

Chemistry 102

Fall 2021

Course: Chemistry 102	Instructor: Prof. Jacob Ciszek
Lecture (All): Monday, Wednesday, Friday 9:30-10:20A Cuneo 109	Flanner Hall 122 Phone: (773) 508-3107 E-mail: jciszek@luc.edu
Discussion (002): Monday 10:50-11:40A Flanner 105	Textbook: Chemistry the Central Science (14 th ed.) by Brown, LeMay, et al.
Discussion (003): Monday 12:10-1:00P Flanner 105	Online HW: Sakai
Website: Sakai (sakai.luc.edu)	

Course Philosophy:

I teach because of a love for it. It's a joy when students have a breakthrough, and I hope to help you get there. But at the end of the day, your effort and diligence will be your biggest determinant of your grade, so please stay on focus. On my end, I will try and convince you that this is a subject that's really interesting and relevant. So there will be significant effort towards centralizing topics around hands-on application (hubs) and I insist that you *understand* the chemical source of the phenomenon you are studying. Hopefully this application focused style brings chemistry to you, and your diligence leads to your mastery of the material.

We have a limited amount of days allotted to class. Thus, it is very important that the class environment is free of distractions. No laptops or other computers are allowed. Cell phone use, including texting, is not acceptable.

COVID Protocols and Assistance:

Mask policy: "As a Departmental policy, even in the event the University relaxes its universal requirement for indoor mask-wearing during the Fall 2021 semester, it will remain a principle of this class-section that, out of respect for the health of housemates and others in regular contact with members of our community, in this class we properly wear masks at all times (e.g. over nose and mouth)."

Seating: For health and safety reasons the college asks that we keep track of where students sit on any given day. You can pick your initial seats and we ask that you sit in the same spot each week. A seating chart will be generated and will be initialed every class in case of the need for contact tracing.

Illness: If you are exhibiting any cold or flu like symptoms, you should remain at home. A variety of options are listed below to mitigate illness related issues.

Absence (lecture): Class lectures will be recorded and uploaded to Sakai (Panopto).

Absence (discussion): Illness based absences must be relayed (emailed) to the instructor by 9:00 AM (the Monday of the absence) as accommodation requires some planning. Any lecture material will be hosted to Panopto. Discussion groups for absent members will be completed via Zoom. If a student is performing more than 2 sessions remotely, medical documentation for all instances must be provided. More than 6 remote sessions is not allowed short of hospitalized incapacitation.

Absence (quizzes/exams): The primary mechanism for accommodating illness is the dropped exam/quiz (see grading below). If for some reason you feel you must take an exam/quiz (rather than dropping) this must be relayed (emailed) to the instructor on the day of the absence, by 9:00 AM. In this instance an oral exam/quiz will be scheduled no sooner 7 days and no later than 14 days after the original exam. Documentation of illness must accompany this request.

Absence (Homework): Homework is online and no accommodations are needed.

Note, documentation of illnesses is non-negotiable in the instances when it is listed above.

Office Hours: One set of office hours will be in person, while the other will be online.

Monday 2:00-4:00 P (55-82 °F) West quad, just north of the damen statue

(<55 or >82 °F) STEM center – St. Joseph Hall cafeteria

Thursday 3:30-4:30 P (except 9/9, <https://luc.zoom.us/j/88099092737>)

Academic Honesty & Discipline: Honesty is the foundation of the academic system and hence is of the utmost importance. All exam and quiz answers should be exclusively your own work and no outside materials are allowed. In the unfortunate event that a student is caught cheating, 100 points will be deducted from your total grade and you will be brought to the attention of the Department Chair and Dean of the College who will determine if further action should be taken.

Grading:

Problem sets – These sets are your primary preparation for quizzes and exams. They are posted to Sakai and consist of a series of problems from the book plus ~2 free response answers. These are due, on sakai, at the end of the day (11:59 P) listed on the schedule below. These come out roughly a week before the due date and are lengthy. Book problems will be done by honor pledge of completion, while free response questions will receive manual comments, but will also be graded for completion. But again, this is your regular (and most expansive) preparation for the exam, so do take it seriously.

Discussion points - These are given for the final portion of the discussion section where you are expected to work through some selected problems in small groups. The purpose here is to work through material presented in lecture. Discussion section may recap earlier material or introduce difficult concepts for a subsequent lecture. Again, these are graded for completion.

Quizzes – These are intended to be a sampling of recent material consisting of 3-5 problems. It is *not* intended to be comprehensive examination of material; that is for the exams. It also provides periodic checks on grading/progress so you don't have all your points coming from the Exam and Final. It also serves as an incentive for you to keep up on studies. The lowest quiz will be dropped.

Exams – These exams are comprehensive reviews of the two chapter most recently covered, plus whatever other material from earlier in the course is necessary to assess you on those chapters. It will be both multiple choice and free response. The lowest exam will be dropped.

