud to classmates during lecture is distracting to other students and is disrespectful to the lecturer. If you have a question please ask, but otherwise remain quiet and allow the students around you the opportunity to pay attention.

PSO (Optional Friday PARTÉ sessions)

During optional Preparation And Readiness to Take Exams (PARTÉ) sessions you will have the opportunity to work exam-type questions with other students and get help from TAs.

- PARTÉ will be held on Fridays in WTHR 200 at 10:30 AM, 11:30 AM, and 2:30 PM.
- PARTÉ is a time to work problems with your classmates and get help from the TAs. As such, you are expected to stay for all or most of the class period (50 minutes). You are not allowed to obtain the PARTÉ packet and leave immediately.
- Answers will be provided only after you have attempted or completed all of the problems. If you don’t have time to check your answers during the session, you may consult with a TA during office hours.
- PARTÉ sessions are not a time to get help with homework or prelab questions; TA office hours are available for this purpose.
- Neither PARTÉ packets nor answer keys will be posted on Blackboard. You must attend the session to obtain the packet. If you need to check answers after the session, ask a TA in office hours or recitation.

Homework (Sapling)

- Each week you will have one homework assignment, usually due on Sundays at 11:59 PM. All links and due dates are in the Homework folder on Blackboard.
- You will have five attempts for each Sapling question in an assignment. There is no penalty for failed attempts.
- Each homework assignment is worth 10 points. The one lowest homework score will be dropped at the end of the semester.
- No time extensions are possible for any homework assignments. Allow plenty of time to do your homework and get the highest possible score. If you wait until the last minute, you risk the possibility of technical difficulties, illness, or other situations interfering with your success.
- Exams are likely to include questions taken from homework assignments.
- For help with technical issues, contact Sapling customer service at 1-800-936-6899 or use the online form at https://macmillan.force.com/macmillanlearning/s/contactsupport. Chrome is the recommended browser for Sapling.
Laboratory
Laboratory exercises are an integral part of CHM 11600 and are an opportunity for you to experience in a hands-on way the chemical concepts discussed in lecture. Learning objectives for laboratory work are posted on Blackboard.

Laboratory Attendance and Participation
- Lab attendance is required since CHM 11600 is a laboratory course. There are no make-up labs or excused absences, except those covered by the GAPS or MAPS policies (see p. 14).
- You are required to complete 10 of the 12 scheduled lab projects to pass the course. If you fail to complete or miss more than 2 lab projects, an automatic grade of “F” will be assigned for the course at the end of the semester.

A failure to complete (zero score) will be assigned in the following cases:
- being absent for any reason (except GAPS/MAPS approved absences)
- being dismissed from lab for an incomplete Safety Certification (score <20/25)
- being dismissed from lab for safety violations, including dress and goggle violations
- arriving more than 10 minutes late
- leaving lab early or otherwise not completing the lab project and/or group lab report
- inadequate preparation that hinders lab participation
- not contributing constructively to the group’s work in lab
- failure to submit a group lab report or individual post-lab discussion, even if you attended the lab
- not participating in preparation of the group lab report

- You must complete the online safety certification found on Blackboard with a score of 20/25 or better by 11:59 PM on Wed. Jan. 22. You must confirm your score in the Blackboard grade center by clicking “My Grades.” You will be sent home and will receive a zero for each lab you miss due to an incomplete safety certification.

Lab Preparation
- Before lab, read the experiment and attend recitation to help you prepare.
- Complete the prelab questions posted on Blackboard each week. These exercises are designed to help you prepare for the lab and the prelab quiz. The prelab questions are not collected or graded. You can ask questions about them during recitation.
- Arrive on time, properly dressed, and prepared for lab work. If you arrive at lab more than 10 minutes late or improperly dressed, you will be asked to leave the lab and will receive a score of zero for that week’s lab.

