

**Chemistry 11200 in Spring 2023  
(CRN 13821, 13822)****Brightspace page:** [Homepage - Spring 2024 CHM 11200 - Merge \(brightspace.com\)](#)

**Lecture:** Tuesday & Thursday, 1:30, 2:30 PM, EST in WTHR 200  
**Recitation:** Monday or Tuesday, Check your schedule in MyPurdue  
**Laboratory:** Either Wednesday or Thursday, check your schedule in MyPurdue  
**Modality:** In-person

**Instructor:** Dr. Harwood, BRWN 1153

**Email:** [charwood@purdue.edu](mailto:charwood@purdue.edu)

**Telephone:** 494-7012

**Office Hours:** Tuesday 11:30-12:30 PM & Thursday 3:30-4:30 PM in WTHR 107. Other times by appointment.

**Course Coordinator:** Leah Everly, BRWN 1144

**Email:** [leverly@purdue.edu](mailto:leverly@purdue.edu)

**Telephone:** 494-5225

**Supervising TAs:**

Nicholas Koehn [koehn0@purdue.edu](mailto:koehn0@purdue.edu)

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**Chemistry 11200** is a 3-credit-hour, foundational general chemistry course for agriculture, health and human science, and other majors. The minimum prerequisite for CHM 11200 is credit for CHM 11100. The course is oriented around helping you learn some of the fundamental chemistry concepts, calculations, and laboratory skills you need in your major.

In CHM 11200, General Chemistry II, the following topics will be covered:

- Intermolecular forces (IMF) with an emphasis on understanding IMF at the molecular level and connections between the molecular level and macroscopic properties.
- Acids, bases, buffers, titrations. Many disciplines use these concepts and chemists have developed different kinds of models to describe acids and bases. You will learn and use three different models. We will focus on acid-base reactions, equilibria, and the application of quantitative equilibrium concepts to such reactions. Buffers have important applications in agriculture and in health sciences that will be explored in lecture and laboratory.
- Rates of chemical reactions, known as kinetics, and the quantitative application of zero-order, first-order, and second-order kinetics concepts to understand the factors that control rates of reaction and rates of chemical change.
- Oxidation-reduction reactions, strengths of oxidizing and reducing agents.

There are two in-person lecture sections of CHM 11200 taught by Professor Harwood. Mrs. Leah Everly is our course coordinator. There are approximately 24 graduate and undergraduate teaching assistants who teach weekly in-person recitation sections and offer an opportunity to reinforce and extend what is discussed in lecture, explore new topics, and discuss laboratory. We strongly encourage you to attend recitation! Finally, most labs are in-person, although we have two online labs this semester. We have found no in-person labs that are as effective in introducing the concepts that these labs cover.

The Chemistry 11200 team—the professors, course coordinator, TA supervisors, graduate and undergraduate teaching assistants, administrative assistants, general chemistry preparations lab, and SI leaders—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, grading, and other course policies and procedures.

Detailed learning objectives are provided for each chapter/topic of the course. Broad course learning outcomes for this course are:

1. *Explain basic chemical concepts including intermolecular forces and their effect on physical properties, chemical kinetics and factors affecting rates of reactions, acid-base chemistry and pH, oxidation-reduction reactions and oxidizing and reducing agent strengths.*
2. *Apply problem-solving skills to calculate unknown information related to chemical concepts such as kinetics, acid-base, and redox chemistry.*
3. *Analyze tabulated data, graphs, raw data from laboratory experiments, observations, and molecular-level models to answer scientific questions and construct evidence-based arguments supporting a scientific claim.*
4. *Demonstrate competence in collecting, analyzing, and interpreting data in the laboratory, using computers in data acquisition and processing, using available software in data analysis, and applying safe laboratory practices.*

**Dr. Harwood:** My contact information is above and I will hold office hours this semester in person. When emailing please address me as “Dr. Harwood” or “Professor Harwood”. In the subject line please use the following: CHM 11200 – “your question here”. It will be very helpful if you title the subjects that way so I can search on CHM 11200 and find those emails in my inbox. I have nearly 850 students in the course and receive over 100 emails each day, M-F. For questions pertaining to lab, please include your TopHat lab section number and/or TA name.

**Leah Everly, course coordinator:** Her contact information is above. When emailing please use the subject line “CHM 11200 – (your question here)”. Putting in a subject line is incredibly helpful as Mrs. Everly coordinates more than one course.

*Please email from your Purdue email account only.* Generally, we respond within 24 hours, except on the weekend, when it might take closer to 48 hours. Do not email us from an account that is not your @purdue.edu account because we will not answer it – we can’t tell for certain who is emailing us.

