Chemistry 101-005 – Fall 2019 – Syllabus

Course: Chemistry 101, General Chemistry A, 3 Credits: Lecture and discussion
Prerequisites: A satisfactory performance on the Loyola math diagnostic test, or completion of Math 117 with a grade of C- or better. A student missing a prerequisite may be withdrawn at any time.
Lecture: MWF 8:15 – 9:05 am Flanner 133/Auditorium
Discussion You must attend the section for which you are registered: Th 10:00am, Mun-304; 1:00pm, Dum-235

Instructor Contact Information

Dr. Sandra Helquist (Ph.D.) Flanner Hall 200B is a shared office, please knock and wait for a response
Email policy: to receive a response, either use the email function in Sakai to send to Instructor (via select recipients) and leave subject line blank OR use your Loyola email address and put only "Chem 101-005" in the subject line, send to shelquist@luc.edu; in most cases I will be able to respond within 24 hours Monday-Friday when I am on campus.
Office Hours policy: 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). For regular OH, just show up!! Bring your questions anytime during the times listed. Bring a classmate with you or meet your classmates there to work together & get feedback & help.

In the STEM Center 1st floor Centennial Forum: Tuesday 12:30-2pm, Wednesday TBA
In the Flanner 200 office suite: Monday 11am-1pm, Thursday 8:30-9:30am

A limited number of 10-minute individual appointments are available on Fridays via Sakai Sign-up section.
Occasional Sunday afternoon hours will be held in Ireland's (lower level of Damen Student Center).

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. You will require a scientific calculator for problem solving. **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.

Student and Faculty Expectations

I expect you to take ownership of your learning and to use the STEM center and SI support as learning resources to help you reach your desired level of achievement in the course. 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, 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, and contact to me to provide feedback as needed.

Supplemental Instruction

There are SI group study sessions available to everyone in this course. Your SI is Rajavi Patel, a student who has excelled in the course. See www.luc.edu/tutoring for session schedules. Students are asked to arrive with their Loyola ID, lecture notes, and textbook. It is most beneficial if you attend weekly: come ready to work with your peers!

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 at this link (scroll down): https://www.luc.edu/chemistry/courses.shtml

Accommodations

Students requiring accessibility accommodations must provide appropriate documentation from the University SAC office and meet with the instructor outside of class to discuss arrangements. Plan ahead for the allowance of a reasonable time frame for implementation: minimally, one week in advance of an exam. Accommodations cannot be retroactive. Information for students is available at: http://www.luc.edu/sac/

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 on quizzes or exams will result in, at a minimum, a score of zero (which cannot be dropped) 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 and here for CAS: link

Course Outline & Class Attendance

We will cover most of Chapters 1-10 and 21 this semester. Pre-lecture readings will be updated continually on Sakai: these and the Pre-lecture ALEKS topics will help you come prepared to practice higher-level applications and analysis in class. The tentative Lecture schedule will be updated on Sakai as needed. We will briefly review some textbook sections, and others will be discussed in more depth, so focus first on the material that is directly covered in readings, classwork, homework, quizzes and recommended problems. Class attendance and active participation is vital for your learning and is expected of all students. Bring questions to class every day! You are responsible for all material presented, assigned or handed out; Loyola students are expected to attend all classes 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. Contact me with questions, feedback, or problems regarding these guidelines and the norms of class proceedings.
- 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.

Other Items

- A link to the official Loyola calendar can be found here: https://www.luc.edu/academics/schedules/
- The Withdraw deadline for the semester is on Friday November 1st.
- Loyola is using SmartEvals to provide instructor & course feedback. OIE will send emails near the end of the term.
- Additional resources, advice, and suggestions for success (from multiple sources) will be posted/updated on Sakai.
- On a strictly limited and pre-approved basis, a student may be allowed to miss a class in order to participate in a University-sponsored event (e.g., official athletic games). It is the student's obligation to inform the instructor of such an authorized absence in a timely fashion; in most cases, this information can be made available to the instructor at the beginning of the semester. Absences will be discussed in person after documentation is received.
- Accommodations for religious reasons will be considered if the request is made to the instructors in person within the first two weeks of the semester. Absences for religious observances will be discussed in person.

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%	Cutoffs:	A 92.5%	A- 90.0%
Quizzes	15%	B+ 87.5%	B 81.0%	B- 78.0%
Exams	70%	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. Grades are only based on the criteria listed in this syllabus: no substitutes, and no additional criteria will be considered. A sample grade calculation video will be posted in the Panopto section of Sakai to assist you in calculating/verifying your course grade.

Homework

Online, at www.aleks.com, due SunTueThu 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-based course grade is 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! 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. 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 exams 70 % = 45% midterms + 25% final
Option 2: Best 2 midterms, 17.5% each; final exam, 35% Total exams 70 % = 35% midterms + 35% final

Midterms: 50 minutes, Mon Sept 16, Wed Oct 16, Wed Nov 13. It is in your best interest to prepare for and take all exams. Extra time is not granted for late arrivals, including for the final exam. Final exam: 2 hours, Thursday December 12, 9:00 am. The University sets the schedule for finals, and there can be no divergence from the posted schedule of dates and times. The final exam is Mandatory: a student who does not take the final will not pass the course.

Exam Procedures

Phones, tablets, wireless devices, etc., are not permitted on your person. If seen or heard, device will be confiscated along with exam copy and student will be dismissed with a score of zero. 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 scientific calculator, extra batteries are recommended (or sign out a department calculator from me). 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 2nd floor Flanner in the hallway. 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.