Prelab Quizzes
There will be a quiz based on the lab procedure and the prelab questions before each lab. The purpose of these quizzes is to ensure that you are prepared for lab.
- Prelab quizzes are completed online through Blackboard and are due at your lab start time. Prelab quizzes consist of 5 questions worth 2 points each (10 points total for each quiz).
• It is recommended that you have your written answers to the prelab questions and a summary of the procedure, along with scrap paper, pencil and calculator, available before you begin the quiz.

• You have one, timed (10 minute) attempt for each quiz. The quiz will automatically submit after 10 minutes. Do not click “Begin” until you are ready to actually take the quiz because you cannot pause, exit, cancel, resume later, etc.

• For the best chance of success on the prelab quizzes, you need to ensure you have a strong, stable connection to the Internet. A hard-wired connection to the internet is better than Wi-Fi. If Wi-Fi is the only option, you need to check the signal strength and ideally shut down any other programs that are using the Internet (such as streaming audio, mail programs, etc.).

• Quizzes are individual assignments. Collaboration with other students during the quiz is not allowed. (However, you are encouraged to work together in advance to complete the prelab questions.)

• There are no make-up quizzes or time extensions. The lowest prelab quiz score is dropped at the end of the semester to account for illnesses, technical difficulties and other situations.

• If you do not attempt the quiz before the time it is due, you will receive a zero for the quiz (out of 10 points). However, you ARE allowed to attend the lab and can still earn points for the lab report portion of the grade (15 points).

**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).

• Goggles are required at all times in the laboratory, including during report-writing and lab check-out. If you are in lab and your goggles are not covering your eyes, you will be sent home and will receive a zero for the lab and the lab report (failure to complete).

• Wear gloves when specified in the lab manual or by your instructor.

• If your hair is longer than shoulder length you must tie it behind your head.

• Contact lens wearers are encouraged to wear glasses in the laboratory.

• Food and beverages are not allowed in the labs. *(This includes water bottles.)*

• Follow your instructor’s guidance on appropriate handling of hazardous materials and disposal of chemical waste.

• Promptly clean up spills and tidy the laboratory before leaving.

• Proper dress (clothing and shoes) is required. Your clothing must cover you from your neck (collarbone) to your ankles when sitting, standing or reaching. Your feet must be completely covered by your shoes.
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
- loose-knit sweaters that expose your skin
- pants that are ripped or have **holes** in the fabric of **any** size
- tights or thin (translucent or transparent) **leggings**
- Capri or cropped pants
- skinny or ankle pants that reveal skin between the shoe and the bottom of the pant leg
- shorts
- short skirts
- open-toed and/or open-heeled shoes (including Crocs, Birkenstocks or other clogs)
- sandals (with or without socks)
- **boat shoes**, ballet flats, slippers, moccasins, or any shoe that doesn’t cover the **entire** top of your foot and ankle, with **or** without socks

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

► Your best option for chemistry lab attire is a crew neck t-shirt, jeans without holes, and sneakers with socks.
Lab Reports and Post-Lab Discussions
For most of the labs, you will complete group lab report worksheets contained in the lab manual or distributed by your instructor.

- Complete the lab report worksheets appropriately:
  - Use ink and write neatly.
  - Label graphs and tables.
  - Use the data your team 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 over (i.e. at 10:20 AM, 2:20 PM or 5:40 PM). Lab reports submitted after the lab period ends, up to 24 hours late, are worth 50%. Lab reports submitted after 24 hours are worth no (zero) credit. Post-lab discussions are due at the start of the next lab period.

- After Labs 4 and 10, you will be required to complete an individual post-lab discussion (maximum one page, typed) instead of a group lab report worksheet. Details will be provided by your instructor and on Blackboard. If you do not submit a post-lab discussion, it will count as a missed lab and a zero score, even if you attended the lab!

- Lab reports and post-lab discussions are worth 15 points each. The lowest lab report or post-lab discussion score will be dropped at the end of the semester to account for illnesses, trips, conflicts and other situations, provided you complete at least 10 of 12 lab projects.

