

**CHM 101 – GENERAL CHEMISTRY I  
SYLLABUS – SUMMER 2019**

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*Office hours:* TWTh 1:00 – 2:00 PM or by appt.

*Class Meetings:* Beaupre 105  
Section 1000: MTWTh 8:00 AM – 9:45 AM

**GENERAL INFORMATION FOR STUDENTS**

This sheet contains information about the organization of CHM 101 for the summer. It should be carefully read and retained, together with the course schedule, for future reference by each student taking the course.

**Course Description.**

CHM 101 is the first of a two-semester course in college chemistry. It covers fundamental chemical concepts and principles with an emphasis on quantitative problem solving.

**Course Learning Objectives.**

- Understand the chemical principles associated with the atom, e.g. atomic theory, electronic configuration, quantum numbers
- Understand periodic trends, e.g. electronegativity, ionization energy, electron affinity, physical properties, atom and ion size
- Realize quantitative relationships in chemical processes, e. g. mole, molar mass, empirical formula, balancing equations, net ionic equations, gram/mole conversion, yields, mole ratios
- Understand factors that affect bonding patterns in compounds
- Understand principles governing solutions and the means of expressing concentrations, e.g. molarity, molality, mole fraction, mass %
- Learn about oxidation-reduction reactions and how to determine oxidation states
- Understand thermochemistry, e.g. first law of thermodynamics, heat, work, enthalpy, system, surroundings
- Learn the principles that govern gases, e.g. gas laws, ideal gas equation, Dalton's law of partial pressures

**Student Learning Outcomes.**

Upon successful completion of this course, students will be able to:

- Identify chemical principles relating to: matter; physical and chemical processes; chemical structures; chemical bonds
- Recognize the theories and models chemists use to explain natural phenomena
- Frame questions and answer them by distilling and correlating principles and theories they have learned
- 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
- Read a word problem, determine what elements are needed and convert the problem into the appropriate mathematical equations needed to generate the correct solution.
- Restate the problem and to clearly list the mathematical steps required to generate a correct solution.
- Apply their algebraic skills and use a scientific calculator to correctly solve a multi-step problem.
- Review their work for mathematical errors and to apply a reality check to their answers before submitting work.
- Defend their answers to computational problems based on chemical concepts as well as mathematical models.

**Books/Resources.**

Required: General Chemistry: The Essential Concepts, 7<sup>th</sup> ed., by Raymond Chang; Chapters 1-13 (skip ch. 11)  
Strongly recommended: Student solutions manual (to accompany General Chemistry by Chang 7<sup>th</sup> ed.)

A copy of the textbook and the solutions manual are available through the library Reserves for 2-hour use. You will need your ID to have them released to you. Ask for these items at the front desk.

## Course Site.

Information for the course is posted in Sakai (<https://sakai.uri.edu/portal>). Be sure to check Sakai regularly throughout the course.

## Grading Policies.

A student's course grade will be calculated as follows:

Exams (Average of 3 exams)	60 %
Final Exam	20 %
Assignments: (HW in Sakai)	20 %
Total	100 %

Course grades will be assigned according to the scale shown:

>90 = A-/A      76 - 89 = B-/B/B+      60 - 75 = C-/C/C+      52 - 59 = D/D+      <52 = F

A student's grade is earned by demonstrating mastery/proficiency of the course material as evinced by the quality of the student's performance in exams and assignments. It is *not* open to negotiation nor dictated by what's needed to progress in the student's chosen program of study. **Note:** You need a C- to move on to any other chemistry course in our department!

**No make-up exams will be given.** The final exam score will replace the grade of any one of the three lecture exams that is missed OR lower than the final exam score. The purpose of replacing a missed lecture exam with the final exam score is to eliminate the need for make-up exams.

## Exam Format and Rules.

Exams will be a mix of multiple choice and short answer questions and problems. All work must be shown to get credit. Each exam may require you to use techniques and concepts learned in previous chapters, so all exams are cumulative.