**Supplemental Instruction:** Supplemental Instruction (SI) is a program built around peer-led group study sessions. Our SI Leaders Chantelle and Gabe are undergraduate students and they know what it takes to succeed. They know how to facilitate or guide learning through fun, collaborative activities that provide more practice with challenging course material and concepts. SI attendance is correlated with higher grades in the paired course, but it shouldn’t be thought of as a quick fix or a place to go for last minute help before an exam. To get the most benefit, you should attend SI early in the semester and continue coming as often as you can. Keep in mind that 1 hour of productive group study is equal to 2 hours of solo studying – *SI helps you maximize your study time while also getting to know your peers and having fun.*

Times and locations for the SI sessions can be found here: <https://www.purdue.edu/asc/si/> and you can access the sessions from Brightspace. Chantelle and Gabe’s SI sessions, office hours, and email are:

SI Leader: Gabe Estes ([gestes@purdue.edu](mailto:gestes@purdue.edu))

SI Sessions: Monday and Wednesday 4:30 PM in WTHR 200

Office Hour: Wednesday at 12:00 PM, Wiley C215 and on zoom

SI Leader: Chantelle Miller ([mill3086@purdue.edu](mailto:mill3086@purdue.edu))

SI Sessions: Tuesday and Thursday at 4:30 PM in SCHM 227

Office Hour: Wednesday at 10:30 PM, Wiley C215 and on zoom

**Course Information:** Lecture outlines, links to homework assignments, reading assignments, announcements, and other course information are available on the course Brightspace page. We recommend you visit it often.

## Required Materials

### WHAT DO I NEED TO PURCHASE FOR CLASS??

#### If you were in CHM 11100 in Fall 2023 you must purchase

- CHM 11200 Top Hat Lab Manual (purchase link will be emailed to you Week 2-3)

#### If you were NOT in CHM 11100 in Fall 2023 you must purchase

- McGraw-Hill ALEKS access including electronic textbook (purchase link in main course Brightspace) (If you used ALEKS in CHM 11100 or CHM 11200 before Fall 23, please email Dr. Harwood before re-purchasing.)
- CHM 11200 Top Hat Lab Manual (purchase link will be emailed Week 2-3)
- BeyondLabz simulation access (purchase link in PSO Brightspace section)

**Textbook:** The textbook I have chosen for you this semester is Chang, *Chemistry*, 14th edition ISBN: 9781260694857). I have also chosen the McGraw-Hill **ALEKS** online homework program for our homework platform this year. When you purchase ALEKS access it includes an electronic copy of the textbook, Chang, *Chemistry*, 14th edition (ISBN: 9781260694420). You can purchase ALEKS access from the University bookstores or directly through McGraw-Hill (it's cheaper directly from McGraw-Hill because the bookstore adds a small markup to the McGraw-Hill price). You can purchase a physical textbook (loose-leaf version) directly through ALEKS separately, if you like (ISBN: 9781260694857). If you are using an old book (any edition) you will still need to purchase access to ALEKS and that will automatically include an electronic copy of the text. A link on the course Brightspace page will direct you to our ALEKS course where you can make your purchases. **PLEASE NOTE: If you purchased ALEKS access for CHM 11100 or 11200 in Fall 2023 or before, you should have access to ALEKS this semester and you will not need to repurchase; you will only need to apply your remaining access to this semester's course. Email Dr. Harwood if you have any questions about this.**

**Calculator:** A **simple battery-operated scientific calculator** with exponential, logarithm and square root functions is required for this course (a TI-30 works well, but other brands are also acceptable) for the exam. Two-line non-programmable calculators are allowed. Alpha-numeric and programmable calculators will NOT be allowed for the exams.

**Lab Manual:** We will use a digital laboratory manual this semester from Top Hat and the online laboratory simulation program BeyondLabz. You can purchase access to this semester's Top Hat lab manual and BeyondLabz directly from the link in an email you will receive during the first week of the semester. **If you were a student in CHM 11100 in Fall 2023 you DO NOT need to repurchase BeyondLabz access. BeyondLabz access is good for 12 months from the purchase date. However, everyone MUST purchase access to the CHM 11200 Top Hat lab manual for this semester.**

**Lab Materials:** In addition to Top Hat access, you are also required to have **indirectly vented** chemical splash goggles that must be worn while in the laboratory. Goggles may be purchased in CHAS, in bookstores, or online. Goggles may not have exposed holes on the sides, top or bottom that would allow chemicals or vapors to damage the eyes (must meet the ANSI Z87.1:2020 (+D3) standard). You should bring a notebook of your choice to lab for note taking. If you choose, you may take digital notes on your electronic device. You may bring your laptop to lab each week to access your digital lab manual and digital lab report. There are iPads in each of the laboratories for you to use as well.