- Failure to submit a group lab report or individual post-lab discussion or not participating in preparation of the group lab report will result in a score of zero and will count as a missed lab (failure to complete), even if you attended the lab.

- Graded lab reports or post-lab discussions will be returned by your lab instructor one week after they are submitted. It is suggested that all lab partners review the graded report worksheets because exams will include lab-related questions. If you have questions about a lab report or post-lab discussion grade, speak with your lab instructor (TA) or the Course Coordinator (Marybeth Miller) within one week of the report being returned to you. Your report must be completed in ink to be eligible for a regrade.

Lab Equipment
You will share an assigned laboratory drawer of equipment with the students in your row. Your lab partners will depend upon your commitment to keeping the equipment clean and in good working condition.

- You and your lab partners will have the opportunity to assess the equipment during check-in day. Any equipment that is un-usable i.e. dirty, chipped, cracked, stained, broken, etc., is replaced free during check-in.

After check-in day:

- It is important that you do your part to maintain the drawer throughout the semester by cleaning all the glassware after use by washing with hot water, soap, and a brush, rinse with tap water, then rinse with deionized water. Cleaning glassware is a 3-step process; you will have better experimental results with clean glassware.

- If you are responsible for a piece of equipment becoming un-usable i.e. the piece becomes chipped, cracked, stained, broken, etc., you must go to the storeroom (immediately) and purchase a replacement.
• Should you discover that a piece of equipment is missing, first check with the other students in your row and in the lost and found box at the back of the lab. 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; the storeroom staff can split the cost of a replacement among the lab partners.

• You will be using the supplied university lock all semester on the drawer; you do not need an individual lock. Your TA will open the drawer before lab each week. You may store personal items such as goggles in the drawer, but you should label everything with your name.

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Leaving the Course: If you drop your laboratory course after having checked into a lab drawer, it is your responsibility to check out of your assigned drawer during your scheduled lab period. Failure to check out of lab will result in a $45 fee, and forfeiture of the right to determine the acceptability of all drawer equipment.

Checkout day:
• On the last of laboratory, you and your lab partners will checkout of your lab drawer. You must arrive on time, properly dressed and wear goggles. If you arrive more than 15 minutes late, you will be asked to leave the lab and will be assessed a fee of $45.

• You and your lab partners will clean and inventory the drawer for your TAs’ inspection. All missing or un-usable equipment must be replaced at that time.

Exams
Exams are a chance for you to demonstrate your comprehension of the course material and are worth approximately 60% of your final grade. Your lowest exam score or ½ your final exam score will be dropped at the end of the semester.

Spring 2020 hour exam schedule:

| Exam I: | Mon. Feb. 10 | 8:00 - 9:00 PM | Elliott Hall of Music |
| Exam II: | Mon. Mar. 9 | 8:00 - 9:00 PM | Elliott Hall of Music |
| Exam III: | Mon. Apr. 6 | 8:00 - 9:00 PM | Elliott Hall of Music |

►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 one zero score can be dropped. You will receive no score (zero points) for additional missed exams.

• Scores for approved GAPS/MAPS leaves and makeup exams required as an approved academic accommodation through the Disability Resource Center will be handled individually. Contact Marybeth Miller for more information.

• If you have a direct conflict with another exam or class, or required university activity, contact the General Chemistry office (BRWN 1144) at least one week before the conflict so that we can determine the proper course of action. You will be asked to provide written verification of the conflict. For some conflicts (i.e. non-academic), the dropped exam score policy will be invoked.
• Exams during the semester are one hour in length. You should arrive at least 15 minutes before the exam start time. If you arrive more than 15 minutes after the exam start time, 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 (level, aisle, row, and seat) for the entire semester. Take your PU ID, your seat assignment, an appropriate (non-graphing) calculator (see details on p. 3), and #2 lead pencils with you to the exam. You may not share a calculator with another student or use your phone.

