



CHEM 101 – 011 F18, General Chemistry I

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Office Hours: Tu 1:00 – 2:30 PM, Th* 2:30 – 4:00 PM, and by appointment
*On 9/20, 9/27, 10/25, and 11/15, Th OH will be 10:30 AM - Noon

Course Meetings: Lecture: Mo We Fr 2:45 PM – 3:35 PM in Galvin Auditorium, Sullivan Center
Discussion: 012 Fr 11:30 AM – 12:20 PM in Room 217, Cuneo Hall
13 Fr 12:35 PM – 1:25 PM in Room 217, Cuneo Hall
14 Fr 1:40 PM – 2:30 PM in Room 116, Cuneo Hall
Students must attend the discussion section in which they are registered, as per CAS policy.

Course Description: This is the first semester of a two semester sequence of general chemistry. This course will introduce you to basics of atomic and molecular structure, periodicity, chemical bonding, stoichiometry, thermochemistry, aqueous solutions, and gases. The course will help you to gain a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories). The lectures and textbook will introduce you to basics of chemistry and its applications. Homework and discussions in class will help you learn through practice.

Expectations: Students are expected to (1) read the relevant portion(s) of the text, (2) ask and answer questions in class, (3) do the homework assignments for each chapter, and (4) take the quizzes to check that they are mastering the material, and (5) take all (required) exams. As always students are expected to behave appropriately, in a manner consistent with University regulations and the rules stated in this syllabus.

Course Prerequisites: A satisfactory performance on the Loyola math proficiency test, or completion of Math 117 with a grade of C- or better. A student may be withdrawn from the course at any time if the prerequisites have not been satisfied.

Course Grade: Your course grade will be based on the rubric at right.

Course Grading Scale:

Percentage	Grade	Percentage	Grade	Percentage	Grade
[93, 100]	A	[80, 83]	B -	[65, 68]	D +
[90, 93]	A -	[77, 80]	C +	[59, 65]	D
[87, 90]	B +	[72, 77]	C	[0, 59]	F
[83, 87]	B	[68, 72]	C -		

Course Grade Components

Exams	45%
Final Exam	30%
Quizzes (mastering)	10%
Homework (mastering)	15%

These ranges pertain to course grades, which are the only grades in the course that are lettered. Total scores are not rounded up after calculation. As Chemistry can be a challenging subject, the grading policy incentivizes students to keep up with the material via quizzes and homework. You will receive an advisory midterm grade before the withdraw deadline which, along with end-of-semester course grades, are posted on LOCUS. Historically the average course grade is usually between C+ and B- at the end of the semester. Grades are based on the rubric detailed in this syllabus: no other criteria will be considered.

Exams: There will be three 50-minute exams during the semester. The exams will be at 2:45 PM on 9/21, 10/26, and 11/30 in Galvin Auditorium. Late arrival for any exam means you will have less time. If you arrive after ANY student has completed their exam, you may not be allowed to take that exam.

NO EARLY EXAMS, NO MAKE-UP EXAMS, NO EXCEPTIONS.

Final Exam: There is a cumulative **2-hour final exam** in **Galvin Auditorium on 12/14 at 4:15 PM**. The same rules regarding lateness apply to the final. Not taking the final exam results in a grade of zero for the exam. Earning a good grade in this course is unlikely in such cases. Under certain well prescribed and limited circumstances (see missed exams), University rules allow a make-up.

NO EXCEPTIONS TO THE FINAL EXAM POLICY.

Homework: Learning chemistry is not just about learning and understanding concepts. Learning chemistry entails learning to do chemistry problems. The only established way to learn to do chemistry problems is to do chemistry problems. It may seem like a vacuous tautology, but it contains truth. Homework, among many other tools that are proven to help you learn the material in Chemistry 101, is offered through masteringchemistry. There are fourteen (14) homework assignments, one for each chapter in the course (11), two (2) introductory assignments, and one (1) review assignment, which also serves to prepare you for Chemistry 102, as well as your final exam.

NO HOMEWORK EXTENSIONS, NO LATE HOMEWORK, NO EXCEPTIONS.

Working together with other students on homework is the best way to do homework and a great way to help your fellow students who may not have mastered the material as quickly as you have, or for you to learn from students who have mastered the material before you have (more on this later). Still, your work on the homework should be your own. Most importantly, you should try to organize yourself to do homework problems with nothing but equations and a calculator as if you were taking an exam (perhaps with your notes or textbook handy if you get 'stuck.'). After all, practice for quizzes and exams is what homework is all about! Do not spend lots of time on a problem if you are 'stuck.' Ask a friend, go to [tutoring](#) (either by [appt](#) or [walk-in](#)), go for a run, or send me an e-mail (see below on how to do that). Homework problems are intended to be fun and satisfying (seriously).