## Week #1 Assignments:

- [Sign up for email & announcements in Brightspace!](#)
- Purchase required materials (see above) and access the current semester ALEKS course. Please wait to purchase TopHat/BeyondLabz until you receive an email from Dr. Harwood with the access code for your section. DO NOT purchase Beyondlabz if you used it in CHM 11100 last semester.
- Read all the information in this course packet.
- Begin the first ALEKS weekly homework assignment.
- Read the Textbook Reading and Learning Objectives (on Brightspace).
- Attend recitation and lecture.
- Attend lab in Week 1 for Check-in.
- [Consider using Shovel](#) as your go-to time management tool for success in all your classes. The app is free for Purdue students.

## Weekly Assignments: (Refer to the "Some Ways to Study Chemistry" on the course Brightspace page.)

- Read the weekly announcement each week on Brightspace.
- Attend lecture and recitation.
- Complete reading assignments *before* lecture (see lab/lecture schedule at end of this document).
- Lab reports are due 11:59 PM on the Sunday after each lab
- Pre-labs are due 11:59 PM on the Tuesday before each lab.
- ALEKS homework assignments are due each Friday at 11:59 pm (except Week 1).
- Activities & Explorations are due on Fridays at 11:59 PM.

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

## Attendance and Absences

This course follows Purdue's academic regulations regarding attendance. Only the course instructors (professors) can excuse a student from a course requirement or responsibility. **If you are absent, refer to the Absence module on Brightspace and take the relevant action step. It is the responsibility of the student to understand the absence policies and the steps to take should they need to miss class for any reason.**

**Under** academic regulations, excused absences may be granted by ODOS for cases of grief/bereavement, military service, jury duty, parenting leave, or emergent/urgent medical care (details below). Absences for professional development activities may be approved on an individual basis. These are the **only** excused absences in CHM 11200. To request makeup work or deadline extensions for excused absences, see the Absences module on Brightspace.

To account for unexcused absences (illnesses, trips, conflicts, or other situations), the lowest score in most grade categories (recitation, lab report, prelab, HW, activities & explorations, exam) is automatically dropped at the end of the semester. This includes internet or related technology issues that may have prevented you from completing or submitting an assignment. Students with unexcused absences are also eligible for one free lab make-up assignment per semester. This makeup must be requested through the Brightspace Absence Module before the time the lab begins. Refer to the Brightspace Absence Module and the Laboratory section of this document for details. No other makeup work or deadline extensions (i.e. for prelab, recitation, HW, or exams) are possible for unexcused absences.

## **Modified Attendance Accommodations**

Absence accommodations approved by the **Disability Resource Center** will be handled individually. Contact Leah Everly (leaverly@purdue.edu) for more information.

### **Grief Absence Policy for Students (GAPS)**

If you experience the death of a family member or close friend, fill out the form at <https://www.purdue.edu/advocacy/students/absences.html>. Refer to the Absence module on Brightspace for more information.

### **Military Absence Policy for Students (MAPS)**

If you are required to complete mandatory military training, fill out the form at <https://www.purdue.edu/advocacy/students/absences.html>. Refer to the Absence module on Brightspace for more information.

### **Medical Excused Absence Policy for Students (MEAPS)**

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

### **Professional Development Activities**

Absences due to professional development activities are evaluated on an individual basis and may be approved as excused. Documentation should be submitted to Leah Everly for evaluation ([leverly@purdue.edu](mailto:leverly@purdue.edu)) as soon as it is available, but no later than 1 week prior to the absence.

### **Required University Sponsored Activities (NCAA Athletics)**

Students participating in NCAA Athletics or other required university sponsored activities must provide travel letters or other documentation to Leah Everly ([leverly@purdue.edu](mailto:leverly@purdue.edu)) as soon as available.

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## **Overview of CHM 11200 Activities and Policies**

*\*\*\*For more detailed information, see the course Brightspace page.\*\*\**

### **Brightspace**

This is the learning management system (LMS) that we use in the course. We will post all the course resources on our Brightspace page and you will need to access this page multiple times each week. The course content is broken up into 5 main topics that are explained on the course lecture schedule at the end of this document.

### **Reading**

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

### **Lecture – in person!**

Lectures are conducted at 1:30 pm and 2:30 pm in WTHR 200 on T and Th. The PowerPoint slides for the lecture are posted on Brightspace. The lectures will be recorded (Boilercast) and linked on Brightspace as they become available. *Please DO NOT attend lecture at a time other than the one you are assigned to – each lecture section is completely full.*

Cell phones, computers, iPods or other electronic devices not being used for instruction purposes are

distracting for everyone in a learning situation. Remove your earpods when you come to class (yes, we can see that you have them in). Computers can be used to take notes and follow lecture, but you should not be using Facebook, X (formerly known as Twitter), SnapChat, Instagram, etc. during class. Talking out loud to classmates during lecture is distracting to other students and is disrespectful to the lecturer and your classmates. If you have a question please ask, but otherwise remain quiet and allow the students around you the opportunity to learn. Talking is encouraged, however, during active learning activities in the classroom.

