CHM 11510 Course Syllabus Summer 2026

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Course Description

Chemistry 11510 is the foundational general chemistry course for engineering, science, and some agricultural majors. The stated minimum prerequisite for CHM 11510 is one year of algebra and one year of chemistry.

At the beginning of the course, you will have a chance to review your high school chemistry using several resources. Topics covered during the semester will include nuclear chemistry, quantum theory and atomic structure, periodic trends, thermochemistry, models in bonding, shapes of molecules, intermolecular forces, organic chemistry, synthetic and biological polymers, infrared spectroscopy, and liquids, solids and phase changes. Detailed learning objectives for each unit will be posted.

The course has been designed and structured so that in addition to the treatment of the concepts and topics listed above, there is a simultaneous emphasis on development of problem-solving skills. Virtual laboratories offer an opportunity to reinforce and extend what is discussed in lecture, explore new topics, and to develop your knowledge of chemistry laboratory skills.

The Chemistry 11510 team—the professor, teaching assistants, administrative assistants, and preparations lab staff—are committed 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 recitation schedule, recommended ways to study, lab policies, grading, and other course policies and procedures.

CHM 11510 is a 3.000 credit course and meets the science requirement of the university's foundational core.

All times in this syllabus and further mentioned throughout this course are in **Eastern Standard Time** (the time zone in which **Purdue University is located**).

To satisfy most any General Chemistry requirement at the major, college, or even university level, the vast majority of students taking General Chemistry need both the lecture and lab and therefore should enroll in both CHM 11510: Lecture (3cr) and either CHM 11520: In-

person lab (1 cr) or CHM 11530: Virtual lab (1 cr). Consult with your advisor to determine which of CHM 11520 or CHM 11530 is best for you.

Course Structure and Technology:
Brightspace: Place for your grades and a copy of the syllabus. E-mail announcements to the class come via Brightspace.

Microsoft Teams: Live lectures, lecture recordings, office hours, and lab assignments will be conducted via Teams.

Microsoft OneNote: Class Lecture notes are available on OneNote.

Achieve: Online homework and extra-credit are completed in Achieve.

Variate: The three exams and final exam are completed in Variate. Students will be required to use Respondus LockDown browser when taking all exams.

Please note that all required technologies, including access to a stable internet connection during all class activities, are your responsibility as the student.

Required Materials
Textbook: The textbook used in CHM 11510 is *Chemistry: The Molecular Nature of Matter and Change*, 10th edition, by Silberberg and Amateis.

Achieve: In CHM 11510, you are required to complete homework online using the Achieve program. You can purchase instant access via the link on Brightspace. Achieve has a built-in AI tutor, which you are allowed to use to aid you with your homework assignments.

Stable internet connection and a laptop capable for running the Respondus lockdown browser.

Overview of CHM 11510 Activities and Policies

Mental Health
If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try Therapy Assistance Online (TAO), a web and app-based mental health resource available courtesy of CAPS. TAO is available at any time by creating an account on the TAO Connect website or downloading the app from the App Store or Google Play.

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 free and can be done on BoilerConnect.

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. The CAPS website also offers resources specific to situations such as COVID-19.

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 a.m.-5 p.m. Monday through Friday.

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/

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 submit your "Course Accommodations Letter" (CAL) 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 the accommodations are desired. Additional instructions may be provided by the Disability Resource Center which must be followed as well. We may also require a virtual meeting to discuss certain accommodations. Instructions on how to submit your CAL to your course instructors can be found here: https://www.purdue.edu/drc/students/course-accessibility-letter.php

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 11510 will be posted on Brightspace and shared via announcements and email.

You are expected to read your Purdue email on a frequent basis.

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

Academic Integrity
All students are expected to be familiar with Purdue's policies on academic integrity (https://www.purdue.edu/odos/academic-integrity/).

"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 11510, 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**.

