

Chemistry 101-011 – Fall 2017 – Syllabus

Course:	Chemistry 101, General Chemistry A, 3 Credits: Lecture and discussion
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 A student may be withdrawn from the course at any time if the prerequisites have not been satisfied.
Lecture:	TuTh 8:30 – 9:45 am Flanner 133/Auditorium
Discussion	You must attend the section for which you are registered: Fridays 12:35pm, 1:40pm or 2:45pm
Instructor	Dr. Sandra Helquist (Ph.D.)
Email	To receive a response: send via Sakai to Instructor (select recipients) and leave subject line blank <u>OR</u> use your Loyola email account and send to shelquist@luc.edu with only <u>Chem 101-011</u> in subject line. In most cases I will be able to respond within 24 hours during the week when I am on campus.
Office	Flanner Hall 200B (shared office, please knock and wait for a response)
Office Hours	Policy is: just show up anytime! Mondays, Damen Student Center 1 st floor court, 9:30-11am Flanner 200 suite: Tuesdays 11am-12:45pm; Wednesdays 9:30-11am; Fridays 10:30am-noon You are welcome to stop by at any time to see if my door is open and check my posted schedule. Occasional extra hours may be announced in class, and online office hours are available by prior appointment via Zoom (link will be posted/emailed, use your Loyola login).

Course Materials

The textbook is Required: *Chemistry The Central Science*, Brown et.al., 14th edition; can use copies on reserve at the Library. Web access is Required for the ALEKS system and Sakai (also see sakai.luc.edu for additional information/recommendations), as well as for your Loyola email account regularly for messages sent to the class via Sakai. Each student will need a scientific calculator for problem solving; some, but not all, graphing calculators are acceptable (memory must be cleared). **Copyright/Intellectual Property reminder:** course materials provided by your instructors at Loyola may not be shared outside any course without the instructor's written permission.

Course Objectives

This course is the first in a two-semester sequence of general chemistry. We will focus on building a conceptual understanding of fundamental chemical principles including properties of atoms, molecules, states of matter, and chemical reactions. Students will learn the language of chemistry and develop their skills in scientific problem solving and critical thinking. This will serve as a foundation for further study in chemistry, other sciences and related disciplines.

- Differentiate types of matter based on their chemical and physical properties (for example, pure substances vs. mixtures, metals vs. nonmetals, ionic vs. covalent vs. metallic, electrolyte vs. nonelectrolyte).
- Use multiple perspectives of matter (macroscopic, particle, symbolic levels) to qualitatively describe and explain characteristics, properties, and relationships of the following: atomic structure, nuclear chemistry, periodicity, molecular structure, chemical bonding, chemical reactions, thermochemistry, aqueous solutions, gases.
- Quantify relationships between variables controlling chemical systems.
- Solve quantitative multistep problems combining multiple concepts within the systems.
- Differentiate among closely related factors, categorize problem types, and select appropriate tools to solve these problems.
- Apply chemical principles to explain natural phenomena.

IDEA Objectives: Chosen by the faculty for emphasis in General Chemistry courses

- Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)
- Learning to *apply* course material (to improve thinking, problem solving and decisions)
- Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc)
- Learning how to find, evaluate, and use resources to explore a topic in depth

Student and Faculty Expectations

Each student will determine her/his level of learning in the course. I expect each of you to take ownership of your learning early on during the semester, and to adjust your daily habits as needed to reach your desired level of achievement in the course. It is up to you to access resources for help as often as needed: office hours, tutoring, study groups, mentoring, and more. For this course, it is anticipated that the average independent working time (outside of class) required to learn the material in order to achieve a minimal passing grade of C- is 1-2 hours per day, EVERY DAY, as an estimate, but your needs will also vary depending on your prior knowledge and ability to master cumulative concepts in the course material as the semester progresses. What can you expect of me? My primary objectives are to provide you with the tools, environment, encouragement, and support to learn Chemistry. I expect that all of us will work together: please ask me for additional assistance, clarifications, and contact to me to provide feedback as needed.

