CHM 101, Section 0005: General Chemistry 1 Lecture
Fall 2025 Course Syllabus

Course Meeting Time: MWF 12:00-12:50pm, Beaupre 100

Instructor: Justin S. Pantano, Ph.D. (he/him/his)
Course TAs: Omid, Maggie, and Solaleh

Instructor Contact Information

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Office: Beaupre 117E (accessible through Beaupre 115)
Student Hours: general open-door policy, with appointments available through Starfish

Syllabus Description and Purpose

This syllabus covers course policies and describes what you should expect out of being a participant in this course. By staying in this section of this course, it is assumed you understand and will abide by the course policies stated herein. During the first week of class, there will be an introductory assignment administered via Brightspace, covering course policies found in this syllabus. You must attend the first two course meetings as well as complete this introductory assignment satisfactorily or you risk being dropped from the course.

Course Description

Chemistry is a study of abstract concepts that connect what we can see with the naked eye to the small particles we cannot see. CHM 101 is the first course of a two-semester General Chemistry sequence designed to introduce a variety of concepts and principles that are fundamental to the study of chemistry, including matter, stoichiometry, reactivity, atomic structure, thermochemistry, chemical bonding, molecular structure, and solutions. This course places a significant emphasis on mathematical skills and quantitative problem solving.

Course Goals and Student Learning Outcomes

Upon successful completion of this course, you should be able to:

- Understand the chemical principles associated with the atom, such as atomic theory, electronic configuration, and quantum numbers.
- Understand periodic trends, such as electronegativity, ionization energy, electron affinity, physical properties, and atom and ion sizes.
- Realize quantitative relationships in chemical processes, such as the mole, molas mass, empirical formulae, balancing equations, net ionic equations, gram to mole conversations, yields, and mole ratios.
- Understand factors that affect bonding patterns in compounds.
- Understand principles governing solutions and the means of expressing concentrations, such as molarity, molality, mole fractions, and mass percents.
- Learn about oxidation-reduction reactions and how to determine oxidation states.
- Understand thermochemistry, such as the first law of thermodynamics, heat, work, enthalpy, systems, and surroundings.
- Learn the principles that govern gases, such as the gas laws, the ideal gas equation, and Dalton's law of partial pressures.
- Interpret mathematical relationships and be able to correctly solve a chemical word problem using algebraic skills and a scientific calculator.
- Use periodic trends to predict properties of substances; predict reaction products and balance chemical reactions; estimate physical properties based on intermolecular forces of attraction; determine energetics involved in chemical and physical processes.
- Differentiate between factors that affect chemical processes; integrate various chemical principles to predict reaction outcomes; employ stoichiometry and dimensional analysis for quantitative relationships in chemical changes

Learning Materials (including textbook and technology requirements)

- Textbook: *Chemistry: Atoms First*, Burdge and Overby, 5th Edition
  - Either a physical or an electronic copy will be suitable.
  - As dense as they are, textbooks are exceptional resources with many additional problems and discussions of the topics we discuss in class. You should refer to the text frequently outside of class.
- **REQUIRED** Online Homework System: McGraw Hill's ALEKS platform
  - Regular homework assignments will be assigned through ALEKS. More detailed information, including purchasing options, will be on the course Brightspace site.
- The course Brightspace site
  - Announcements, grades, and class materials are posted to Brightspace. You are responsible for material posted to Brightspace, and you should be checking it regularly.
    - Class materials may include problem sets, ***partial*** lecture slides, assignments, and other study aids. Note that the partial lecture slides posted are an outline that you can use during class time to reinforce the concepts we discuss. However, they are not a substitute for regularly attending class and will not supply all information you'll need to successfully pass this course. For example, example problems we solve together are in these slides, but the solutions will not be included.
- **REQUIRED** Scientific calculator: CHM 101 is a math-intensive course, and a scientific calculator is an essential tool for lecture, assignments, and exams. Graphing calculators that can access the internet or store PDF files will not be allowed on exams. There may be a small number of basic scientific calculators available for use during exams.
- You will need the following technology:
  - Reliable internet access from a machine capable of supporting Brightspace. If you do not have a device of your own, there are computers available for use at the library.
  - You should also have access to Microsoft Office and Adobe products through your URI SSO portal.
  - Access to a printer, for printing out documents from Brightspace or for submission. There are various locations on campus where you can print using your RAM Account, found here.

