CHM 101 – GENERAL CHEMISTRY I
SYLLABUS – FALL 2024

Instructor: Dr. Maria Donnelly
Office: Beaupre 117C (entrance to the Beaupre 117 office suite is inside room 115)
       Email: madon@uri.edu
Office hours: Appointments are not required but students with appointments receive priority for the time slot they requested. I anticipate holding official office hours on Tuesdays, Wednesdays, and Thursdays each week, with specific times listed on URI's Starfish Success Net. **You can also just drop in to ask questions if you see that I am available.**

- Appointments can be made using Starfish and should be scheduled 24 hours in advance.
- Students should not sign up for more than 2 consecutive time slots, but are welcome to stay longer if no one else needs assistance.
- For appointments outside office hours, email me for availability or just stop by my office to see if I am available. While fall semester labs are in session, I am generally on campus at least Tuesday – Friday from 8:00am until the end of the 2:00pm lab sessions.

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 <u>Chemistry: Atoms First</u>, Burdge/Overby, 5th Edition. (electronic or paper)
- **Brightspace & URI email:** Brightspace will be used to post grades and for official course communications; therefore, it is ESSENTIAL that you regularly check the Brightspace site and your URI email to ensure that you do not miss important information. You may need to opt into receiving email notifications from Brightspace. Brightspace will also contain links to course materials, some bonus assignments, and various other study resources.
- **Lecture Slides**: **Partial** lecture presentations will be available through a link in Brightspace 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:** Chapter Intro and Homework assignments will be completed through McGraw Hill's Aleks online homework platform. Information on how to access Aleks can be found on the course Brightspace site.
- **Calculator:** CHM 101 is a math intensive course, and a scientific calculator will be an essential tool for lecture, exams, and homework 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, read pdf files, communicate wirelessly, etc., can also be used, but may 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. You will need to supply an ID to borrow a calculator; the ID will be returned to you when you turn in the calculator.

Class Meetings
- **Section 1:** Tuesday & Thursday, 9:30 – 10:45 am in Beaupre 100

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 many of the teaching faculty, including my own. The CHM 101 Brightspace 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 (AEC) offers face-to-face and online services to undergraduate students seeking academic support. Services are based out of Roosevelt Hall, the Carothers Library room LL004, and online. Peer tutoring is available for STEM-related courses through drop-in centers and small-group tutoring. The Writing Center peer consultants offer feedback focused on supporting undergraduate writers at any stage of a writing assignment. The UCS 160 course and one-to-one Academic Skills Consultations offer strategies for improving studying and test-taking skills. Complete details about each of these programs, up-to-date schedules, contact information, and self-service study resources are all available on the AEC website, uri.edu/aec. **STEM & BUS Tutoring** helps undergraduate students navigate a variety of 100 and 200 level STEM & BUS courses through free peer tutoring in-person and online. Students can select **occasional or weekly tutoring sessions** through the TracCloud system or visit the Drop-In Center, located in the Carothers Library lower level room LL004. The TracCloud application is available through URI Microsoft 365 single sign-on and more detailed information and instructions can be found at uri.edu/aec/tutoring.

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 Chapter Intro & Homework Assignments & Attendance Quizzes	15 %
4 Semester Exams (17 % each)	68 %
Final Exam	17 %
Total	**100%**

Missed exam policy

- **To eliminate the need for make-up exams, if you miss an in-class exam, your in-person final exam score will count twice in place of the missed exam.**
  - Make-up exams generally do not help students, so this policy is strongly recommended.
  - To maintain consistency in grading, 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.
- If you will miss an exam for a school sanctioned event you must contact me in advance. You are eligible to take the exam in the Testing Center, but date options are limited so advance notice is required. Without advance notice, the final will count twice as described above.
- **Official documentation** is required to request a make-up exam.
  - Documentation must explicitly cover the date of the exam and must state that the student is UNABLE to attend class on that date.
  - Per the University Manual, make-up exams must be requested within 7 calendar days of the absence. Requests must be made in writing via URI email and must include appropriate documentation.
  - All make-up exams will be held on the last day of classes (or the prior day if there is a semester exam scheduled for the last day of classes). This will enable all students to take their make-up exam on the same day.
  - Make-up exam cancellations must be made via email no later than one week before the make-up exam date.
  - If you request a make-up exam but do not show up to take the make-up exam, you will receive a zero for that exam.
  - A second missed exam will require University documentation (i.e. a notice from the Dean of Students Office).