### **Recitation (PSO) on Monday or Tuesday**

Your teaching assistant conducts a weekly in-person recitation designed to help you understand the upcoming laboratory and to discuss any questions you may have from lecture or the homework. Worksheets (recitation guides) containing relevant conceptual and numerical questions are provided each week. Your teaching assistant will facilitate group discussions over these problems.

### **Homework (ALEKS)**

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

Deadlines for completing the online assignments will be listed on the ALEKS assignment page, on Brightspace, and in the title of the homework. You will have a maximum of **three (3) submission attempts** to complete each homework assignment before the listed due date. Homework will be scored and recorded online and there is no hand grading or regrading of homework. Your **best score** is the one that is recorded (not the average).

### **Activities and Explorations**

These are graded activities where you might explore a simulation and learn more about the behavior of molecules or engage in writing about your understanding of a concept. For another, you might watch a demonstration video and answer questions about the demonstration. You will upload a pdf document with your answers to Brightspace which will ensure that we can see and grade your answers. There will be a 6 of these activities and your lowest score is dropped for a total of 100 points.

### **Surveys, In-Class Work, Discussion Posts**

There are 65 points of surveys, in-class work, and discussion posts that will be carried out in the semester.

### **Extra Credit**

I will use Top Hat during class to ask questions to check your understanding and to help inform my teaching in real time. I will award 10-20 points of extra credit for answering these questions.

### **Midterm Exams and Final**

There are three midterm exams for CHM 11200

- Monday, February 12, 6:30-7:30 PM, Elliott Hall of Music
- Tuesday March 19, 8:00-9:00 PM, Elliott Hall of Music
- Tuesday April 16, 8:00-9:00 PM, Elliott Hall of Music

The final exam will take place during the week of April 29 with the specific time announced later in the semester. Please do not make any travel plans until you know when the final exam will take place—final exams cannot be rescheduled to accommodate travel plans. We will announce seat assignments and other details via Brightspace. Bring your PUID, seat assignment, an appropriate calculator, 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.

Due to the size of the class, students with testing accommodations are expected to schedule and take their examinations through the DRC's Testing Center. Students are expected to respond in a timely manner and meet all communicated deadlines to schedule their examinations with the DRC testing center. Students

with accommodations who fail to respond and fail to schedule their test with the testing center may not be able to have all their accommodations met. Thus, it is critically important that all students read their Purdue email daily and respond in a timely manner to requests or directives, especially if you have accommodations related to testing.

- All exams have a free response portion to assess your ability to reason with concepts and create evidence-based arguments. We will practice through our activities and explorations and in class so you have a sense of the types of questions and level of response we are seeking. This will also be part of our laboratory activities.
- The free response portions will be graded by TAs and the professor in the course. Grading the free response portion takes time. Expect to see your exam score within one week of the exam date.

### **Laboratory**

Laboratory exercises are an integral part of CHM 11200 and are an opportunity for you to experience, in a hands-on way, the chemical concepts discussed in lecture. We will be using a Top Hat digital Lab Manual and BeyondLabz laboratory simulation program. Please follow the links emailed in the first week of class to purchase access and get connected to Top Hat/BeyondLabz.

### **Laboratory Expectations**

- Lab attendance is required since CHM 11200 is a laboratory course.
- **You are required to complete 10 of the 12 scheduled lab projects (see schedule at end of this packet) to maintain your grade in the course. Lab projects are completed by either attending lab (or performing online lab) and submitting a completed lab report or by submitting an approved makeup assignment following an absence. If you fail to complete more than 2 of the lab projects by missing laboratory, being asked to leave laboratory, or failing to perform the online lab, your final grade is lowered one letter grade. It will continue to be lowered one letter grade for each additional absence up to four absences.**
- **You must complete the online safety certification quiz in Brightspace with a score of at least 20/25 during lab check in or by 11:59 pm on Monday, January 15 at the latest.** You may not engage in in-person laboratory activities if you have not completed the safety certification.
- Follow all lab safety regulations (see below). These regulations may seem inconvenient, but they are **necessary for your safety and the safety of others in the lab.**
- Before lab, read the experiment and attend recitation to help you prepare.
- Complete the pre-lab exercises in Top Hat before coming to lab. Pre-labs are due at 11:59 PM on Tuesday before lab.
- 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 and this absence counts as one of your missed laboratories.
- Endeavor to work as an effective member of the team.
- Your lab report will be completed online. You should make sure to always:
  - Label graphs and tables.
  - Use the data you collected for the calculations and analysis.
  - Use correct units of measurement and significant figures.
  - Use chemical terms and concepts correctly.
  - Ensure results and conclusions are consistent with your data and observations.
- Lab reports are due on Sunday following lab at 11:59 PM.
- You will be able to review your graded lab reports online within 1-2 weeks after they are submitted. If you have questions about your grade, speak with your teaching assistant or the lab supervisor.

