

## CHM 101 – GENERAL CHEMISTRY I SYLLABUS – FALL 2020

**Instructor:** Dr. Maria Donnelly

**Office:** Beaupre 117C

**Email:** [madon@uri.edu](mailto:madon@uri.edu)

**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
- Office hours for this semester will be held via zoom

### 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 Chemistry: Atoms First, Burdge/Overby, 4<sup>th</sup> Edition.
- **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 will need to opt into receiving email notifications from Brightspace. Brightspace will also contain assignments, links to course materials, and various other study resources.
- **Lectures:** Lecture presentations will be recorded and posted to YouTube. Links to these videos will be posted on Brightspace and/or the course web page, which can be accessed through Brightspace. Pdf files of the PowerPoint presentations will also be available on the same web page, but these files will not contain the solutions to the example problems. The example problems will be worked through in the video lectures; watching these lectures is a required part of this course. You may find it beneficial to use the pdf files to take notes while watching the lecture videos.
- **Connect:** McGraw Hill's Connect program will be used for homework and exams. Both the on-line homework and the Smart Book assignments are required as part of your grade. Information on how to access Connect 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 out of class assignments.

### Additional Study Help Resources

- **TA Office Hours:** Teaching assistants hold office hours each week. For this semester, the office hours will be held remotely via zoom. The address for the general chemistry office hour zoom room and a schedule of office hours for the semester will be available through Brightspace.
- **Academic Enhancement Center (AEC):** Located in Roosevelt Hall, the AEC offers free face to face and web-based services to undergraduate students seeking academic support. Peer tutoring is available for STEM-related courses through drop-in centers and small group tutoring. The Writing Center offers peer tutoring focused on supporting undergraduate writers at any stage of a writing assignment. The UCS160 course and academic skills consultations offer students strategies and activities aimed at improving their 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, [web.uri.edu/aec](http://web.uri.edu/aec).

### Class Meetings

- **Section 4:** Tuesday & Thursday, 9:30 – 10:45 am in Beaupre 100. The lecture presentations will be posted to YouTube throughout the semester and can be viewed at any time. They will remain available until the end of the semester. It will be very important for you to view the lectures in a timely manner to ensure that you are prepared for your exams. The synchronous portion of the course will be used for students to practice problems together. You will be divided into groups; half of the groups will meet via zoom on Tuesdays, and the other half will meet via zoom on Thursdays. If your schedule will make it easier for you to attend on either Tuesday or Thursday, let me know by September 11<sup>th</sup> so that I can assign you to a group that meets on your preferred day.

## Disability Accommodations

Your access in this course is important. Please send me your Disability Services for Students (DSS) 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 DSS, please contact them to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom. DSS can be reached by calling: 401-874-2098, visiting: [web.uri.edu/disability](http://web.uri.edu/disability), or emailing: [dss@etal.uri.edu](mailto:dss@etal.uri.edu). We are available to meet with students enrolled in Kingston as well as Providence courses.

## 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, Smart Book, & Participation	20 %
3 of 4 Lecture Exams* (20 % each)	60 %
Final Exam	20 %
<b>Total</b>	<b>100%</b>

The formula used to calculate your final average is:

$$\text{Course Average} = (\text{Homework average}^{**} \times 0.20) + (\text{Exam average} \times 0.80)$$

**\*\*includes homework, smart book, & group work participation**

**\*In order to eliminate the need for make-up exams, and to avoid having a single assessment have too large of an impact on your grade, you will be graded on four of five exams.** 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. Students who are happy with their grade based on the four in-class exams may elect to not take the final exam. **The purpose of this policy is to eliminate the need for make-up exams.**

