

CHM 101 – GENERAL CHEMISTRY I SYLLABUS – FALL 2019

Instructor: Dr. Maria Donnelly

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Office hours: Appointments can be made using URI's [Starfish Success Net](#)

- Students should not sign up for more than 2 consecutive time slots
- For appointments outside office hours, email me for availability
- You are also welcome to just stop by my office to see if I am available

Course Description

CHM 101 is a general chemistry course designed to introduce a variety of concepts and principles that are fundamental to the study of chemistry. Significant emphasis will be placed on mathematical skills and problem solving.

Resources & Required Course Materials

- **Textbook:** McGraw Hill General Chemistry: The Essential Concepts, Chang/Goldsby, 7th Edition.
- **Sakai:** Sakai will be used to post grades and for all official course communications; therefore, it is ESSENTIAL that you regularly check the Sakai site and your URI email to ensure that you do not miss important information. Sakai will also contain links to course materials and various other study resources.
- **Lecture Slides:** **Partial** lecture presentations will be available through Sakai prior to each class meeting (or earlier). It is highly recommended that you bring a copy of these notes with you to class – they will provide an outline for you to use when taking notes that will help you to better focus on, and record, the information being discussed in class. Note that these are PARTIAL lecture notes. They are intended to assist you in your note-taking while in lecture – they are NOT a substitute for regular class attendance and will NOT supply all of the information that you will need to successfully pass CHM 101. For example, the partial presentations will include the example problems that we will cover in lecture, but they will not include the solutions to those problems.
- **Online Homework:** McGraw Hill's Connect; both the on-line homework and the Learnsmart program are required as part of your grade. Information on how to access Connect can be found on the course Sakai site.
- **Calculator:** CHM 101 is a math intensive course, and a scientific calculator will be an essential tool for lecture, exams, and out of class assignments. **Graphing calculators with advanced functionalities, such as the ability to access the internet, capture images, communicate wirelessly, and display pdf and other non-text files, will not be allowed on exams.** Older graphing calculators, such as the TI-83, are acceptable. Newer models that are not able to access the internet, capture images, communicate wirelessly, etc., can also be used, but will require a sticker indicating that they are acceptable to use during exams, especially if they are visually similar to more advanced models. Information on how to obtain a sticker will be provided prior to the first exam. A limited number of basic scientific calculators will be available for use during exams. If you will need to borrow one of these calculators for your exams, and you let me know in advance, I will make sure that one is available for you.

Additional Study Help Resources

- **Beaupre Learning Center:** Teaching assistants keep regular office hours in the Learning Center (Beaupre 1st floor, room 115). This is a great place for students to study and work problems together, especially since it is conveniently located near the offices of most of the lecturers, including my own. The CHM 101 Sakai site will contain a link to the schedule of TA office hours once that schedule becomes available.
- **Academic Enhancement Center (AEC):** The Academic Enhancement Center, located in Roosevelt Hall, is staffed with tutors and academic coaches that are trained to help you with difficult concepts in a variety of courses. Visit the URI AEC website at uri.edu/aec for more information.

Class Meetings

- **Section 4:** Tuesday & Thursday, 9:30 – 10:45 am in Beaupre 100

Disability Accommodations

Any student with a documented disability is welcome to contact me as early in the semester as possible so that we may arrange reasonable accommodations. As part of this process, please make sure to contact the Disability Services for Students Office at 302 Memorial Union; their phone number is 401-874-2098.

Grading & Testing Policies

Course grades will be determined by each student's performance on all assignments and exams. The final grade will be calculated as follows:

Online Homework, Learnsmart, & Quizzes	15 %
4 Lecture Exams* (17 % each)	68 %
Final Exam	17 %
Total	100%

***YOUR FINAL EXAM SCORE WILL TAKE THE PLACE OF ANY EXAM MISSED DURING THE TERM** (i.e. it will count twice). For students who do not miss an exam, the final exam may take the place of their lowest lecture exam if the final exam grade is higher. **The purpose of this policy is to eliminate the need for make-up exams.**

Lecture Exams will be given during class time in Beaupre 100. Students will be assigned a seat and given an exam with their name on it. **Students must sit in the assigned seat and take the exam given to them. MAKE SURE TO HAVE YOUR STUDENT ID WITH YOU ON EXAM DAYS.** Proctors will check your student ID when you hand in your exam to make sure that the correct student is taking each exam. All work must be shown to receive full credit on exam problems.