Formula for calculating course average:

Course Average = (Exam Average * 0.85) + (Homework average * 0.15)

At the end of the semester, the exam average will include five exams (four semester exams plus the final exam). The homework average includes Chapter Intro and Homework assignments plus attendance quizzes.

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 exams 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 <u>University sanctioned</u> 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 should meet with me at the beginning of the semester to discuss their options for exam locations. **If you are participating in a University activity that requires frequent travel (i.e. sports team, band, etc.), please <u>check the exam schedule now</u> and contact me as soon as possible if your travel will cause you to miss any exams so that appropriate arrangements can be made.**

Unannounced "quizzes" may be given periodically to help students evaluate their understanding of course material and to encourage students to attend class. <u>Grades will be based on attendance</u> ("attendance quizzes"), 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. All numerical grades are rounded up to the nearest whole number before letter grades are applied. The following grading scale will be used with letter grades beginning at the following values:

A 93; A– 90; B+ 87; B 83; B– 80; C+ 75; C 70; C– 66; D 55; F <55.

Incomplete Policy:
Incomplete grades will only be assigned in the case of a real emergency. 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 within two years, or prior to the student's expected graduation date or departure from the University, whichever is earlier, 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.** According to the University manual, arrangements to resolve an incomplete must be made by the midsemester following the semester in which the incomplete was received (for undergraduates). **If a student fails to make such arrangements, the incomplete may be changed as described above as early as the end of the semester following the semester in which the incomplete was received.**

Assignments
McGraw Hill's Aleks online homework program will be used for graded assignments. **Students see the greatest value from these tools when they register for Aleks as soon as possible and complete all assignments in a timely manner.** A link to the course Aleks site can be found on Brightspace.

To receive full credit, the online Chapter Intro and Homework assignments must be completed by 11:59 pm on the date indicated on the list of assignments in Aleks. **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.** Late Chapter Intro and Homework assignments will be accepted automatically at a loss of 1% credit per day. Late points are automatically deducted; requests for extensions are not required.

Chapter Intro assignments, Homework assignments, and Attendance Quizzes will be used to determine the final homework average; for this calculation, Chapter Intro and Homework assignments will be counted as the number of points earned on that assignment, with each question being worth ten points. Quizzes will be 20 points each. The total number of points earned will be divided by the total number of points possible to calculate the homework average.

Brightspace 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. Students are expected to be honest in all academic work. Some examples of academic dishonesty include:
- Unauthorized possession or access to current semester 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**
- **Posting course materials to any website without written permission from the instructor**

ACADEMIC INTEGRITY VIOLATIONS MAY RESULT IN THE STUDENT RECEIVING A FAILING GRADE OR A ZERO FOR AN EXAM, AN ASSIGNMENT, OR FOR THE ENTIRE COURSE.

URI Syllabus Statements:

Viral Illness Precautions Statement: The University is committed to delivering its educational mission while protecting the health and safety of our community. Students who are experiencing symptoms of viral illness should NOT go to class/work. The CDC says people with these types of illnesses should stay home until they have been fever-free without medication for at least 24 hours and their symptoms have been improving.

Academic Honesty: Students are expected to be honest in all academic work. A student's name on any written work, quiz or exam shall be regarded as assurance that the work is the result of the student's own independent thought and study. Work should be stated in the student's own words, properly attributed to its source. Students have an obligation to know how to quote, paraphrase, summarize, cite and reference the work of others with integrity.

Excused Absences: Absences due to serious illness or traumatic loss, religious observances, or participation in a university sanctioned event are considered excused absences. Students are responsible for work missed during an excused absence but will not be penalized by grading or assignment/exam make-up policies. Students should notify faculty in advance of absences due to religious observance or university-sanction events, and as soon as possible for other absences See University Manual sections 8.51.11-8.51.14 for details. (For this course, notification of absences is only needed for exams; details of the missed exam policy can be found in the grading section of this syllabus.)