Lecture Exams will be given during class time using the Connect program. The Connect program comes with Proctorio online proctoring software, which may be used during your exams. There will be a "practice exam" to get you used to this software if it will be used and to make it easier and faster for you to start Exam 1. It is highly recommended that you complete this practice assignment even though it will not be included as part of your grade. You will not receive extra time on an exam if your start is delayed by the requirements of the proctoring software, because this delay will be avoided if you complete the practice assignment! Use of the text book and notes is permitted; however, **attempting to look up information online or receiving assistance from any other individual during an exam is considered academic dishonesty and is not permitted.**

Some exams will have a portion of the credit earned through assignments posted in and submitted through Brightspace. In some cases, these assignments will need to be submitted before the exam is taken. Information about these assignments will be posted in Brightspace prior to the exam, so make sure to check the course Brightspace site regularly.

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 graded exam being returned to you.** No grade changes will be considered after this time. Any request for re-grading must be submitted in writing, 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.**

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:

$$\geq 90\% = A/A-; 80-89\% = B-/B/B+; 70-79 = C-/C/C+; 60-69\% = D; <60\% = F$$

### **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 Smart Book 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 Brightspace.

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 Smart Book 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 Smart Book assignments.** If you do not request an extension, your grade for the Smart Book assignment will be calculated by the Connect program based on the percentage completed prior to the date and time the assignment is due.

Homework, Smart Book assignments, and Participation in the synchronous zoom group work meetings will be averaged together to determine the final homework/participation average; for this calculation, homework assignments will be counted as the number of points earned on that assignment and Smart Book assignments will be counted as the number of points equal to the percentage of the assignment that was completed. Participation in the zoom group assignments is worth 50 points per meeting. One absence from the synchronous zoom group work meetings will be permitted without penalty.

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. 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**

**ACADEMIC INTEGRITY VIOLATIONS MAY RESULT IN THE STUDENT RECEIVING A FAILING GRADE FOR THE ASSIGNMENT OR FOR THE ENTIRE COURSE.**

### University COVID syllabus statement

The University is committed to delivering its educational mission while protecting the health and safety of our students. At this uncertain time, those concerns include minimizing the potential spread of COVID-19 within our community. While the university has worked this summer to create a healthy learning environment for all, it is up to all of us to ensure our campus stays that way.

As members of the URI community, students are required to comply with standards of conduct and take precautions to keep themselves and others safe. Students are required to comply with Rhode Island state laws, including the Rhode Island Executive Orders related to health and safety, ordinances, regulations, and guidance adopted by the University as it relates to public health crises, such as COVID-19.

[An addendum on policies and guidelines concerning your obligations](#) during this crisis has recently been integrated into the Student Handbook. These obligations include:

- Wearing of face masks by all community members when on a URI campus in the presence of others
- Maintaining physical distancing of at least six feet at all times
- Following state rules on the number of individuals allowed in a group gathering
- Completing a [daily health self-assessment](#) also available through the [Rhody Connect](#) app before coming to campus
- Submitting to COVID-19 testing as the University monitors the health of our community
- Following the University's quarantine and isolation requirements

**If you answer yes to any of the questions on the daily health assessment, do not come to class. YOU MUST STAY HOME/IN YOUR ROOM** and notify URI Health Services via phone at 401-874-2246 immediately.

**If you are already on campus and start to feel ill**, you need to remove yourself from the public and notify URI Health Services via phone immediately at 401-874-2246 and go home/back to your room and self-isolate while you await direction from Health Services.

If you are unable to attend class, please notify your TA. If the requirement that you are unable to attend class will cause you to miss more than one in-person experiment, please also contact the lab director at [madon@uri.edu](mailto:madon@uri.edu). We will work together to ensure that course instruction and work is completed for the semester.

### Anti-Bias 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](http://www.uri.edu/brt). There you will also find people and resources to help.