## Laboratory Policies

You will be sharing laboratory equipment with the students in laboratory. Students in CHM 11200 have a history of functioning as a responsible community. Your lab partners will depend upon your commitment to keeping the equipment clean and in good working condition.

- It is important that you do your part to maintain the equipment throughout the semester by cleaning all the pieces of equipment after use by washing with hot water, soap, and a brush, rinse with tap water, then rinse with deionized water (it's a 3-step process to get the glassware clean and you will have better experimental results with clean glassware).
- If you are responsible for a piece of equipment becoming un-useable i.e., the piece becomes chipped, cracked, stained, broken, etc., you must go to the storeroom (immediately) and purchase a replacement.–
- Should you discover that a piece of equipment is missing, first check with the other students in the lab and the lost and found box. If the piece is still missing, your group must replace it immediately. The storeroom staff can split the cost of a replacement among all or any number of lab partners.
- Often pieces of equipment are broken accidentally; for instance, a thermometer rolls off the bench and breaks. Replacing the thermometer is still the responsibility of the group and the storeroom staff can split the cost of a replacement among the lab partners.
- You will not have the opportunity to store personal items such as your goggles in the laboratory. Please remember to bring them to class.
- Failure to check out of your lab drawer at the end of the course, or if you drop the course and do not check out of your lab drawer, results in a \$45 fee + cost of replacement glassware being added to your account. In other words, it **costs \$45+ if you do not check out** of your laboratory drawer.

## Lab Safety Regulations

Students' safety in the laboratory is a priority and everyone is required to comply with the following safety regulations. Failure to comply will result in being sent home from lab with a score of zero, which counts as a lab absence.

- Dress appropriately (see below).
- Wear gloves when specified. Nitrile (non-latex) gloves will be provided in the laboratory.
- Food and beverages are not allowed in the labs. **(This includes water bottles.)**
- If your hair is longer than shoulder length you must tie it behind your head.
- Contact lens wearers are encouraged to wear glasses in the laboratory.
- Follow your instructor's guidance on appropriate handling of hazardous materials and disposal of chemical waste.
- Promptly clean up spills and tidy the laboratory before leaving.
- Proper dress (clothing, socks, and shoes) is required. Chemistry department regulations state that you must wear clothing in the laboratory that protects your skin. Your clothing must **cover you from your neck (collarbone) to your ankles (thus, you need socks, not footies, SOCKS)** when sitting, standing, or reaching. Your feet must be completely covered by your shoes.



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

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## Proper Lab Attire



**Unacceptable** clothing includes, but is not limited to:

- tops that are sleeveless, low-cut or V-neck (below the collar bone), bare midriff or tank-style
- see-through, transparent, or sheer clothing
- pants that are ripped or have **holes** in the fabric of any size
- tights or thin (translucent or transparent) **leggings**
- capri or cropped pants
- shorts
- skirts (unless they extend to the floor)
- open-toed and/or open-heeled shoes (including Crocs, Birkenstocks, or other clogs)
- sandals (with or without socks)
- boat shoes, ballet flats, slippers, moccasins, **or any shoe that doesn't cover the entire top of your foot, with or without socks**

If you come to lab wearing anything in the list above, you will be sent home and you will receive a zero for that lab (and that lab will count as a missed lab).

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

### Due Dates for Graded Course Components

- Sundays @ 11:59 PM – Lab Reports
- Tuesdays @ 11:59 PM – Pre-labs
- Fridays @ 11:59 PM – ALEKS Homework and Activities & Explorations

## Due Dates

The pace of the course is designed to help you make steady and productive progress toward the course learning objectives thus we expect all work (labs, homework, activities and explorations, etc.) to be submitted by the due date. Students are encouraged to avoid last-minute assignment submissions to minimize the possibility of technical or other issues that might prevent on-time submissions. **Extensions are only granted in alignment with university policies (GAPS, MAPS, MEAPS, Jury Duty, etc.) and DRC modified attendance/deadline extension policies.**

## Determining your Course Grade, Spring 2024

Each of the assigned course activities for CHM 11200 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) ALEKS homework score
- your lowest (1) lab score
- your lowest (1) Activity & Exploration score
- your lowest exam score (or ½ of your score on the final exam)

The total number of points for CHM 11200 will be distributed as follows:

ALEKS Homework .....	160 pts (best 12 of 13 @13.33 pts each)
Labs .....	275 pts (best 11 of 12 @ 25 pts each)
Activities and Explorations .....	100 pts (best 5 out of 6 @ 20 pts each)
Exams.....	300 pts (3 @ 100 pts each)
Final .....	200 pts
Surveys,in-class work, discussions. ....	65 pts
<b>Subtotal .....</b>	<b>1,100 pts</b>
<b>Drop (1) exam or ½ final .....</b>	<b>-100 pts</b>
<b>Total.....</b>	<b>1,000 pts</b>

At the end of the semester 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

Save copies of all work you turn in until after you have received your course letter grade for CHM 11200. To resolve any discrepancies, your paper(s) will need to be reviewed.