Accommodations

Students requiring accommodations must provide appropriate documentation from the University and meet with the instructor to discuss arrangements. Accommodations are provided after receiving documentation and allowance of a reasonable time frame for implementation: minimally, one week in advance of an exam. Accommodations cannot be retroactive. Information for students with disabilities is available at: <http://www.luc.edu/sswd/>

Academic Integrity

You are encouraged to study with other students in and out of class, however, anything submitted for an individual grade during or outside of class must represent your own knowledge and understanding of the material. Evidence of cheating (for homework, quiz, or exam) will result in, at a minimum, a “zero” on the item and penalty up to failure of the course, as well as referral to the Dean’s Office. For the Undergraduate Catalog statement on academic integrity, visit: http://www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml

Course Outline & Class Attendance

We will cover most of Chapters 1-10 and 21 during the semester. A tentative Lecture schedule is posted on Sakai and will be updated as needed. We will review Chapter 1 on the first day of class, but not all textbook sections will be fully covered, so focus first on the material that is directly covered in readings and classwork or assigned for homework, quizzes and recommended problems. Pre-lecture readings will be updated continually on Sakai: these and the Pre-lecture ALEKS topics will help you come to class prepared to learn applications and practice higher-level analysis in class. Class attendance and active participation is vital for your learning and is expected of all students. Also bring questions to class every day. You are responsible for all material presented, assigned or handed out; Loyola students are expected to attend all course meetings so I do not provide any make-up assignments or assessments. If you miss a class for any reason, contact a classmate promptly to get the notes.

Classroom Guidelines

- A “participant” is any person present in the classroom. These guidelines are the product of students’ in-class discussions and independent submissions collected via online homework during Fall 2015. These guidelines went into effect after in-class group review & discussion, and allowance of time for additional feedback to the instructor.
- All participants are expected to respect, value, and encourage each other’s contributions in the classroom. This will be done by:
 - Participants actively listening to each other’s presentations, questions and answers. Distractions (side conversations, use of personal devices, other) will be kept to a minimum.
 - Participants asking questions individually and in groups; participants engaging in problem-solving individually and in groups.
 - Correct, incorrect, incomplete and partial answers to questions will be critically but respectfully examined and discussed to cultivate conceptual understanding of material from multiple perspectives.
 - Participants will seek to engage with the material by finding areas of personal interest and exploring topics further by asking questions and seeking additional resources for information.
- Contact me with questions, feedback, or problems regarding these guidelines and the norms of class proceedings.

Other Items

- A Tentative Lecture Schedule is posted on [Sakai in the Resources section](#) and will be updated as needed.
- A list of [Step-by-Step Best Practices, to be done on a Daily basis](#) is posted on Sakai (Resources). It is highly recommended that you use the extra resources in your textbook and MasteringChemistry for practice and help.
- Additional advice, suggestions for success, from multiple sources are posted on Sakai (Resources).
- [ALEKS Tips](#) will be continually updated on Sakai and I welcome your suggestions for these.
- A link to the official Loyola calendar can be found here: <http://luc.edu/academics/schedules/index.shtml>
- The Withdraw deadline for the semester is Friday November 3rd. Students can seek assistance with LOCUS procedures from the Department office (Flanner 125), or from academic advising in the Sullivan Center.
- 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. Read the full policy on this [Department website](#).
- For information about Loyola tutoring in the Sullivan Center, see: <http://www.luc.edu/tutoring/>
- Additional Resources will be continually posted and updated on Sakai.

Grading information is on the next page, and I hope that the measure of what you gain from this course will include much more than the letter on your transcript. Best wishes for a successful semester. Let me know what I can do to help you succeed. – Dr. Helquist

Grading	Homework	15%	<u>Cutoffs:</u>	A 92.5%	A- 90.0%
	Quizzes	15%	B+ 87.5%	B 81.0%	B- 78.0%
	<u>Exams</u>	<u>70%</u>	C+ 75.0%	C 69.0%	C- 65.0%
	Total score	100%		D 50.0%	

These are the grade cutoffs for Total scores. Letter grades are only assigned to your Total score, not to individual assignments, quizzes or exams. Total scores are not rounded up after calculation. Chemistry concepts and problem-solving skills are not easy to learn, thus the grading policy rewards students for keeping up with the material via quizzes and homework, as well as two grading options for the exams: note that both grading options for the exams give more weight to the comprehensive final exam than to a midterm exam. You will receive an estimated midterm grade before the withdraw deadline, and final course grades at the end of the semester are posted only on LOCUS. In accordance with departmental standards, the average course grade is usually between C+ and B- at the end of the semester. Grades are only based on the criteria listed in this syllabus: no substitutes, no additional criteria will be considered.