Mental Health and Wellness: We understand that college comes with challenges and stress associated with your courses, job/family responsibilities and personal life. URI offers students a range of services to support your mental health and wellbeing, including the URI Counseling Center, MySSP (Student Support Program) App, the Wellness Resource Center, and Well-being Coaching.

Land Acknowledgement: The University of Rhode Island land acknowledgment is a statement written by members of the University community in close partnership with members of the Narragansett Tribe. The statement recognizes and pays tribute to the people who lived on and stewarded the land on which the University now resides. The statement seeks to show gratitude and respect to Indigenous people and cultures and build community with the Narragansett Nation and other Native American tribes.

University of Rhode Island Land Acknowledgment

The University of Rhode Island occupies the traditional stomping ground of the Narragansett Nation and the Niantic People. We honor and respect the enduring and continuing relationship between the Indigenous people and this land by teaching and learning more about their history and present-day communities, and by becoming stewards of the land we, too, inhabit.

Anti-Bias Syllabus Statement: We respect the rights and dignity of each individual and group. We reject prejudice and intolerance, and we work to understand differences. We believe that equity and inclusion are critical components for campus community members to thrive. If you are a target or a witness of a bias incident, you are encouraged to submit a report to the URI Bias Response Team at www.uri.edu/brt. There you will also find people and resources to help.

Disability, Access, and Inclusion Services for Students Statement: Your access in this course is important. Please send me your Disability, Access, and Inclusion (DAI) accommodation letter early in the semester so that we have adequate time to discuss and arrange your approved academic accommodations. If you have not yet established services through DAI, please contact them to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom. DAI can be reached by calling: 401-874-2098, visiting: web.uri.edu/disability, or emailing: dai@etal.uri.edu.

Rhody Outpost Basic Needs Pantry: Food insecurity affects up to 30% of college students. That means you might not have enough food to get through a day or week, you don't have money to purchase groceries or personal products, or you are primarily eating foods that don't provide a lot of nutrition because they're all you can afford. This can all impact your academic success. Rhody Outpost provides URI students who are food insecure with emergency food services and resources. The Outpost is housed at the Dining Services Warehouse at 10 Tootell Road, between Flagg Road and West Alumni Avenue. We are open every Friday from 3-5:30. Any student in need is welcome to visit the Outpost after filling out a brief request form. If you have questions about food or housing insecurity, contact Barbara Sweeney, Coordinator of Food Security Outreach, at barbara_sweeney@uri.edu, or 401-874-5633. We want to help all students succeed and make URI a place with #NoRamHungry.

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 (available through URI Microsoft 365 single sign-on) 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. If we have not fully covered all of the chapters listed before an exam, only the topics covered in class will be included in the exam. More detailed information on the contents of each exam will be provided closer to the exam date.

Chapter	Title	Week/Date
1	Chemistry: The Science of Change	1–4
2	Atoms & the Periodic Table	
3	Quantum Theory & The Electronic Structure of Atoms	
4	Periodic Trends of the Elements	
Exam 1	**Chapters 1–4**	**Tuesday Oct. 1st**
5	Ionic & Covalent Compounds	5–7
6	Representing Molecules	
7	Molecular Geom., Intermolec. Forces, & Bonding	
Exam 2	**Chapters 5–7**	**Thursday Oct. 24th**
8	Chemical Reactions	8–11
9	Chemical Reactions in Aqueous Solutions	
10	Energy Changes in Chemical Reactions	
Exam 3	**Chapters 8–10**	**Thursday Nov. 14th**
11	Gases	12–14
12	Liquids & Solids	
Exam 4	**Chapters 11–12**	**Tuesday Dec. 10th**
**Final Exam: Thursday December 19th 8:00 – 10:00am		