If you believe that there is an error in your exam grade, **you must bring your concern to my attention within 48 hours of the exam being handed back in class.** No grade changes will be considered after this time. Any request for re-grading must be submitted in writing along with the **complete original exam**, and the **entire exam** will be looked at during re-grading.

Students receiving disability accommodations, participating in University sanctioned events, or observing religious holidays may receive alternate testing accommodations. These arrangements require approved documentation. Written notification of a request for alternate testing accommodations must be made **at least one full week prior to the scheduled exam.** Students with alternate testing accommodations will take their exams in the Academic Testing Center in Chaffee Hall.

Unannounced quizzes may be given periodically to help students evaluate their understanding of course material and to encourage students to attend class. Grades will be based on attendance, and one quiz grade will be dropped to eliminate the need for make-ups.

Grades in CHM 101 are based on a student's level of mastery of the material presented and must be earned by demonstrating proficiency in the required skills. Grades are not negotiable and are NOT determined by what is required by a student's desired degree program. The following grading scale will be used:

≥90% = A/A-; 80-89% = B-/B/B+; 66-79 = C-/C/C+; 55-65% = D; <55% = F

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, a student's **course work must have been passing** and the student **must have completed at least half of the coursework for the semester.** Incompletes should be made up within one year of the semester in which the grade of incomplete was assigned. **If an incomplete**

is not made up prior to the two year grade change deadline established by the University, the “I” will be replaced with a grade calculated for the student based on the work completed and including zeroes for any work not completed.

Assignments

McGraw Hill’s Connect on-line homework and Learnsmart programs will be used for graded assignments. **Students see the greatest value from these tools when they register for Connect as soon as possible and complete all assignments in a timely manner.** A link to the course Connect site can be found on Sakai.

To receive full credit, on-line homework assignments must be completed by 11:59 pm on the date indicated on the list of assignments in Connect. **Homework assignments can be attempted multiple times, with the attempt that has earned the largest number of points being used in the calculation of the final homework average.** Combinations of assignments can be used if the student emails me to let me know that an assignment has been completed in multiple submissions. Late homework will be accepted at a loss of 2% credit per day. Late points are automatically deducted; requests for extensions are not required.

If you would like to complete a Learnsmart activity past the due date, you must send me a request via email. There is no limit to the number of requests for extensions on Learnsmart assignments. If you do not request an extension, your grade for the Learnsmart assignment will be calculated by the Connect program based on the percentage completed prior to the date and time the assignment is due.

Homework, Learnsmart assignments, and Quizzes will be averaged together to determine the final homework/quiz average; for this calculation, homework assignments will be counted as the number of points earned on that assignment and Learnsmart assignments will be counted as the number of points equal to the percentage of the assignment that was completed. Quizzes will be 20 points each. Since homework assignments are often worth more than 100 points, the homework assignments are worth more overall than the Learnsmart assignments.

Since general chemistry is, in many ways, like learning a new language, lists of key terms will be posted on Sakai. While the importance of these terms and the connections between them will be discussed in lecture, it is the students’ responsibility to use their textbook to find the definitions.

Sakai will also be used to post various learning tools and any additional assignments.

Academic Integrity

Academic dishonesty is a serious offence, and URI’s policy on academic honesty will be strictly enforced. This policy states, in part, that “Students are expected to be honest in all academic work. A student’s name on any written work including assignments, lab reports, internship reports, papers, or examinations, shall be regarded as assurance that the work is the result of the student’s own thought and study. Work should be stated in the student’s own words and produced without assistance or properly attributed to its source.” The entire policy can be found in the student handbook, which is available online (<https://web.uri.edu/studentconduct/student-handbook/>). Some examples of academic dishonesty contained in that policy include:

- Unauthorized possession or access to exams
- Unauthorized communication during exams
- Unauthorized use of another’s work or preparing work for another student
- Taking an exam for another student
- Altering or attempting to alter grades
- The use of notes or electronic devices such as calculators, computers, or cell phones to gain an unauthorized advantage during exams
- Facilitating or aiding another’s academic dishonesty

VIOLATION OF THIS POLICY MAY RESULT IN THE STUDENT RECEIVING A FAILING GRADE FOR THE ASSIGNMENT OR FOR THE ENTIRE COURSE.