Quizzes: There are eleven (11) quizzes based on the textbook chapters covered in the course. Chapter quizzes are offered online through masteringchemistry, in a twelve (12) hour window, from 2 pm to 2 am the following day. The schedule of quizzes is in the course schedule below. There will also be a syllabus quiz (Sakai). Lowest quiz score dropped. Most quizzes are 30. **NO QUIZ EXTENSIONS, NO QUIZ MAKE-UPS, NO EXCEPTIONS.**

Additional Resources: In addition to the required Homework and Quizzes, there are multiple learning resources available from Pearson, and some for our class. I will review these on the first day of class and go into more detail in a learning Chemistry video on Panopto. Please take advantage of these additional resources. These optional resources in mastering include: Pre-Lecture assignments, Tutorials, Supplemental homework problems, Additional resources at the back of each chapter in the textbook including: Chapter Summary and Key Terms and Key Equations. Additional resources on Sakai, include Solutions to Chapter Sample Exercises, Web Links to Additional Online Resources, and Web Links to explanations and supplemental problems.

Intent of Grades:	One aim of the grading policy is to allow time and incentive for improvement. Chemistry is not easy to learn, but the process can be rewarding if the necessary effort is made to master fundamentals as they appear. Students are urged to contact me to discuss problems before they become serious.
Important Date:	2 November: Last day to withdraw with a grade of "W." After this date the penalty grade of "WF" is assigned.
Required Materials:	<p><i>Chemistry: The Essential Science, Brown LeMay et al, 14th Edition, Pearson.</i> For the course readings the 13th edition should suffice. Copies of the text are on reserve in the library.</p> <p><i>MasteringChemistry</i> is a required part of the course. It is not offered with your textbook as it is usually cheaper to obtain it directly from Pearson. There are versions of Mastering with and without the e-text. The least expensive version is adequate for this course. The course ID in mastering is CHEM101FA2018DK.</p> <p>Scientific calculator that can perform trigonometric, exponential, and logarithmic functions; graphing capability not required.</p>
Communication:	<p>Email is the best way to contact me. My service commitment on e-mail is to respond within 24 hrs. during the week, and within 48 hrs. on the weekends during the course, but I always strive to exceed expectations. Technology issues go to Loyola's Help Desk (helpdesk@luc.edu) or our service provider (Pearson). If you cannot resolve an issue with Pearson and need support to have it solved, please forward your e-mail chain to me, along with a clear request stating what you need help with and why masteringchemistry (Pearson) should comply with your request. I cannot be helpful in such cases without the requisite background information specified above.</p> <p>Questions about Chemistry: If you cannot make office hours, or are just wondering about some problem and are stuck, you are encouraged to send me an e-mail with your question(s). I require the following format for your e-mail questions(s): (a) pdf of the problem including, (b) pdf of your attempt(s) to solve the problem and (c) your question. To facilitate easy to create and easy to read pdfs, use of the CamScanner app is strongly encouraged, as it seems superior in my view to I-scanner and other popular apps. Screen shots are not readable on all of my electronic devices, so I am unlikely to be able to respond to your questions unless you send them in pdf format as specified.</p>
Intellectual Property:	All lectures, videos, notes, PowerPoints and other instructional materials in this course are the intellectual property of the professor or Pearson, and are so marked on Sakai and elsewhere. As a result, they may not be distributed or shared in any manner, either on paper or in virtual form, without written permission. Recognizing that your work, too, is your intellectual property, I will not share or distribute your work in any form without your written permission. <u>In lecture and discussion, no photographs or recordings of any kind are allowed without the expressed written permission of the instructor.</u>
Student Conduct:	One important aspect of a Jesuit education is learning to respect the rights and opinions of others. Please respect others by (1) allowing all classmates the right to voice their opinions without fear of ridicule, and (2) not using profanity or making

objectionable or insensitive comments, especially comments directed at another member of the Loyola community, i.e. another student, your instructor, staff member etc. Students should not engage in side conversations during class. If something is important enough to discuss during lecture, then please let everyone hear your questions/comments. If electronic devices are used in class, they should only be deployed to support a student's learning process. Please be respectful of others' needs, both the learning process of other students and the teaching process of your instructor.