Course Grade Calculation

This course grade is based on the grades achieved on the following deliverables.

Three (3) Semester Exams	50%
Homework Assignments via ALEKS	15%
Chapter Preview Assignments via Brightspace	10%
Participation Problems	10%
Cumulative Final Exam	15%
Total	100%

The numerical average shown guarantees at least the corresponding letter grade:

Letter Grade	Numerical Average	Letter Grade	Numerical Average
A	93	C	73
A-	90	C-	70
B+	87	D+	65
B	83	D	60
B-	80	F	0
C+	77		

Please note that you need a minimum of a C- to move forward to other courses within the Chemistry department that require this course as a pre-requisite.

If you wish to calculate your course average on your own, use the following equation:
Course Average = (exam average * 0.65) + (ALEKS HW average * 0.15) + (Preview assignment average * 0.10) + (Participation average * 0.10)

Course Deliverables

- ***Exam Format and Rules***

Exams in this course will *typically* be a mixture of short answer and multiple choice, though they can also be either completely short answer or multiple choice. They are closed book and closed note. You should consider all exams cumulative, as each exam will require knowledge of content discussed in previous chapters. More specific exam material will be posted on Brightspace as exam dates approach.

You will be assigned a seat in Beaupre 100 for all exams, and an exam with your name and student ID number will be waiting at that assigned seat for you. This means that if you do not sit in your assigned seat, you will receive a zero for the exam. On exam days, please wait outside the classroom until allowed in. You should bring a black or blue ink pen and your URI ID to each exam. Your URI ID will be checked as you submit your exam to ensure the correct student is taking the exam. You may not have any electronic device with you while taking exams – including wireless headphones, smart watches, or any other devices that have internet capability. **If you are found with any of these devices during an exam, you will get a non-negotiable grade of zero for the exam**.

All exam dates may be found on the tentative schedule towards the end of this course syllabus. If the University is closed on a scheduled exam day, the exam will be given during the next class session.

Any errors in grading must be brought to my attention in writing within 48 hours of the graded material being made available to the class. Due to time constraints, exams will not be returned in class, so you will have to pick up your graded materials from my office once I make them available. After 48 hours, **no changes in exam grades will be made.** Any requests for regrading will subject the entire exam to be regraded. Exams must be written **only** in non-erasable ink to qualify for regrading. That means that if there is any pencil, the exam will not be reconsidered.

Alternative testing arrangements for anyone with DAI accommodations, those serving in the military, anyone participating in university-sanctioned events, or those observing religious holidays require written notification, via your URI email, and must be made at least one full week **prior** to the scheduled exams. These exams will be taken at the University's Academic Testing Center (ATC) and will require you to register for a testing time. You will receive instructions regarding alternative testing arrangements after you inform me of your need for them. Do note that arrangements take time to coordinate, so it may be more difficult to do so without the requested advance notice.

- ***Homework Assignments (HW) via McGraw Hill's ALEKS Platform***

Homework assignments will be delivered through the McGraw Hill ALEKS platform, with one assignment corresponding to each chapter that is covered. You have unlimited attempts to work on each assignment before its submission deadline but have a limited number of attempts for each individual question. You can try each assignment as many times as you like to get the best score possible. The best overall score of your attempts is the grade that will be recorded. Tentative assignment deadlines are posted with the course schedule at the end of this syllabus, but all assignment updates will be made through the ALEKS platform. You should not wait until the deadline approaches, as these assignments may run long and you may not finish in time. I encourage you to work together with fellow classmates to practice problem solving with these assignments!

- ***Chapter Preview Assignments via Brightspace***

Before we begin each chapter, there will be short preview assignments within Brightspace to encourage you to look at the course material before we discuss it in more detail. All information needed for these assignments will be available in the notes posted, and you should have them with you while working on these problems. For these assignments, you are only allowed one attempt, and it will be due before we begin that chapter. The due dates for these will be on Brightspace and depend on the pace of the class. The course policy assignment will be included in these grades. The lowest preview assignment grade will be dropped.