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

Important Fall 2024 Semester Dates:
- Wednesday Sept. 25th – last day to drop courses with no transcript designation of "W"
- Monday Oct. 14th – Columbus/Indigenous People's Day, classes do not meet
- **Tuesday Oct. 15th – Monday classes meet to make up for Columbus Day**
- Friday Oct. 18th – Last day to drop classes in ecampus (after this date, a form is required that must be signed by your Academic Dean)
- Friday Oct. 25th – Freshmen Mid-Term grades due at noon
- Tuesday Nov. 5th – Election Day, classes do not meet
- Wednesday Nov. 6th – **Tuesday classes meet to make up for Election Day**
- Monday Nov. 11th – Veterans Day, classes do not meet
- Wednesday Nov. 27th – Sunday Dec. 1st – Thanksgiving Recess
- Wednesday Dec. 11th – last day of classes
- Friday Dec. 27th – final grades due in ecampus at noon

Tentative Extended Schedule – Note that the dates in this schedule are tentative and subject to change based on pace of the course during the semester. See the Aleks course site for the most current deadlines for each Homework and Chapter Intro Assignment.

Assignment due – Blue   **Final Exam: Thursday 12/19 at 8:00am in Beaupre 100** (reg. lecture hall)

Date	Day	Chapters & Assignments	Date	Day	Chapters & Assignments
9/2	M		10/21	M	CH 7 Intro Assignment due
9/3	Tu		10/22	Tu	CH 7
9/4	W		10/23	W	CH 7 HW due
9/5	Th	Intro & CH 1	10/24	Th	**Exam 2: CH 5 – 7**
9/6	F	CH 1 Intro Assignment due	10/25	F	
9/9	M		10/28	M	CH 8 Intro Assignment due
9/10	Tu	CH1	10/29	Tu	CH 8
9/11	W	CH 2 Intro Assignment due	10/30	W	
9/12	Th	CH 1 & CH 2	10/31	Th	CH 8 & CH 9
9/13	F	CH 1 HW due	11/1	F	CH 8 HW due
9/16	M	CH 3 Intro Assignment due	11/4	M	CH 9 Intro Assignment due
9/17	Tu	CH 2 & CH 3	11/5	Tu	**No Class: Election Day**
9/18	W	CH 2 HW due	11/6	W	**Tuesday Classes Meet!!!** CH 9
9/19	Th	CH 3 & CH 4	11/7	Th	CH 9
9/20	F		11/8	F	
9/23	M	CH 4 Intro Assignment due	11/11	M	**Veterans Day**
9/24	Tu	CH 4	11/12	Tu	CH 9
9/25	W	CH 3 HW due	11/13	W	CH 9 HW due
9/26	Th	CH 4	11/14	Th	**Exam 3: CH 8 – 9**
9/27	F		11/15	F	
9/30	M	CH 4 HW due	11/18	M	CH 10 Intro Assignment due
10/1	Tu	**Exam 1: CH 1 – 4**	11/19	Tu	CH 10
10/2	W		11/20	W	
10/3	Th	CH 5	11/21	Th	CH 10
10/4	F		11/22	F	CH 11 Intro Assignment due
10/7	M	CH 5 Intro Assignment due	11/25	M	CH 10 HW due
10/8	Tu	CH 5	11/26	Tu	CH 11
10/9	W		11/27	W	**Thanksgiving recess**
10/10	Th	CH 5 & CH 6	11/28	Th	**No Class: Thanksgiving**
10/11	F	CH 5 HW due	11/29	F	**Thanksgiving recess**
10/14	M	**Columbus/Indigenous People's Day**	12/2	M	CH 12 Intro Assignment due
10/15	Tu	**No Class:** Monday classes meet	12/3	Tu	CH 11 & 12
10/16	W	CH 6 Intro Assignment due	12/4	W	CH 11 HW due
10/17	Th	CH 6 & 7	12/5	Th	CH 12
10/18	F	CH 6 HW due	12/6	F	CH 12 HW due Mon 12/9
			12/10	Tu	**Exam 4 Chapters 10-12**

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

Gen Ed Outcome	Gen Ed Rubric Element	Specific Course Outcome
Mathematical, Statistical or Computational (MSC) Strategies	**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.