### 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 closely watch all lecture videos, 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 (access information is available in Brightspace) to make an appointment to talk to me – I am happy to go over material that you are struggling with, answer questions about homework problems, etc. You can also get help from the TAs during zoom office hours, or get help from the AEC. The important thing is that you get help **EARLY!**

## SCHEDULE

Chapter	Title	Week/Date
1	Chemistry: The Science of Change	1-3
2	Atoms & the Periodic Table	
3	Quantum Theory & The Electronic Structure of Atoms	
<b>Exam 1</b>	<b>Chapters 1-3</b>	<b>Thursday Oct. 1<sup>st</sup></b>
4	Periodic Trends of the Elements	4-6
5	Ionic & Covalent Compounds	
6	Representing Molecules	
<b>Exam 2</b>	<b>Chapters 4-6</b>	<b>Thursday Oct. 22<sup>nd</sup></b>
7	Molecular Geom., Intermolec. Forces, & Bonding	7-9
8	Chemical Reactions	
9	Chemical Reactions in Aqueous Solutions	
<b>Exam 3</b>	<b>Chapters 7-9</b>	<b>Tuesday Nov. 17<sup>th</sup></b>
10	Energy Changes in Chemical Reactions	10-14
11	Gases	
12	Liquids & Solids	
<b>Exam 4</b>	<b>Chapters 10-12</b>	<b>Thursday Dec. 10<sup>th</sup></b>
The Monday Dec. 14 <sup>th</sup> make-up day will be used for an optional review day for the final		
<b>*Final Exam: Thursday December 17<sup>th</sup> 8:00 - 11:00 am</b>		

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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>September</b>						
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15 Group Work	16	17 Group Work	18	19
20	21	22 Group Work	23	24 Group Work	25	26
27	28	29 Review	30			
<b>October</b>						
				1 <b>Exam 1</b>	2	3
4	5	6 Group Work	7	8 Group Work	9	10
11	12	13 Group Work	14	15 Group Work	16	17
18	19	20 Review	21	22 <b>Exam 2</b>	23	24
25	26	27 Group Work	28	29 Group Work	30	31
<b>November</b>						
1	2	3 <b>No Class</b>	4	5 Group Work	6	7
8	9	10 Group Work	11	12 Review	13	14
15	16	17 <b>Exam 3</b>	18	19 Group Work	20	21
22	23	24 Group Work	25	26 <b>No Class</b>	27	28
29	30					
<b>December</b>						
		1 Group Work	2	3 Group Work	4	5
6	7	8 Review	9	10 <b>Exam 4</b>	11	12
13	14 Review	15	16	17 <b>Final Exam 8:00 - 11:00am</b>	18	19

### Notable Dates:

- Wednesday Sept. 30<sup>th</sup>: last day to drop courses with no transcript designation of "W"
- Monday Oct. 12<sup>th</sup>: Columbus Day, classes DO meet
- Wednesday Oct. 21<sup>st</sup>: last day for students to drop courses; dropping a course after this date will require the permission of your academic dean.
- Tuesday Nov. 3<sup>rd</sup>: Election day, classes DO NOT meet
- Wednesday Nov. 11<sup>th</sup>: Veteran's Day, classes DO NOT meet
- Wednesday Nov. 25<sup>th</sup>: Last day of face-to-face classes, last day of CHM 102 labs
- Monday Dec. 14<sup>th</sup>: last day of classes; Tuesday classes meet to make up for election day

## CHM 101 Learning Outcomes

Gen Ed Outcome	Gen Ed Rubric Element	Specific Course Outcome
Knowledge: STEM Disciplines	<b>Identifies</b> 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
	<b>Recognizes</b> 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
	<b>Asks</b> 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
	<b>Collects</b> 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.
	<b>Analyzes:</b> 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	<b>Gen Ed Rubric Element</b>	<b>Specific Course Outcome</b>
	<b>A.1. Conceptualize: Interpretation and Representation</b> 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.
	<b>A.2. Conceptualize: Interpretation and Representation</b> 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>B.1. Computation: Calculation, Application, Analysis</b> 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>B.2. Computation: Calculation, Application, Analysis</b> 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.