- ***Participation Problems***

Effectively learning chemistry requires actively engaging with the material. Periodically throughout the course, you will be assigned problems that you will be able to work on in a low-stakes environment (such as working with your classmates or with your notes available to you), rather than the environment expected during exams. These may be given either physically (as a written problem during class time) or electronically via Brightspace (outside of class time) and have relatively short time limits due to the length of time available in class. These may be announced ahead of time or given spontaneously with no notice. The lowest grade will be dropped/excluded from your grade to accommodate the potential for absences.

Incomplete Policy

Incomplete grades cannot be assigned except in the case of a real emergency. Any grade of Incomplete must be approved by the department chair and the dean. In order to receive an Incomplete, **your coursework must have been passing,** and you **must have completed at least half of the coursework for the semester**. For our course, half of the coursework means: completion of two (2) semester exams, completion of six (6) ALEKS homework assignments, and completion of six (6) Brightspace chapter preview assignments. Anyone receiving a grade of Incomplete must make the necessary arrangements with me to complete the remaining work prior to the following mid-semester, in accordance with the University manual. Should there be no arrangements made by that point, or if the Incomplete is not resolved during the stipulated arrangement, the grade of Incomplete may be replaced with a standard letter grade calculated for you based on the work completed and including zeroes for any work not completed.

Due Date, Attendance, Extra Credit, and Missed Exam Policy

Due dates and deadlines are **strict** in CHM 101. Please adhere to the posted deadlines for assignments and exams. Please do not wait until the last minute possible – you may encounter issues that may lead to missed assignments. **No individual extensions will be provided for assignments in this course** – it is your responsibility to ensure that you know when assignments are due and to manage these deadlines appropriately. Most homework assignments via ALEKS may be submitted late up to one week past the scheduled due date, with a 5% penalty for each day that passes before you submit the assignment. All assignments must be submitted by the Reading Day(s). Preview assignments or participation problems are not allowed to be submitted late.

Though class attendance after the first week will generally not be taken, you should plan to attend each and every class meeting. The partial lecture presentations that are posted to Brightspace often do not dive into the process for solving problems, which we will do together in class. You may also miss other important information that is discussed in class. Note that **no remote option is offered for this course**. If you miss class, please review the posted notes and the associated textbook sections, then come visit to ask any clarifying questions you have.

If you need to miss an exam (for any reason), there are two options that you can choose. You are only allowed to choose one of these options. **Option 1)** A make-up exam *may* be given. You must request a make-up exam via email ***and*** take it within five (5) business days of the missed exam. Do note that I may request documentation that specifically states you were unable to be in class on the date in question. This option expires when the exam in question has been graded and returned to the class. **Option 2)** The grade for the final exam may replace the grade of any 1 of the 3 lecture exams that is missed. This policy has been designed to assist anyone who misses an exam due to injury, illness, family needs, or other circumstances. You can take some time to focus on other needs without the additional stress of arranging and preparing for a proctored make-up exam at a time when the course will have moved on to other topics. This option (option 2) is the default, meaning that the final exam grade can replace this one without any email request.

Do note that making up an exam often results in you falling further behind the pace of the class and is often impractical and may cause excess stress upon returning from an absence. As such, it is highly recommended (and preferred) to utilize option 2 if you need to miss an exam. If you take all 3 lecture exams, your lowest exam score can be replaced by the score of the final exam if it is a higher score.

Note that there will be no individual extra credit in this course. If any extra credit is offered, it will be offered to the entire class, and there is no guarantee that any extra credit will be available. My expectations on extra credit assignments are much higher than standard assignments in this course, so any extra credit offered will involve significant effort.

Academic Integrity

You are expected to be honest in all academic work. Your name on any written work, exam, or quiz is regarded as assurance that the work is the result of your own effort, thought, and study. The university policy on academic integrity is strictly enforced. Any evidence of academic dishonesty, as defined by the policies outlined in the URI Student Handbook, will result in any of the following: a score of zero for the assessment in question, a failing grade in the course, and/or formal notification to the Dean of Students.