Online exams in CHM 11510 are open book and open note; however, all collaboration with others (such as GroupMe, Zoom, discussion boards, text, in-person, etc.) during a quiz or exam is prohibited.

Using online resources such as Chegg to gain answers to any graded assignment (including homework, labs, quizzes, and exams) is *not* allowed. Posting course materials to websites is a violation of copyright laws and is *not* allowed. The CHM 11510 instructors can obtain user information from Chegg and other sites when inappropriate course material is posted. This information will be investigated.

Artificial Intelligence (AI), Large Language Models (LLM), or similar generative technologies are not needed to complete this course. The use of these technologies to generate answers (written or math-based) is prohibited.

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 syllabus is a contract between CHM 11510 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.

Students who observe an issue of academic integrity can report it to the Office of the Dean of Students (https://www.purdue.edu/odos/ - use the General Incident Report to report anonymously), call 765-494-8778 or email integrity@purdue.edu.

How to Study for CHM 11510

It will take you at least two hours on your own for every hour we spend online in order to study and learn the material. This means you will spend about 8-12 hours of distraction-free studying and working with chemistry each week. You may spend this time reviewing and annotating your lecture notes, reading the text, doing homework, working practice problems, studying for quizzes, 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 perform well.

Before Viewing Lecture Recordings

- 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 social media, 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.**

While Watching Lecture Recordings (Attending the live lectures is preferred!)

- 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 on all the problems that the professor presents.
- Write a question mark next to things you don't understand so you can return to them later.
- Use shorthand or abbreviations so that you can write quickly, but understandably.
- Turn off distractions (i.e. TV, other HW, social media, etc.).
- Keep up with lecture recordings. Chemistry is cumulative. What is presented tomorrow depends upon your knowledge of what was covered today.
- Turn on closed captioning to help ensure you hear what your instructor is saying.

After Watching Lecture Recordings

- Review your notes while things are still fresh in your mind.
- Re-watch parts of the lecture recording to fill in gaps.
- Attend virtual office hours held by course instructors and teaching assistants (TA) on Teams to ask questions and get help. See the office hours schedules in the Resources section of Brightspace.

When Should I do the Homework?

- Do some work in chemistry every day.
- Review your class notes and the assigned pages in the textbook *before* you attempt any of your homework problems.
- Seek help during recitation, office hours, or scheduled online meetings.

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 11510 students. Dr. Budhi will hold office hours on Teams twice per week, The days/times of these office hours will change weekly to accommodate students in various locations/time zones and will be communicated with the class at least 24 hours in advance.

TAs will also hold office hours on Teams. Their schedule is as follows:

Monday, 5-6 PM
Tuesday, 12:00-1:00 PM
Wednesday, 8:00-9:00 PM
Thursday, 6-7 PM
Friday, 6-7 PM
Saturday, 12-1 PM

Additionally, we encourage you to utilize Microsoft Teams as a discussion board. Post any general content questions there to receive responses from either Dr. Budhi or fellow students. Please do not use Microsoft Teams to ask for answers on any assignment.

Learning Objectives

- Reading assignments are listed on page 10 and will also be provided with the lecture recordings on Teams. Reviewing 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.

Lectures

- CHM 11510 is completely online, with no in-person content.
- The preferred method for attending lectures is ***synchronous*** attendance -- you attend lectures as they are broadcast live, with the opportunity to post questions in chat or ask questions via audio/video.
- Live, synchronous lectures are every MTWTh, 8:40 - 9:30 a.m. EST (Purdue time).
- However, while you are encouraged to attend lectures synchronously, you are not required to do so. Instead you may watch recordings of the lectures. Lectures will be recorded and posted on the Teams site called CoS-CHM11510-Lecture-Sum25.
- The course consists of 10 units. See the course schedule at the end of this syllabus. There will be a homework assignment that accompanies each unit.
- You can watch the lecture recordings and/or you can view the instructor's notes in a static format on OneNote.
- If you have questions, please bring them to office hours, or schedule an online meeting with the course instructor.