You will be assigned a seat in Beupre 105 for taking all exams. You will receive a zero for a grade if you are not in your assigned seat for the exam. On exam days, wait outside the classroom until you're instructed to enter. Things to bring to each exam: **calculator, blue or black pen (exams must be written in ink), and your URI ID.** Cell phone calculators or any device with internet access capability are NOT allowed. Once you have started the exam, you are not allowed to leave the room until you are finished.

Exam answers and scores will be posted in Sakai. Any errors in grading must be brought to my attention within 24 hours of the material being handed back in class. No changes in any grades will be made after that point. Note that any request for re-grading means the entire exam will be re-graded.

## Assignments.

Assignments will be administered through Sakai. There will be 6 assignments, one for every two chapters we cover. You will have 2 chances to submit each assignment with only the higher score being counted. Due dates are clearly indicated and no extensions will be given.

## Disability Accommodations.

Alternate testing accommodations will be provided for students with a documented disability. As part of this process, please contact the Disability Services for Students Office at 330 Memorial Union, 401-874-2098 (<http://www.uri.edu/disability/dss/>) as early in the course as possible. You must provide your approved documentation to me at the latest, one full week before the exam.

## Help Sources.

- AEC (Academic Enhancement Center). This is a challenging course. Success requires that you keep pace with the work, understand course concepts, and study effectively. This summer, the AEC is helping URI students succeed by offering Weekly Tutoring Groups and tutoring appointments. To learn more about these services, please visit <https://web.uri.edu/aec/tutoring/summer/> or call 401-874-2367.

- Beaupre 115 Chemistry Learning Center. Help is available from CHM 102 TAs at the Learning Center. Schedule will be posted in Sakai.

Whether you're seeking help from Dr. Ngo, an AEC Tutor, or a Chemistry TA, you'll want to arrive at your help session *on time* and *fully prepared*, so as to make the discussion as productive and efficient as possible. This means you should bring all relevant study/reference materials with you to the session (e.g., lecture notes, study notes, *written* list of specific questions).

### Academic Integrity.

The university policy on academic honesty will be strictly enforced. Any incidence of academic dishonesty, as defined by the policies outlined in the URI's Student Handbook, will result in either one or all of the following: a grade of zero for the exam, failure for the course, formal notification to the Dean. While students are encouraged to study together, exams must represent the work of the individual student.

- 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 to gain an unauthorized advantage during exams
- Facilitating or aiding another's academic dishonesty

### Email.

All email communications will be done through your my.uri.edu email so make sure you check it regularly. To ensure that your email will be answered, please remember to: include your *full name* and *course code*; indicate the topic concisely on the subject line; write a clear and complete message.

### CHM 101 Lecture/Exam/Assignment Schedule

The breakdown for each chapter will depend on the pace of the class. You are responsible for all of the material in each chapter unless announced differently and for material presented during lectures, including those not in the text.

<i>Week</i>	<i>Date</i>	<i>Day</i>	<i>CHM 101 Su19</i>	<i>HW</i>
<b>1</b>	5/20	M	Syllabus; 1	
	5/21	Tu	1, 2	
	5/22	W	2, 3	
	5/23	Th	3	HW 1
	5/24	F		
<b>2</b>	5/27	M	NO CLASS	
	5/28	Tu	3, 4	
	<b>5/29</b>	<b>W</b>	<b>Exam 1 (Ch 1 - 3); 4</b>	
	5/30	Th	4	
	5/31	F	4, 5 (make-up for 5/27)	
<b>3</b>	6/3	M	5, 6	HW 2
	6/4	Tu	6, 7	
	<b>6/5</b>	<b>W</b>	<b>Exam 2 (Ch 4 - 6); 7</b>	HW 3
	6/6	Th	7, 8	
	6/7	F		
<b>4</b>	6/10	M	8, 9	
	6/11	Tu	9, 10	HW 4
	6/12	W	10, 12	
	<b>6/13</b>	<b>Th</b>	<b>Exam 3 (Ch 7 - 10); 12</b>	HW 5
	6/14	F		
<b>5</b>	6/17	M	12, 13	
	6/18	Tu	13	
	6/19	W	Reading day	HW 6
	<b>6/20</b>	<b>Th</b>	<b>Final Exam</b>	
	6/21	F		