Homework

Online, at www.aleks.com, due MonWedFri at 11:59pm as Pre-lecture objectives. Assessments or “Knowledge Checks” are also automated in the system to help you remember course content throughout the entire semester. Chemistry is a complex and challenging subject, so I have chosen ALEKS to make sure you master the basic, fundamental concepts in the course to fully advance your personal educational and career goals. We have solid data that show this service can improve mastery and retention, particularly for students who would otherwise have difficulty passing. ALEKS will help you by finding out YOUR individual state of knowledge, and then tutoring you in only the topics on which YOU need to work. The final outcome, the list of topics to be mastered, has been set for the course, and it is the same for everybody. But YOUR individual path, how you will get from your present state of mastery to that ultimate goal, is going to be unique to you. No other student will have exactly the same experience. What you must do is decide to trust the system when it assigns you work: trust that this is indeed the work you should be doing now, and that doing it diligently will build the essential mastery you need to succeed in chemistry as fast as possible. ALEKS is worth 15% of your Course Grade. The 15% is distributed as follows: 50% Intermediate Objectives + 5% Final Knowledge Check + 45% Final pie mastery. You can find additional [ALEKS info and tips on Sakai](#).

Quizzes

No early quizzes, no make-ups! *Any missed quiz is scored as a zero.* Each discussion meeting starts with a 5-minute individual quiz: your best ten scores will be averaged and count as 5% of your course grade. Occasionally I will specify a topic or two for an upcoming quiz: write it down! The other 10% of your quiz grade will be the average of your best ten scores on group quizzes, to be completed in small groups (assigned by me) following each individual quiz. Group quiz content will include moderate-to-difficult short- and long-answer questions: the purpose of these is to foster cooperation and communication between students to help you learn by pushing your limits with the support of your group. Take note of areas where you struggle so that you can follow-up with more practice and help outside of class.

Exams

No early exams, no make-ups, no exceptions! Option 2 accounts for an unavoidable absence. Exams will consist of multiple-choice and long-answer questions and are completely individually. Exams comprise 70% of your overall course grade, automatically calculated as the HIGHER Total exam percentage between these two options:

Option 1: All 3 midterms, 15% each; final exam, 25%; Total exam % = 45% midterms + 25% final

Option 2: Best 2 midterms, 15% each; final exam, 40%; Total exam % = 30% midterms + 40% final

Midterms: 60 minutes, September 19, October 24, November 21. It is in your best interest to prepare for and take all exams. If you miss a midterm *for any reason*, Option 2 will be used to determine your grade. A second missed midterm will result in a score of *zero* counted in your course grade.

Final: 2 hours, Saturday December 16, 9-11 am. *Mandatory: a missed final exam will result in a course grade of F.* The final exam must be taken [on the date scheduled](#) per College of Arts and Sciences policy.

Exam Procedures

Phones, tablets, wireless devices, etc are not permitted. If seen or heard, device will be confiscated along with exam copy and student will be dismissed. Seating arrangements may be altered before and during the exam. Show up early with three items: (1) your Loyola ID, visible on desk to be checked; (2) working pencil(s); (3) working approved calculator (www.actstudent.org/faq/calculator.html), with the memory cleared, to be checked, extra batteries are recommended. All jackets, bags, loose accessories, etc must be left at the front of the classroom. Once the exam is distributed, if you exit the room (quietly, please), for any reason before time is up, your exam is complete and will be collected. I will return your midterm exam scoring sheets *during the discussion periods or in office hours* (copies are kept) and the exam questions will be posted on 4th floor Flanner by the elevators. Scoring errors must be brought to my attention in person no later than one week after the exams are returned. The final exam cannot be returned.