Final Note on how to achieve success in CHM 101

CHM 101 covers a large amount of material in a relatively short amount of time. It can be a challenging course, but **with sufficient effort success IS possible!** Success in this course requires significant effort from the student. You will be expected to understand many complex processes and to master numerous mathematical skills. It is EXTREMELY important for you to stay on top of your work in this class. Many of the scientific topics that are covered later in the semester build upon those that are learned earlier in the semester – early mastery of those concepts will make it much easier for you to understand later material. Successful CHM 101 students are those who put in the necessary effort starting at the very beginning of the semester. You will want to prepare for and participate in all lectures, and practice what you have learned. Make sure to complete all assignments in a timely manner. Actively work to learn the material throughout the semester. If you find that you are struggling **SEEK HELP RIGHT AWAY**. Use the Starfish Success Net (there is a link on the Sakai site) to make an appointment to see me – I am happy to go over material that you are struggling with, answer questions about homework problems, etc. (You are also welcome to stop by my office without an appointment if I am available.) You can also visit the TAs in the Beaupre Learning Center or the tutors in the AEC. The important thing is that you get help **EARLY!**

SCHEDULE

Note that changes may be made to this schedule due to weather, pace of the class, or other considerations. If school is closed on an exam day (e.g. snow day), THE EXAM WILL BE HELD ON THE NEXT DAY THAT THE CLASS MEETS.

Chapter	Title	Week/Date
1	Introduction (Matter & Measurement)	1-3
2	Atoms, Molecules, and Ions	
3	Stoichiometry	
Exam 1	Chapters 1-3	Tuesday Oct. 1st
4	Reactions in Aqueous Solutions	4-6
5	Gases	
6	Energy Relationships in Chemical Reactions	
Exam 2	Chapters 4-6	Thursday Oct. 24th
7	The Electronic Structure of Atoms	7-9
8	The Periodic Table	
9	Chemical Bonding I: The Covalent Bond	
Exam 3	Chapters 7-9	Thursday Nov. 14th
10	Chemical Bonding II: Molecular Geometry and Hybridization of Atomic Orbitals	10-14
12	Intermolecular Forces and Liquids and Solids	
13	Physical Properties of Solutions	
Exam 4	Chapters 10, 12, 13**	Thursday Dec. 5th
*Final Exam: Thursday December 12th 8:00 – 11:00 am in Beaupre 100		

* Final exam dates are set by the University and are subject to change

** Exam 4 may not cover all material in Chapter 13. Additional material will still be covered on the final exam.

Notable Dates:

- Wednesday Sept. 25th – last day to drop courses with no transcript designation of “W”
- Monday Oct. 14th – Columbus Day, classes do not meet
- Tuesday Oct. 15th – Monday classes meet to make up for Columbus Day
- Thursday Oct. 17th – last day for students to drop courses
- Monday Nov. 11th – Veterans’ Day, classes do not meet
- Wednesday Nov. 27th – Sunday Dec. 1st – Thanksgiving Recess
- Tuesday Dec. 10th – last day of classes

CHM 101 Learning Outcomes

Gen Ed Outcome	Gen Ed Rubric Element	Specific Course Outcome
Knowledge: STEM Disciplines	Identifies facts, vocabulary, definitions, terms, concepts, people	Students will be able to identify chemical principles relating to: matter; physical and chemical processes; chemical structures; chemical bonds
	Recognizes concepts or tools relevant for application to a task	Students will be able to recognize the theories and models chemists use to explain natural phenomena
	Asks questions or frame hypotheses relevant to the task	Students will be able to frame questions and answer them by distilling and correlating principles and theories they have learned
	Collects information relevant to address the task – e.g. data; literature sources	Students will be able to: 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.
	Analyzes: Applies concepts to address the task	Students will be able to: 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
Mathematical, Statistical or Computational (MSC) Strategies	Gen Ed Rubric Element	Specific Course Outcome
	A.1. Conceptualize: Interpretation and Representation Finds The Necessary Information	Students will be able to read a word problem, determine what elements are needed and convert the problem into the appropriate mathematical equations needed to generate the correct solution.
	A.2. Conceptualize: Interpretation and Representation Make A Plan For How To Solve The Problem	Students will be able to restate the problem and to clearly list the mathematical steps required to generate a correct solution.
	B.1. Computation: Calculation, Application, Analysis Performs The Calculation Or Analysis.	Students will be able to apply their algebraic skills and use a scientific calculator to correctly solve a multi-step problem. Students will be able to use dimensional analysis to follow the units in a computational problem.
	B.2. Computation: Calculation, Application, Analysis Checks The Answer For Accuracy	Students will review their work for mathematical errors and to apply a reality check to their answers before submitting work. Students will be able to defend their answers to computational problems based on chemical concepts as well as mathematical models.