## **Where to send an email to get help?**

If you have a question here is who to contact through email:

<b>Communication or question about</b>	<b>Person to email</b>
Absences, accommodations, missed work, grading on Activities & Explorations	Leah Everly
Lab content & grading, course content, homework content questions	Your teaching assistant
Course content, homework content questions	Dr. Harwood, Nicholas Koehn
ALEKS issues	Dr. Harwood
Top Hat & BeyondLabz issues	Gil Gonzalez, Joy Wu
Lab content questions	Your TA, Dr. Harwood
Discussion question issues	Dr. Harwood

## Course Activities, Policies and Procedures

### Studying Chemistry

Expect to spend at least 8-12 hours per week on chemistry. This time includes reading course materials, listening to lectures, watching demonstrations, completing homework and assignments and explorations, and lab assignments.

### Sources of Help

There are several **free** sources of help for CHM 11200 students: (1) professor office hours, (2) TA office hours, and (3) SI sessions with Chloe and Rachel (4) [Chemistry Resource Room](#) located in WTHR 117 (5) [COSINE tutoring center](#) in Shreve C113B.

### Adding/ Dropping/Changing Sections

#### CHEMISTRY DEPARTMENT DEADLINES FOR ADDING OR SWITCHING SECTIONS

**Fri. Jan 12:** Last day to add CHM 11200 or switch lab sections *without* instructor approval.

**Fri. Jan. 26:** Last day to switch lab sections *with* instructor approval\*; last day to add CHM 11200 with instructor approval.\*

**Fri. Feb. 2:** Last day to switch from another CHM course to CHM 11200 *with* instructor approval.\*

#### UNIVERSITY DROP DEADLINES

**Mon January 22:** Last day to drop (cancel) a course via myPurdue without it appearing on your record.

**Fri April 12:** Last day to drop (cancel) a course (with a passing or failing grade).

*\*Submit request using Scheduling Assistant*

**Leaving the Course:** If you drop your laboratory course after having checked into a lab drawer, it is YOUR responsibility to check out of your assigned drawer during your scheduled lab period. You are encouraged to check out as soon as possible rather than waiting until the end of the semester.

**Failure to check out of lab will result in \$45 fee**, and forfeiture of the right to determine the acceptability of all drawer equipment.

**Late Registration** If you register late, notify Mrs. Leah Everly within 24 hours of registration to see about the possibility of making up missed assignments.

### Emergencies

In the event of a major campus emergency, course 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 11200 will be posted on the course Brightspace site or can be obtained by contacting the instructors or TAs via email or the General Chemistry office via phone at 765-494-5250. You are expected to read your @purdue.edu email on a frequent basis.

**Again: You are expected to read your @purdue.edu email on a frequent basis.**

**“Shelter in Place”** means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, earthquake, release of hazardous materials in the outside air, active shooter, building intruder, or a civil disturbance. If you hear the **All Hazards Outdoors Emergency Warning Sirens** or are notified via text or other means, immediately go inside a building to a safe location and use all communication means available to find out more details about the emergency. **Remain in place** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave. There is no “all safe siren;” the notification will come via text, internet, or email announcement.

## Accessibility and 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](http://www.purdue.edu/drc). **To implement accommodations, you must submit your “Course Accessibility Letter” to all sections (CRNS) of the course in which you are enrolled (lecture, lab, and recitation) via the AIM system at least one week before an exam or assessment for which accommodations are desired.** Additional instructions may be provided by the Disability Resource Center which must be followed as well. We may also require an in-person or virtual meeting to discuss certain accommodations. If you have any questions or concerns about your accommodations for the course, please reach out to Leah Everly ([leverly@purdue.edu](mailto:leverly@purdue.edu)).

**Due to the size of the class, students with testing accommodations are expected to schedule and take their examinations through Purdue Testing Services. Students are expected to respond in a timely manner and meet all communicated deadlines to schedule their examinations (including the final) with the testing center. Students with accommodations who fail to respond and fail to schedule their test with the testing center may not be able to have all their accommodations met. Thus, it is critically important that all students read their Purdue email daily and respond in a timely manner to requests or directives, especially if you have accommodations related to testing.**

*Implementation of accommodations may not be possible if insufficient notification is given.*

## Academic Integrity Statement and Consequences

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing [integrity@purdue.edu](mailto:integrity@purdue.edu) or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.” Please read <http://www.purdue.edu/odos/osrr/academic-integrity/index.html>.