Academic Integrity:

Loyola University Chicago takes seriously the issues of plagiarism and academic integrity. Loyola has an academic code of conduct that students are expected to follow. Any incidence of academic dishonesty on a quiz or exam will result in a grade of "0" and will be reported to the Chairperson of the Chemistry Department. A full copy of the Statement of Academic Integrity is available [online](#) in the undergraduate catalog.

Special Situations:

Students are urged to contact me should they have questions concerning course materials and procedures. If you have any special circumstance that may have some impact on your course work, please let me know so we can establish a plan for positive action. If you require assignment accommodations, please contact me early in the semester so that arrangements can be made with [Services for Students with Disabilities](#) (SSWD).

Success in this Class:

To succeed in this class, it is *imperative* that you interact with the material every day. The minimal work typically expected to achieve an average grade in this course is between 10 and 15 hours of work a week outside of class lectures and discussion. Achieving an excellent grade (A or B) typically requires that much more effort. As in learning a language or playing a musical instrument, you cannot learn chemistry just from listening to lectures. Make sure you do the readings before coming to class. Attempt the example problems as you read the textbook. *That is, try the problems yourself, do not just read along.* Only by struggling with chemistry problems can students learn to do chemistry problems. Do all the homework, and ideally participate actively in a study group. The assigned MasteringChemistry problems are designed to provide a starting point for you to practice problems and for me to evaluate your understanding of the material. To fully understand the material and develop problem-solving capabilities, you should do practice problems beyond those required for MasteringChemistry. The tutorials in Mastering are designed to help you work through a topic within a subject that you are struggling with. Students are encouraged to work together. Learning from your peers can help you with concepts that may be difficult; in addition, teaching your peers can deepen your own understanding, as well as deliver one of the most satisfying kinds of social justice: Helping those around us in our daily lives. Students are encouraged to contact each other to work on problems together, discuss ideas outside of class, and to study together. Sakai forums are available tools that can be used for this purpose. You should feel free to work together on MasteringChemistry assignments; however, each person should contribute to solving the problem. Simply copying from another student will not help you learn the material and is not acceptable. Exams are of course to be worked individually without assistance.

Missed Exams:

As stated above, there are no early nor make-up exams in this course. There are lateness rules for exams. If you miss an exam you will receive a score of zero on that exam. There are five exceptions to this rule, which apply only in very limited circumstances, as per University Regulations.

- a) Absence due to medical emergency. This exemption will be granted only under the most extraordinary circumstances. The student must be able to demonstrate beyond doubt that it was a medical emergency. The student must supply the instructor with a doctor's verification of the emergency. If a student has a medical emergency, they must see a doctor immediately or go to a hospital emergency room that day. Colds, headaches, sore-throats, etc. do not constitute medical emergencies.
- b) Death of a member in the immediate family, with appropriate documentation.
- c) Court appearance that cannot be rescheduled, with appropriate documentation.
- d) Absence while representing Loyola University in an official capacity (academic, athletic, etc.) with appropriate documentation.
- e) Religious obligation requiring the student to miss class, with appropriate documentation.

If you must miss an exam for one of the reasons specified in University regulations, please let me know as soon as practical, and submit supporting and verifiable documentation. In such cases your final exam will be weighted more to compensate for the missed exam. **It is in your interest to not miss an exam for any reason.** Students with four final exams on the same day of finals week are entitled to rescheduling of one of these exams. For appropriate final exam scheduling issues, students must e-mail a petition to Lester Manzano, Assistant Dean for Student Academic Affairs, CAS Dean's Office (Imanzan@luc.edu).

Other exams or a heavy workload during your exam day are not valid reasons for missing your exam. Missing, stolen, or lost textbooks or class notes are not a sufficient reason to delay taking the exam at the scheduled time. Vacation travel plans or a desire to end your semester early are not valid reasons for missing an exam.

Sakai:

This course will use the Loyola's implementation of Sakai to distribute information outside of class time. You should check Sakai every day, including weekend, for the duration of the course. Errors should be brought to the instructor's attention as soon as possible.

Student email:

You must have an LUC email account to use Sakai and communicate with me. If you use an email provider other than Loyola, forward your Loyola mail to that account. You should check your LUC e-mail every day for the duration of the course. I will only respond to e-mail from a Loyola e-mail address. Furthermore, inappropriate e-mails, including e-mails which address issues specifically prohibited, such as homework extensions, early exams etc. will not get a response.

Accommodations:

Students who have disabilities which they believe entitle them to accommodations under the Americans with Disabilities Act should register with the Services for Students with Disabilities (SSWD) office. To request accommodations, students must schedule an appointment with an SSWD coordinator. Students should contact SSWD at least four weeks before their first semester or term at Loyola. Returning students should schedule an appointment within the first two weeks of the semester or term. The University policy on accommodations and participation in courses is [available](#).