Final Exam
• Details about the final exam, including content, date, time and location, will be announced mid-semester.

• There is no make-up exam if you miss the final exam. You must arrive within fifteen minutes of the exam start time to be eligible to take the final exam. If you arrive more than fifteen minutes after the start time, you will not be permitted to take the final exam.

• 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
Each of the assigned course activities for CHM 11600 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:

- Lowest homework score
- Lowest lab report or post-lab discussion score, provided you have completed at least 10/12 labs
- Lowest prelab quiz score
- Lowest exam score or ½ your final exam score, whichever is lower

The total number of points for CHM 11600 will be distributed as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams I - III</td>
<td>480 pts. (3 at 160 pts. each)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>320 pts. (comprehensive)</td>
</tr>
<tr>
<td>Homework</td>
<td>140 pts. (best 14 of 15 at 10 pts. each)</td>
</tr>
<tr>
<td>Prelab Quizzes</td>
<td>110 pts. (best 11 of 12 at 10 pts. each)</td>
</tr>
<tr>
<td>Lab Reports and Post-Lab Discussions</td>
<td>165 pts. (best 11 of 12 at 15 pts. each)</td>
</tr>
</tbody>
</table>

**Sub-total** 1215 pts.

Drop -160 pts. drop lowest exam or ½ final exam score, whichever is less

**Total** 1055 pts.

Extra Credit 20 pts (Sapling Learning Curve assignments)

► If you miss more than 2 labs (L2-12), your course grade will automatically be an F. Except for approved GAPS or MAPS leaves, there are no excused absences in CHM 11600.
The point total available for exams is 640 (4 x 160). Your dropped exam score will be determined as follows: Your points earned on the Final Exam will be divided equally in half and considered as separate scores, T4 and T5. These scores will be compared with your scores on Exams 1-3 (T1, T2, and T3) and the lowest of these 5 scores will be dropped (i.e. not counted into your total points or the total points possible in the course).

At the end of the semester, the total scores for all students will be arranged in numerical order, the score that corresponds to the 99th percentile (S_{99}) will be determined, and then letter grades will be assigned based on this percentile score as follows:

\[
\begin{align*}
A: & \quad \text{Total Score} \geq 0.90 \times S_{99} \\
B: & \quad 0.80 \times S_{99} \leq \text{Total Score} < 0.90 \times S_{99} \\
C: & \quad 0.70 \times S_{99} \leq \text{Total Score} < 0.80 \times S_{99} \\
D: & \quad 0.60 \times S_{99} \leq \text{Total Score} < 0.70 \times S_{99} \\
F: & \quad \text{Total Score} < 0.60 \times S_{99} \text{ or if you fail to complete 10 of the 12 lab projects}
\end{align*}
\]

This grading system has several advantages:

- It lets you know several times during the semester how you are doing in the course.
- Unlike a curved scale, it encourages cooperation among students because no student is penalized when another is successful.
- Unlike an absolute scale, it tends to neutralize the effects of differences from one semester to another and thereby ensures that the same criteria are used to assign grades from one semester to another.

This approach to grading means that the grade you get in this course depends primarily on your own effort and performance. It also ensures that all students who do well in the course will get good grades.

- After each of the first three (hour) exams, your total points will be calculated and tentative grade cutoffs will be posted so that you can see how well you are doing in the course. Note that these tentative grade cutoffs will be based on an absolute (90/80/70/60) grading scale (i.e., earning 90% of the maximum possible points is an A, 80% is a B, etc.).
- Check all your grades on Blackboard after each exam. If there are any errors or discrepancies, notify the Course Coordinator, Marybeth Miller, within 2 weeks of the exam.
- Save all returned graded papers and your exams until after you have received your course letter grade for CHM 11600. To resolve any discrepancies, your paper(s) will need to be reviewed.
UNIVERSITY AND COURSE POLICIES

Absences
Verified grief and military absences are the only excused absences in CHM 11600.