In CHM 11200, academic integrity means “doing your own work” at all times. Discussion of chemical concepts and problem-solving methods is encouraged but sharing your answers and work on social media for the express purpose of letting other students copy it is not acceptable. Such a use of technology does not help you learn and is considered academic dishonesty.

Using online resources such as Chegg to gain answers to any graded assignment (including homework, labs, activities, and explorations, capstones, etc.) is *not* allowed. Posting any course materials to websites is a violation of copyright laws and is not allowed. Instructors can obtain user information from Chegg and other sites when inappropriate course material is posted and investigate it.

Consequences of academic dishonesty include receiving a lower or failing grade for an assignment, being required to repeat the assignment, receiving a lower or failing grade for the course and/or dismissal from the University. Incidents of academic integrity are referred to the Office of the Dean of Students. A student accused of academic dishonesty will be afforded due process as defined by Purdue University procedures.

## **CHM 11200 Artificial Intelligence (AI) Usage Policy**

Artificial intelligence (AI) and large language learning model (LLM) tools such as ChatGPT, Bard, Claude, etc. can assist in providing explanations and suggestions and are great resources for brainstorming ideas. They can be very useful when used correctly. AI can help you improve your skills and knowledge, but it cannot replace your creativity, critical thinking, or judgment. It is best to use AI as a supplement to your learning, not just to produce content. Keep in mind that AI does not discriminate between fact and fiction. Information provided by AI can be inaccurate or incomplete.

This course has an AI full disclosure policy. If you use AI as part of your work in this class, please explicitly describe how you used it and provide a link to your chat history.

AI tools should not be used for direct answers to graded assignments in this course and you should not submit AI-generated content as your own work. I consider this to be a form of cheating and plagiarism. If your AI use appears to entail plagiarizing, I will contact you directly to talk about how to use AI in an acceptable way and we will discuss any possible penalties at that time. If you are uncertain about whether a particular use of AI is acceptable, just ask me.

## **Purdue Honors Pledge**

We support and affirm the academic integrity of Purdue in accordance with the Purdue Honors Pledge : “As a Boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together – we are Purdue.” <https://www.purdue.edu/provost/teachinglearning/honor-pledge.html>

## **Diversity Welcome**

We believe every student in this course has something of value to contribute. Please take care to respect the different experiences, beliefs and values expressed by students and staff involved in this course. We support Purdue's commitment to diversity, and welcome individuals of all ages, backgrounds, citizenships, disabilities, education, ethnicities, family/parental statuses, genders, geographical locations, languages, military experience, political views, races, religions, sexual orientations, socioeconomic statuses, and work experiences.

See: <http://www.purdue.edu/diversity-inclusion/>

## **Nondiscrimination Statement**

Purdue university is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages everyone to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange ideas, and enriches campus life. Purdue's nondiscrimination policy:

[https://www.purdue.edu/purdue/ea\\_eou\\_statement.php](https://www.purdue.edu/purdue/ea_eou_statement.php).

## **Mental Health and Wellness Statement**

**If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try [WellTrack](#).** Sign in and find information and tools at your fingertips, available to you at any time.

**If you need support and information about options and resources,** please contact or see the [Office of the Dean of Students](#). Call 765-494-1747. Hours of operation are M-F, 8 am- 5 pm.

**If you find yourself struggling to find a healthy balance between academics, social life, stress,** etc. sign up for free one-on-one virtual or in-person sessions with a [Purdue Wellness Coach at RecWell](#). Student coaches can help you navigate through barriers and challenges toward your goals throughout the semester. Sign up is completely free and can be done on BoilerConnect. If you have any questions, please contact Purdue Wellness at [evans240@purdue.edu](mailto:evans240@purdue.edu).

**If you're struggling and need mental health services:** Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact [Counseling and Psychological Services \(CAPS\)](#) at 765-494-6995 during and after hours, on weekends and holidays, or by going to the CAPS office on the second floor of the Purdue University Student Health Center (PUSH) during business hours.

## **Basic Needs Security**

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. There is no appointment needed and Student Support Services is available to serve students 8 am-5 pm Monday through Friday. Considering the significant disruptions caused by the current global crisis as it related to COVID-19, students may submit requests for emergency assistance from the [Critical Needs Fund](#).