The following are some examples of academic dishonesty:

- Using material, directly or paraphrasing, from published or web sources without appropriate citation. This includes using artificial intelligence (AI) generators, such as ChatGPT or similar (see below).
- The posting of class materials on internet sources (such as Chegg.com) to be answered by other individuals for your grade.
- Claiming disproportionate credit for collaborative work.
- Unauthorized possession of or access to exams.
- Unauthorized communication during exams.
- Unauthorized use of another's work or preparing work for other students.
- Taking an exam for another student.
- Altering or attempting to alter grades.
- The use of notes or electronic devices to gain an unauthorized advantage during exams.
- Facilitation or aiding of another's academic dishonesty.

Use of Artificial Intelligence (AI) in CHM 101

In this class, it is essential that all submitted work reflects your own understanding and skills. The use of external AI tools such as ChatGPT, Claude, or similar technologies is **not permitted**. This ensures that your submitted work genuinely represents your personal knowledge and capabilities. Any use of AI tools on submitted work in this course will be considered a violation of the university's Academic Requirements in the University Manual (see 8.27.10 - 8.27.22). Note that, through ALEKS, there may be some AI capabilities that would be acceptable to use, but that is the only acceptable use of AI in this course.

How to Succeed in CHM 101

Chemistry is an inherently challenging science, and learning (whether chemistry or other topics) is not an easy process. CHM 101 moves at an intense pace, and it may be easy to fall behind. However, you have multiple opportunities in this course to challenge yourself, test how well you understand the course material, and get support as you learn. Ultimately, to be successful in this course, you must take responsibility for your own learning. Here are some resources that may aid you throughout this course:

- ***Assistance from Prof. Pantano, during student hours or via email***

View Starfish for my most up-to-date schedule. You are always welcome to schedule an appointment with me via Starfish or drop by my office to ask questions. Please make an appointment with me if you wish to discuss your graded work. All email communication (including Brightspace announcements) will be through your URI email, so be sure to regularly check it. Please be aware that I am responsible for three different courses this term, and I receive a substantial number of emails daily. To ensure any of your emails will be seen and answered, please adhere to the following:

- Put the course number (CHM 101) in the subject line.
- Be concise and descriptive in the subject line.
- Make sure that your message is clear. If I can't understand what you may be asking for, I won't answer.

Any emails received after 5pm may not be reviewed until the next business day, and generally addressed within 48 hours. A response may be in the form of a direct email or an announcement on Brightspace.

- ***Chemistry Teaching Assistant Help Office, Beaupre 115***

The Chemistry Help Office is a place where students can gather to study and work problems, either alone or in small groups, and get help on an as-needed basis by Teaching Professors and Graduate TAs that staff the office regularly throughout the week. A complete schedule of TA office hours is available via a link on Brightspace.

- ***Recitation Sessions with our Course TAs***

Our lecture TAs, Omid, Maggie, and Solaleh, will hold frequent recitation sessions to offer extra assistance. This information, as well as their contact information, will be posted on Brightspace.

Syllabus Disclaimer

Note that changes to the lecture schedule and this course syllabus may need to be made due to weather, the pace of the class, or other unforeseen circumstances. Should there be a campus closure requiring an altered schedule for any reason, an updated schedule will be posted to the course Brightspace site with a corresponding announcement. Additionally, note that if campus is closed on a scheduled exam date, the exam will be held on the next day that the class meets. If in-person assignments are due on a day that campus is closed, more information will be posted to Brightspace. More detailed information on exam content will be discussed closer to each exam date. The final exam date is set by the University and is subject to change at their discretion.

University Syllabus Statements

The University syllabus statements can be found in full on the University's webpage here, or via the QR code on the right. Some specific details related to our course have been described previously in this syllabus. The rest of the statements include student support services, University acknowledgements and resources, and other related topics.