- **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 covered under a verified GAPS absence will be pro-rated (assigned a score based on your average grade for that type of assignment). See the Course Coordinator (Marybeth Miller) for more information.

- **Military Absence Policy for Students (MAPS)** If you are required to complete mandatory military training, notify the Office of the Dean of Students (ODOS) at 765-494-1747 to request that a notice of the leave be sent to instructors. See the Course Coordinator (Marybeth Miller) for more information.

- Absence accommodations approved by the Disability Resource Center will be handled individually. Contact Marybeth Miller for details.

- The lowest score in each category (lab, HW, pre-lab quiz, exam or ½ final exam) is dropped at the end of the semester to account for absences due to illnesses, trips, conflicts or other situations that are not excused absences. If you have concerns about how an absence will affect your course grade, contact your instructor or Course Coordinator Marybeth Miller at the time of the absence.

- If you experience an absence that is expected to be for an extended period of time (normally a week or more), you should contact the Office of the Dean of Students at 765-494-1747. As a courtesy to the student, a member of the Dean of Students staff will notify your instructor(s) of the circumstances. This intervention does not excuse you or change in any way the outcome of the instructor’s decision regarding your academic work and performance in CHM 11600.

Adding/ Dropping/Changing Sections

<table>
<thead>
<tr>
<th>CHEMISTRY DEPARTMENT DEADLINES FOR ADDING OR SWITCHING SECTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mon. Jan. 20:</strong> Last day to add CHM 11600 or switch lab sections without instructor approval</td>
</tr>
</tbody>
</table>
| **Fri. Jan. 31:** Last day to switch lab sections with instructor approval*;  
                     Last day to add CHM 11600 with instructor approval* if not already enrolled in another CHM course |
| **Fri. Feb 7:** Last day to switch from another CHM course to CHM 11600 with instructor approval* |

<table>
<thead>
<tr>
<th>UNIVERSITY DROP DEADLINES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mon. Jan 27:</strong> Last day to drop (cancel) a course via MyPurdue without it appearing on your record</td>
</tr>
<tr>
<td><strong>Mon. Feb. 10:</strong> Last day to drop (cancel) a course with a grade of “W”; advisor signature required</td>
</tr>
<tr>
<td><strong>Fri. Mar. 13:</strong> Last day to drop (cancel) a course with a grade of “W”; advisor and instructor signatures required*</td>
</tr>
</tbody>
</table>

*Add/Drop forms (Form 023) must be signed by your advisor and delivered to the General Chemistry office, BRWN 1144, to obtain a signature for the instructor, or processed through the online system.
**Late Registration** If you register late, notify the course coordinator no later than Fri., Jan. 31 to see about the possibility of making up missed assignments.

**Course Drop, Section Change or Withdrawal and Lab Drawer Check-Out**
Inform the storeroom staff immediately if you are changing lab sections, dropping a lab course or withdrawing from the University. Checkout involves a process where you and your TA or other staff member inspect the items in your drawer before you are released from responsibility for the items in the drawer.

- **If you change sections**, you are required to properly checkout of your current locker drawer before checking into another section.

- **If you drop or withdraw** from this lab course before the end of the semester, you are required to properly checkout of your locker drawer.

- **If you have any questions about properly checking out of your locker drawer**, go to the storeroom, BRWN 1155 or 2155, for assistance!

- **Failure to properly checkout** of your lab drawer will result in a **failure to checkout fee ($45)** assessed against you. In addition, you will be charged for missing and/or unacceptable equipment.

**Disability Accommodations**
If you require accommodations to access course activities or materials, the accommodations must be described and approved by the Disability Resource Center, Young Hall Room 830, 302 Wood Street, 765-494-1247, www.purdue.edu/drc. To implement accommodations, you must follow the instructions in the letter provided by the Disability Resource Center. Take a copy of this letter to the General Chemistry Office (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. Implementation of accommodations may not be possible if insufficient notification is given.

