

Chemistry 102-001 – Spring 2020 – Syllabus

Course:	Chemistry 102, General Chemistry B, 3 Credits: Lecture and discussion
Prerequisites:	Chemistry 101 or 105 and completion of Math 118 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 A student missing a prerequisite may be withdrawn at any time.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, 1:00pm, 2:30pm; Mund 204

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 102” 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 Regis, Seminar Room: Wednesday 10:15-11:45am

In the Flanner 200 office suite: Monday 12-2pm, Tuesday 4-5pm, Thursday 8:30-9:30am

A limited number of short, 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/eText is Required: *Chemistry The Central Science*, Brown/LeMay/Bursten/Murphy/Woodward, 14th edition; can use copies on reserve at the Library; the student guide and solutions manual are Optional. If you choose to use an alternate textbook you must do the extra work to align reading/figures/problems with the current edition. Web access is Required for use of the ALEKS learning system (links/information are posted on Sakai sakai.luc.edu). Emails will be sent to the class via Sakai (to your Loyola account). Each student will need a scientific calculator – only calculators approved for use on the ACT exam are permitted – all calculator memory must be cleared prior to use on exams. Calculators cannot be shared between students. **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

Prerequisite knowledge from Chemistry 101 is necessary for in-depth study of topics in Chemistry 102. We will focus on applying a conceptual understanding of fundamental chemical principles. Students will continue to 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.

The material is highly cumulative over two semesters, such that you will be able to do the following:

- Use multiple perspectives of matter (macroscopic, particle, symbolic levels) to qualitatively describe and explain characteristics, properties, and relationships of the following: liquids and solids, solutions, reaction kinetics, equilibria, acids and bases, reaction thermodynamics, electrochemical reactions.
- 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 problems.
- Apply chemical principles to explain natural phenomena.

Student and Faculty Expectations

Each student will determine their level of learning and grade achievement in the course. I expect each of you to make the decision to take ownership of your learning early during the semester. For a second-semester general chemistry course, the average independent working time (outside of class) required to learn the material to achieve a minimal passing grade of C- is 1.5-2.5 hours per day, every day, every week, of pre-and post-lecture readings, & homework, SI sessions, office hours, group study, additional preparation and problem-solving, spent by the student. This time is merely an estimate and it is up to you to devote the time necessary to achieve your desired course grade. What can you expect of me? My primary objectives are to provide you with the tools, environment, encouragement, and support to learn Chemistry. Because the course objectives are based on what students will learn, my teaching techniques include the use of pre-lecture homework, active learning and metacognition, to help you maximize your learning. I expect that all of us will work together: please ask me for additional assistance and contact me to provide feedback as needed.

Supplemental Instruction

There are SI group study sessions available to everyone in this course. Your SI is Jessica Bae, 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>

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 parts of Chapters 11-17, 19-21 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 March 23rd.
- 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

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/>

Grading	ALEKS	15%	<u>Cutoffs:</u>	A 92.0%	A- 87.0%
	Quizzes	10%	B+ 83.0%	B 78.0%	B- 74.0%
	<u>Exams</u>	<u>75%</u>	C+ 70.0%	C 64.0%	C- 60.0%
	Total score	100%		D 45.0%	

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, so I reward you for keeping up with the material via homework and discussion work, and we have two options for the exams (see details below). Note that both grading options for the exams give more weight to the final exam than a midterm exam. Each student 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. All scores are posted in the ALEKS and Sakai Gradebooks. Grades are only based on the criteria listed in this syllabus: no substitutes, no additional criteria will be considered for your scores. Please let me know what I can do to help you achieve your desired level of success in this course!

ALEKS

Online, www.aleks.com, due SunTueThu at 11:59pm as pre- and post-lecture objectives. Assessments or “Knowledge Checks” are also included to help you retain course content throughout the entire semester. Chemistry is a complex and challenging subject, so we 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. 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 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 list of topics to be mastered has been set for the course, and it is the same for everybody. But YOUR individual path is going to be unique to you. ALEKS is worth 15% of your Course Grade. The 15% is distributed as follows: 50% Intermediate Objectives, 5% Final Knowledge Check and 45% Final pie mastery. You can find additional [ALEKS info and tips on Sakai](#).

Quizzes

No early assignments, no make-ups, no exceptions. The purpose of group work is for cooperation and communication between students and the instructor to help you learn the material and develop your problem-solving skills at the level that will be expected on exams. The problems worked in discussion are mostly taken from old exams: if you struggle with any part of any question in the group session, make a note of it for your next study session and get help as needed. Then keep practicing (learning!) until you can solve similar and related problems on your own: the amount of practice and help required will be different for each of you. Discussion group work is worth 10% of your course grade. The two lowest scores will be dropped at the end of the semester to account for unavoidable absences (illness, emergency, etc).

Exams

No early exams, no make-ups, no exceptions. Exams comprise 75% of your overall course grade, and will be automatically calculated as the higher score between two options:

Option 1: All 3 midterms, 15% each; final exam, 30%; Total exam score = 75%

Option 2: Best 2 midterms, 17.5% each; final exam, 40%; Total exam score = 75%

Midterms: February 10, March 13, April 6. 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. It is in your best interest to prepare for and take all exams.

Final: 2 hours, Thursday April 30, 9:00 am. The [University sets the schedule for final exams](#), 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.

Exams are completed individually, using pencil or standard blue/black ink pens. Each exam will include multiple-choice and long-answer questions. I will return your midterm exams after the discussion periods or in office hours (copies are kept) and the key will be posted on the 4th floor of 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 will not be returned.