I have a sincere interest in helping students who have a physical or psychological difference that impedes their ability to study and/or learn. Please do not hesitate to ask me about your options, although of course the folks in the SSWD Office in Sullivan are always the best resource if you have questions. I will do whatever I can (that is appropriate) to help you navigate these waters.

Course Schedule:

The course is comprised of lecture, discussion section, reading assignments from the text, homework assignments, and exams. The schedule for all assignments and due dates are all on Mastering but are included below for completeness. **Please make a note of these dates.**

Week	Dates	Content	Reading Assignment
1	Aug 27,29,31	Introduction/Matter and Measurement/Atoms, Molecules, and Ions	Read Chapters 1 & 2
2	Labor Day	No Class September 3	
2	Sep 5,7	Atoms, Molecules, and Ions/ Stoichiometry	Read Chapter 3
3	Sep 10,12,14	Stoichiometry	
4	Sep 17,19,21	Reactions in Aqueous Media EXAM I (Chapters 1 -3)	Read Chapter 4
5	Sep 24,26,28	Reactions in Aqueous Media	
6	Oct 1,3,5	Reactions in Aqueous Media Thermochemistry	Read Chapter 5
7	Fall Break	No Class October 8	
7	Oct 10,12	Thermochemistry Electronic Structure of Atoms	Read Chapter 6
8	Oct 15,17,19	Electronic Structure of Atoms	
9	Oct 22,24,26	Nuclear Chemistry Exam II (Chapters 4 - 6)	Read Chapter 21
10	Oct 29,31, Nov 2	Periodic Properties of the Elements	Read Chapter 7
11	Nov 5,7,9	Periodic Properties of the Elements Basic Concepts of Chemical Bonding	Read Chapter 8
12	Nov 12,14,16	Basic Concepts of Chemical Bonding	
13	Nov 19	Molecular Geometry and Bonding Theories	Read Chapter 9
13	Thanksgiving	No Classes Nov 21 - Nov 24	
14	Nov 26,28,30	Molecular Geometries and Bonding Theories Exam III (Chapters 21, 7 - 9)	
15	Dec 3,5,7	Gases	Read Chapter 10
16	Finals Week	Final Exam - Fri 12/14 @ 4:15 PM	Enjoy Winter Break!

Student Support:[ITS Help Desk: 773-508-4487](#)[Tutoring Center](#)[Walking Help at Tutoring Center](#)[Pearson Support](#)[Services for Students with Disabilities](#)[Ethics Hotline: 855-603.6988](#)

Topic	Homework Due	Quiz Window
Course Preliminaries	8/29 & 8/31 at 2 am	
Matter and Measurement	9/3 at 2 am	9/4 2 pm to 9/5 2 am
Atoms, Molecules, and Ions	9/10 at 2 am	9/11 2 pm to 9/12 2 am
Stoichiometry	9/17 at 2 am	9/18 2 pm to 9/19 2 am
Reactions in Aqueous Media	9/29 at 2 am	9/30 2 pm to 10/1 2 am
Thermochemistry	10/13 at 2 am	10/14 2 pm to 10/15 2 am
Electronic Structure of Atoms	10/20 at 2 am	10/21/ 2 pm to 10/22 2 am
Nuclear Chemistry	10/27 at 2 am	10/28 2 pm to 10/29 2 am
Periodic Properties of the Elements	11/10 at 2 am	11/11 2 pm to 11/12 2 am
Basic Concepts of Chemical Bonding	11/20 at 2 am	11/20 2 pm to 11/21 2 am
Molecular Geometry and Bonding Theories	11/29 at 2 am	11/28 2 pm to 11/29 2 am
Gases	12/8 at 2 am	12/7 2 pm to 12/8 2 am
Course Summary	12/8 at 2 am	

Course Repeat Rule:

Effective with the fall 2017 semester, students are allowed only THREE attempts to pass Chemistry courses with a C- or better grade. The three attempts include withdrawals (W). After the second attempt, the student must secure approval for a third attempt. Students must come to the Chemistry Department, fill out a permission to register form or print it from the Department of Chemistry & Biochemistry [website](#), and personally meet and obtain a signature from either the Undergraduate Program Director, Assistant Chairperson, or Chairperson in Chemistry. A copy of this form is then taken to your Academic Advisor in Sullivan to secure final permission for the attempt.

Statement of Intent:

By remaining in this course, students are agreeing to accept this syllabus and to abide by the guidelines outlined in the document. Students will be informed should there be a necessary change to the syllabus.