**Academic Integrity**
All students are expected to be familiar with Purdue’s policies on academic integrity (https://www.purdue.edu/odos/academic-integrity/). Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breeches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. Information may be submitted anonymously.

“Dishonesty in connection with any University activity may result in informal action or disciplinary sanctions. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty. The commitment of acts of cheating, lying, stealing, and deceit in any of their diverse forms (such as the use of ghost-written papers, the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest.” From University Senate Document 72-18.

In CHM 11600, academic integrity means “doing your own work” at all times. Discussion of chemical concepts 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 the material and is considered academic dishonesty.**

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. All 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.

This course packet is a contract between CHM 11600 students and instructors. If a student violates the contract by committing an act of academic dishonesty, the instructor reserves the right to alter the terms of the contract (including grading policies) at his/her discretion.

**Surveys on General Chemistry lab environment**

You may be asked to complete two or more surveys this semester for the development and improvement of the teaching and learning environment in General Chemistry laboratories. Taking part in these surveys will enable you and future students to have an optimal learning experience in lab. Your input is very valuable, so we encourage you to complete all of the surveys.

Participation in the surveys is optional (not required) and has no impact on your course grade. Instructors will not know which students participate in the surveys. Survey information will only be viewed after grades have been submitted at the end of the semester. Your identity will be coded and hidden during the analysis of survey results. Individuals not associated with your course will only use your identity to correlate your responses from the beginning and end of the semester. You can opt out of participation in the surveys at any time.
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture</th>
<th>Lecture Topic(s) &amp; Chapter(s)</th>
<th>Reading Assignment</th>
<th>Lab (Prelab quizzes due at lab start time)</th>
<th>HW (due Sun. at 11:59 PM)</th>
<th>Exams, Post-labs, etc.</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>13-Jan</td>
<td>1</td>
<td>CHM 11600 Introduction; Concentration expressions (CH 4, 13)</td>
<td>4.1, 13.5</td>
<td>Check-in; Lab Safety; Basics of Excel; Plan for Lab 1</td>
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<td></td>
<td>15-Jan</td>
<td>2</td>
<td>Kinetics (CH 16)</td>
<td>16.1</td>
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<td>20-Jan</td>
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<td><strong>NO CLASSES (MLK Day)</strong></td>
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<td>22-Jan</td>
<td>3</td>
<td>Kinetics (CH 16)</td>
<td>16.1-16.3</td>
<td>Lab 1: A Chemical Oscillation Reaction (CH 1)</td>
<td>HW01 due</td>
<td>Safety Certification due Jan. 22</td>
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<td>3</td>
<td>27-Jan</td>
<td>4</td>
<td>Kinetics (CH 16)</td>
<td>16.3-16.5</td>
<td>Lab 2: Factors Affecting Rates of Chemical Reactions (CH 2)</td>
<td>HW02 due</td>
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<td>16.3-16.5</td>
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<td>4</td>
<td>3-Feb</td>
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<td>Kinetics (CH 16)</td>
<td>16.6, 16.7</td>
<td>Lab 3: Chemical Kinetics, Part I (CH 3)</td>
<td>HW03 due</td>
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<td>10-Feb</td>
<td>8</td>
<td>Equilibrium (CH 17)</td>
<td>17.1-17.5</td>
<td>Lab 4: Chemical Kinetics, Part II (CH 3)</td>
<td>HW04 due</td>
<td>Exam I Mon. Feb. 10 8:00 PM</td>