Condensed Schedule with Exam Dates and Assignment Due Dates

Chapter/Topic	Chapter/Topic Title	Dates
1	Chemistry – The Science of Change	**9/3 – 9/26**
2	Atoms and the Periodic Table	
3	Quantum Theory and the Electronic Structure of the Atom	
4	Periodic Trends of the Elements	
EXAM 1	**Chapters 1-4**	**Monday, September 29, 2025**
5	Ionic and Covalent Compounds	**10/1 – 10/29**
6	Representing Molecules	
7	Molecular Geometry, Intermolecular Forces, Bonding Theories	
8	Chemical Reactions	
EXAM 2	**Chapters 5-8**	**Friday, October 31, 2025**
9	Chemical Reactions in Aqueous Solutions	**11/3 – 12/1**
10	Energy Changes in Chemical Reactions	
11	Gases	
EXAM 3	**Chapters 9-11**	**Wednesday, December 3, 2025**
12	Liquids and Solids	**12/5 – 12/8**
Cumulative Final Exam: Friday, December 12, 2025, 11:30am-1:30pm, Beaupre 100		

ALEKS HW Due Dates (tentative, subject to change; find final due dates in ALEKS):

Ch 1 due W 9/10 at 11:50pm	**Ch 2** due W 9/17 at 11:50pm	**Ch 3** due W 9/24 at 11:50pm	**Ch 4** due Su 9/28 at 11:50pm	**Ch 5** due F 10/10 at 11:50pm	**Ch 6** due M 10/20 at 11:50pm
Ch 7 due M 10/27 at 11:50pm	**Ch 8** due Th 10/30 at 11:50pm	**Ch 9** due F 11/14 at 11:50pm	**Ch 10** due F 11/21 at 11:50pm	**Ch 11** due Tu 12/2 at 11:50pm	**Ch 12** due Tu 12/9 at 11:50pm

Important Fall 2025 Semester Deadlines (See the Academic Calendar for more details)
Last day of e-Campus open add period: Tuesday, September 9
Last day of e-Campus add with permission number: Tuesday, September 16
Last day for students to drop courses via e-Campus with no transcript designation (W): Wednesday, September 24
Last day for students to drop courses via e-Campus with drop designation (W): Wednesday, October 15
Mid-term progress reports posted in e-Campus for first-year students: Thursday, October 23

Tentative Extended Course Calendar
This calendar shows the expected pace of the class, and all efforts will be made to stick to it. However, note that exam dates will not be changed (barring unforeseen circumstances such as a campus closure), so only content covered in class beforehand will be tested on each exam. Intended exam material not covered before an exam will be pushed to the subsequent exam.

Week	Monday	Wednesday	Friday
1	9/1 **Labor Day**	9/3 Course Intro, Ch. 1	9/5 Ch. 1
2	9/8 Ch. 1, Ch. 2	9/10 Ch. 2	9/12 Ch. 2
3	9/15 Ch. 3	9/17 Ch. 3	9/19 Ch. 3
4	9/22 Ch. 4	9/24 Ch. 4	9/26 Ch. 4
5	9/29 **EXAM 1**	10/1 Ch. 5	10/3 Ch. 5
6	10/6 Ch. 5	10/8 Ch. 5, Ch 6	10/10 Ch. 6
7	10/13 **Holiday - No Class**	10/15 Ch. 6	10/17 Ch. 6, Ch. 7
8	10/20 Ch. 7	10/22 Ch. 7	10/24 Ch. 7, Ch. 8
9	10/27 Ch. 8	10/29 Ch. 8	10/31 **EXAM 2**
10	11/3 Ch. 9	11/5 Ch. 9	11/7 Ch. 9
11	11/10 Ch. 9	11/12 Ch. 10	11/14 Ch. 10
12	11/17 Ch. 10	11/19 Ch. 10, Ch. 11	11/21 Ch. 11
13	11/24 Ch. 11	11/26 **Thanksgiving Break**	11/28 **Thanksgiving Break**
14	12/1 Ch. 11	12/3 **EXAM 3**	12/5 Ch. 12
15	12/8 TBD	12/10 **Reading Day**	**Friday 12/12** **Final Exam**