The campus also has a food pantry open to the entire Purdue community: *The [ACE Campus Food Pantry](#)*

## **Course Evaluation**

Toward the end of this semester, you will be provided with an opportunity to give feedback on this course and your instructor. Purdue uses an online course evaluation system. You will receive an official email from evaluation administrators with a link to the online evaluation site and will receive a prompt to complete the survey when you login to Brightspace. Your participation is an integral part of this course, and your feedback is vital to improving education at Purdue University. We strongly urge you to participate in the evaluation system because it helps us improve the course!

## **Disclaimer**

This syllabus is subject to change. You will be notified of any changes as far in advance as possible via an announcement on Brightspace. Monitor your Purdue email daily for updates.

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For details about other Purdue University policies, including academic integrity, class attendance and absence reporting, emergency, nondiscrimination, and disability services, see the course Brightspace site.

## Lecture, Lab, & Exam Schedule

Topics: Intermolecular Forces (IMFs); Acids, Bases; Buffers, titrations, Lewis Acids/bases;

Kinetics = Rates of reactions; Oxidation Reduction Reactions

### Chemistry 11200

Week	Date	Lecture Topic	Reading (textbook)	Video Lectures (required)	Laboratory* (Top Hat laboratory manual)	Exams
1	9-Jan	Introduction			Check-in to your laboratory drawer in person. Complete safety certification if you have not done so.	
	11-Jan	Intermolecular Forces	11.1-11.2: pp 463-464			
2	16-Jan	Intermolecular Forces Phase Changes	11.2: pp 465-469; 11.8: pp 495-498	Liquid Properties 11.3: pp 469-474	No laboratory during week 2, compensation for evening exams.	
	18-Jan	Solutions & Solubility	12.1-12.3: pp 514-522			
3	23-Jan	Intermolecular Forces Applications	12.4: pp 522-524	Solution Properties 12.6-12.7: pp 527-540 Colloids 12.8: pp 541-543	L1: Intermolecular Forces (IMFs) Introduction (online)	
	25-Jan	Equilibrium	14.1-14.2: pp 617-620			
4	30-Jan	Acids and Bases	15.1-15.2: pp 661-664		L2: IMFs Applications	
	01-Feb	Acids and Bases – pH	15.3: pp 664-669			
5	06-Feb	Weak Acids and Bases	15.4-15.5: pp 670-681	Polyprotic Acids 15.8: pp 684-688	L3: Antacid analysis	
	08-Feb	Weak Acids and Bases	15.6-15.7: pp 681-684			
6	13-Feb	Salt Solutions & pH	15.10: pp 692-697	Structure & Acid Strength 15.9: pp 688-692	L4: Understanding pH (online)	<b>Exam 1 12-Feb 6:30 PM ELLT</b>
	15-Feb	Common Ion Effect; Buffers	16.1-16.2: pp 715-719			
7	20-Feb	Buffers	16.3: pp 719-723		L5: Describing Acids	
	22-Feb	Buffers	16.3: pp 723-724			
8	27-Feb	Titrations	16.4: 724-728		L6: Preparation of Buffers and Buffer Capacity	
	29-Feb	Titrations	16.4: 728-732			

**Chemistry 11200**

Week	Date	Lecture Topic	Reading (textbook)	Video Lecture	Laboratory (Top Hat laboratory manual)	Exams
9	05-Mar 07-Mar	Buffer/Titration Applications Lewis Acids/Bases	15.12: pp 699-701	Lewis Acids/Bases; 15.12: pp 699-701	L7: Acid-Base Titrations	
10	11-15 Mar	<b>Spring Break!</b>				
11	19-Mar 21-Mar	Kinetics Kinetics	13.1: pp 557-564 13.2: pp 565-568		L8: Workup of Acid-Base Titrations	<b>Exam 2 19-Mar 8:00 PM ELLT</b>
12	26-Mar 28-Mar	Kinetics Kinetics	13.3: pp 569-576 13.3: pp 576-581		L9: Factors Influencing Rates of Reactions	
13	02-Apr 04-Apr	Kinetics Kinetics Applications	13.4: 582-583 13.6: pp 594-599	Reaction Mechanisms 13.5: pp 588-593	L10: Chemical Kinetics	
14	09-Apr 11-Apr	Redox Redox	18.1: pp 807-808 18.1: pp 807-808	Oxidation Numbers Review 4.4: pp 138-140	L11: Lab Report Workup – Chemical Kinetics	
15	16-Apr 18-Apr	Redox Redox Applications	18.1: pp 808-810 18.7: pp 832-835		L12: Redox of Metals and the Activity Series	<b>Exam 3 16-Apr 8:00 PM ELLT</b>
16	23-Apr 25-Apr	Redox Applications Final Exam Review			Laboratory Check Out	
17	29-Apr 04-May	Final Exams Begin Final Exams End Saturday Evening				<b>Final Exam Day/Time TBA</b>

\* All labs are in-person unless otherwise indicated.