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<td>10</td>
<td>Equilibrium (CH 17)</td>
<td>17.5, 17.6</td>
<td>Lab 5: Bromocresol Green Equilibrium Systems (CH 4)</td>
<td>HW05 due</td>
<td>Lab 4 Discussion due</td>
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<td>19-Feb</td>
<td>11</td>
<td>Acids and Bases (CH 4, 18)</td>
<td>4.4, 18.1</td>
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<td>Acids and Bases (CH 18)</td>
<td>18.2,18.3</td>
<td>Lab 6: Iron(III) Thiocyanate Equilibrium System (CH 5)</td>
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<td>Acids and Bases (CH 18)</td>
<td>18.1-18.3</td>
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<td>2-Mar</td>
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<td>Acid-Base Equilibria (CH 18)</td>
<td>18.1-18.3, 18.5</td>
<td>Lab 7: Electrolyte and Nonelectrolyte Solutions (posted on Blackboard)</td>
<td>HW07 due</td>
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<td>18.4, 18.6</td>
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<td>Week</td>
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<td>HW (due Sun. at 11:59 PM)</td>
<td>Exams, Quizzes, Post-labs</td>
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<td>9</td>
<td>9-Mar</td>
<td>16</td>
<td>Acid-Base Equilibria (CH 18)</td>
<td>18.4, 18.6, 18.7, 18.8</td>
<td>NO LAB compensation for evening exams</td>
<td>HW08 due</td>
<td>Exam II Mon. Mar. 9 8:00 PM</td>
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<td>11-Mar</td>
<td>17</td>
<td>Acid-Base Buffers (CH 19)</td>
<td>19.1</td>
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<td>Spring Break, Mar. 16-20</td>
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<td>11</td>
<td>23-Mar</td>
<td>18</td>
<td>Acid-Base Titrations (CH 19)</td>
<td>19.2</td>
<td>Lab 8: Acid-Base Equilibria, Part I (CH 6)</td>
<td>HW09 due</td>
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<td>25-Mar</td>
<td>19</td>
<td>Coordination Chemistry (CH 23)</td>
<td>p. 817; 18.9; pp. 877-8</td>
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<td>12</td>
<td>30-Mar</td>
<td>20</td>
<td>Coordination Chemistry (CH 23)</td>
<td>23.3: pp.1046-1050; 23.4: pp.1056-1062</td>
<td>Lab 9: Acid-Base Equilibria, Part II (CH 6)</td>
<td>HW10 due</td>
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<td>1-Apr</td>
<td>21</td>
<td>Coordination Chemistry (CH 23)</td>
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<td>13</td>
<td>6-Apr</td>
<td>22</td>
<td>Thermodynamics (CH 20)</td>
<td>20.1</td>
<td>Lab 10: How Much Copper is in a Penny? (CH 7)</td>
<td>HW11 due</td>
<td>Exam III Mon. Apr. 6 8:00 PM</td>
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<td>23</td>
<td>Thermodynamics (CH 20)</td>
<td>20.2</td>
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<td>13-Apr</td>
<td>24</td>
<td>Thermodynamics (CH 20)</td>
<td>20.3</td>
<td>Lab 11: Thermodynamics and Equilibrium (CH 9)</td>
<td>HW12 due</td>
<td>Lab 10 Discussion due</td>
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<td>15-Apr</td>
<td>25</td>
<td>Thermodynamics (CH 20)</td>
<td>20.4</td>
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<td>15</td>
<td>20-Apr</td>
<td>26</td>
<td>Reduction-Oxidation Reactions (CH 4, 21)</td>
<td>4.5, 21.1, 21.2</td>
<td>Lab 12: A Metal Ion Sensor (CH 11)</td>
<td>HW13 due</td>
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<td>22-Apr</td>
<td>27</td>
<td>Electrochemistry (CH 21)</td>
<td>21.3, 21.5, 21.6</td>
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<td>16</td>
<td>27-Apr</td>
<td>28</td>
<td>Electrochemistry (CH 21)</td>
<td>21.4</td>
<td>Lab Check-out (You must attend or will be charged a $45 failure-to-check-out fee.)</td>
<td>HW14 due HW15 due Sat.</td>
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<tr>
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<td>29-Apr</td>
<td>29</td>
<td>Electrochemistry (CH 21)</td>
<td>21.7</td>
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</table>

Final Exams, May 4-9
Do NOT make travel plans until you know the date of the final exam.

Final Exam TBA