Recitation

- A recitation session for 45 minutes will be held twice a week. The timing for the recitation will be

announced at least a day in advance

- Recitations will be recorded on Teams. If you cannot attend the recitation synchronously, you may watch the recitation video recordings. You will not be penalized for choosing to watch the recording instead of attending recitation synchronously.
- Note that it is not your instructor's responsibility to provide you with answers to homework problems. Rather, they are expected to guide you to the correct solutions, help you identify mistakes, and add details to help you further understand concepts.

Homework (Achieve)

- There is one online homework problem set in Achieve per unit. The due dates for the homework sets are listed on the schedule at the end of this syllabus.
- You will have five attempts for each question in an assignment. There is a 5% penalty for each failed attempt.
- Each homework assignment is worth 15 points. **The one lowest homework score will be dropped at the end of the semester.** This policy is meant to cover instances of technology issues, minor illnesses, or other extenuating circumstances that may result in your missing a homework assignment or performing poorly on a homework assignment.
- Late homework assignments will be accepted for up to 24 hours past the due date. Late responses will be subjected to a 50% deduction penalty.
- Exams are likely to include questions similar to those from homework assignments.
- For help with technical issues, contact Achieve 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 Achieve.

Exams

Exams:

- are worth 100 points each
- consist of multiple-choice and numeric entry (calculations) questions
- have one attempt, i.e., must be completed in one sitting; do not start the exam until you are ready
- have a 75-minute time limit. (Students with extended time through the DRC will be accommodated.)
- are usually open/available for a 24-hour period, i.e., 9:30 AM (EST) – 9:29 AM (EST) the following day. This time period may be adjusted due to course circumstances.

- **Exams are closed book and any use of physical resources such as class notes, textbook and online resources (Internet resources) and collaboration with others (such as Group Me, Zoom, Chegg, discussion boards, text, in-person, etc.) during an exam is prohibited. Use of secondary electronic devices such as cell phone, a laptop or computer besides the device that you are using to take the exam are prohibited. Consequences of academic integrity violations can include failing the course and in some cases removal from the university.**
- Exams are conducted in Variate Platform, and a Respondus Lockdown browser is required to take the exam.
- You have 75 minutes to complete the three exams. Once you begin the exam, the time counter begins.

- Students who are pre-approved for DRC accommodations will automatically receive the approved accommodation on their test.
- It is my estimation that the exam can be completed by most students in about 60 mins. Nonetheless, you have 75 mins to complete the exam, and this time limit should account for any technology mishaps that cause you to have to re-log back into Variate.
- If you reach the end of the exam period (9:29 AM of the following day since I opened the exam) the exam will continue until you have used your 90 minutes allotted for the exam.
- **If your computer crashes, your browser stalls, or your internet connection quits, you may log back into Variate and continue the exam. However, your 75 minute time limit continues despite any technology mishaps.**
- Zero scores caused by absences that are ODOS approved absences will be handled individually.

Final Exam

The final exam is comprehensive and is worth 200 points. The same rules for exams apply to the final exam. The duration of the final exam is 150 minutes.

Determining Your Course Grade

The total number of points for CHM 11510 will be distributed as follows:

Homework	135 pts	(best 9 of 10 assignments at 15 pts each)
Variate Practice Exam	5 pts	
Review Topics Quiz	10 pts	
Exams	300 pts	(3 at 100 pts each)
Final Exam	200 pts	(comprehensive)
Total	650 pts	

One low score hour exam or half of the final exam will be dropped.

Your letter grade is determined by a percentage of points out of 550 (rounded to the nearest 0.1%)

Grading Scale (% out of 400 total pts):

93.0% - 100%	A
90.0% - 92.9%	A-
86.0% - 89.9%	B+
83.0% - 85.9%	B
80.0% - 82.9%	B-
76.0% - 79.9%	C+
73.0% - 75.9%	C
70.0% - 72.9%	C-
66.0% - 69.9%	D+
63.0% - 65.9%	D
60.0% - 62.9%	D-
Below 60%	F

UNIVERSITY AND COURSE POLICIES

Attendance and Absences

Only the instructor can excuse a student from a course requirement or responsibility. When conflicts can be anticipated, such as for many University-sponsored activities and religious observations, or an unavoidable situation (serious illness, etc.) the student should inform the instructor of the situation as far in advance as possible.

The lowest score in HW 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. This includes internet or related technology issues that may have prevented you from completing a lab, homework, or quiz. If you have concerns about how an absence will affect your course grade, contact your instructor.

Absence accommodations approved by the **Disability Resource Center** will be handled individually. Contact the General Chemistry office (genchem@purdue.edu) for more information.

Verified grief, military, parental leave, and medically excused absences are the **only** universally excused absences in CHM 11510.

For cases that fall under the University excused absence regulations – Grief/Bereavement, Military Service, Jury Duty, Parenting Leave, or the Medically Excused Absence Policy for Students -- you or your representative must go to the Office of the Dean of Students (ODOS) website to complete appropriate request forms. ODOS reviews these requests and, if granted, will notify all your instructors.

Course Drop Dates

https://catalog.purdue.edu/preview_program.php?catoid=16&poid=27603

Additional content, including Student Support and Resources as well as University policies and statements, can be found on the course Brightspace page and is considered to be a part of this syllabus per Purdue policy.

Unit	Class Dates	Lecture Topic 8:40 – 9:30 a.m (Eastern Time)	Relevant Text Sections	Exam Schedule (24 hour window)	HW Due Dates
1	Mon, June 15 Tues, June 16	Introduction to Course Intro and Review	Syllabus Various from Ch. 1 -4		
2	Wed, June 17 Thurs, June 18 Mon, June 22	Review Topics Nuclear Chemistry Nuclear Chemistry	24.1 24.2 24.6-24.7		 HW 1 Due
3	Tues, June 23 Wed, June 24 Thurs, June 25 Mon, June 29	Nuclear Chemistry Thermochemistry Thermochemistry Thermochemistry	6.1-6.2 6.3-6.4 6.5-6.6		 HW 2 Due
4	Tues, June 30 Wed, July 01 Thurs, July 02 Mon, July 06	Quantum Theory Atomic Structure Atomic Structure Spectroscopy	7.1-7.4 7.1-7.4 7.1-7.4 pp. 304-5; 378-9; 4.1	 Exam 1: Units 1 - 3	HW 3 Due
5	Tues, July 07 Wed, July 08 Thurs, July 09	Periodic Trends Periodic Trends Chemical Reactivity	8.1-8.2 8.1-8.2 8.3-8.4		 HW 4 Due
6	Mon, July 13 Tues, July 14 Wed, July 15	Bonding Bonding Bonding	2.6-2.7; 9.1-9.2 9.3-9.4 9.5-9.6		 HW 5 Due
7	Thurs, July 16 Mon, July 20 Tues, July 21	Molecular Shapes Molecular Shapes Molecular Shapes	10.1 10.2 10.3	Exam 2: Units 4 – 6	HW 6 Due
8	Wed, July 22 Thurs, July 23 Mon, July 27	Organic Chemistry Organic Chemistry Polymers	11.1-11.2 15.1-15.2 15.5-15.6; p. 513-17		HW 7 Due
9	Tues, July 28 Wed, July 29 Thurs, July 30	Intermolecular Forces Intermolecular Forces Intermolecular Forces	12.1 13.1 12.1; 13.1; p. 670		HW 8 Due
10	Mon, Aug 03 Tue, Aug 04 Wed, Aug 05	Solutions Solutions Review Session, Time TBD	12.3 13.5	Exam 3: Units 7 - 9	HW 9 Due HW 10 Due

Final	Fri, Aug 06	Final Exam		Final Exam	