Final exam – It's a final. Its like the exams but bigger.

Grading scale:

Problem Sets	8 × 3 pts	24		A > 90%
Discussion	13 × 3 pts	39		B > 80%
Quizzes	6 × 10 pts	60	(drop 1)	C > 70%
Exams	3 × 100 pts	300	(drop 1)	D > 60%
<u>Final</u>	<u>150 pts</u>	<u>150</u>		
Total		573		

Based on overall class competence the grading scale may be relaxed a little at the end of the semester (certainly no more than a percent). The A, B, C, D scale represents the maximum score you would need for that grade. Pluses and minuses are not indicated in the grading scale but will be given. This will be done according to the natural breakdown of the grade distributions. Expect this to be the closest 2% to the final A-B, B-C, and C-D divisions (e.g. A- is 90 to 92).

Other: Simple calculators will be provided to you on exam days. You will not use your own.

Schedule (including approximate topics and page numbers):

8/30	Philosophy; Hub : <i>What Give Materials Their Form, State, Miscibility</i> ; Molecular Scale Diagrams	p435-458 526-535		D1	
9/1	MSD; Forces to phenomena				
9/3	Equations, definitions, and problem solving				
9/6	No class, Labor Day				
9/8	Problem solving				↓
9/10	Multilayered problems, macroscale	↓			P1
9/13	Hub : <i>Salt in our lives</i> ; molecular scale diagrams	p536-555	Q1	D2	
9/15	Solute to FPD, Osmosis; Equations, definitions & problems				↓
9/17	Problems, multilayered problems, macroscale				P2
9/20	Mini-Hub : <i>Gas Dissolution</i> ; MSD, Eq., problems, etc.	↓	Q2	D3	
9/22	Review				
9/24	Exam 1		E1		
9/27	Mega-Hub : <i>Why & If Reactions Happen, pt A</i> ; MSD	p569-606		D4	
9/29	MSD, Collision theory, activation barriers, mechanisms, catal.				↓
10/1	Equations, definitions & problems				↓
10/4	Problem solving, multilayered problems, macroscale			D5	P3
10/6	Mega-Hub : <i>Why & If Reactions Happen, pt B</i> ; MSD	p623-52,834	Q3		
10/8	MSD, Molecular reversibility and energy to rates, products				↓
10/11	Mid-semester break				
10/13	Equations, definitions, & problems				P4
10/15	Problems, multilayered problems, macroscale	↓	Q4		
10/18	Class choice, Review			D6	
10/20	Exam 2		E2		
10/22	Big Hub : <i>Acids and Bases – Our Hidden Gems</i>	p665-739			
10/25	MSD, acid structure, interaction w/ water to acidity/basicity			D7	
10/27	Equilibrium to buffers; equations, definitions, & problems				
10/29	Problems, multilayered problems, macroscale	↓			↓
11/1	Problems, multilayered problems, macroscale	↓		D8	P5
11/3	Mini-Hub : <i>What Dissolves & When Can That Change</i> . MSD	p739-755	Q5		
11/5	Equilibrium to solubility; equations, definitions				↓
11/8	Problems, multilayered problems, macroscale	↓		D9	P6
11/10	Review				
11/12	Exam 3		E3		
11/15	Mega-Hub : <i>Why & If Reactions Happen, pt C</i> ; MSD	p807-835		D10	
11/17	MSD, positional entropy to energy				↓
11/19	Equations, definitions, & problems				P7
11/22	Problems, multilayered problems, macroscale	↓	Q6	D11	
11/24	Thanksgiving break				
11/26	Thanksgiving break				
11/29	Hub : <i>batteries and metals</i> ; MSD	p849-888		D12	
12/1	MSD, tracking charge to batteries				↓
12/3	Equations, definitions, & problems				P8
12/6	Problems, multilayered problems, macroscale	↓	Q7	D13	
12/8	Review				
12/10	Exam 4		E4		
12/16	Final (cumulative) 8:00P-10:00 P (common final time), room TBD				

Loyola Formal Statements:

PASS/FAIL CONVERSION DEADLINES and AUDIT POLICY.

A student may request to convert a course into or out of the "Pass/No-Pass" or "Audit" status only within the first two weeks of the semester. For the Fall 2021 semester, students are able to convert a class to "Pass/No-Pass" or "Audit" through Monday, September 13th. Students must submit a request for Pass/No-Pass or Audit to their Academic Advisor (see #11 below).

RETURNING TO CAMPUS

Please be familiar with and adhere to all guidelines posted on the *On-Campus Guidelines in Classroom Scenarios of the Return to Campus Guidelines* site: (<https://www.luc.edu/returntocampus/classroomscenarios/>)

Final Exam

The University sets the schedule for all final exams. The final will be held on: 12/16, 8p

You will have exactly 2 hours to complete the exam. Additional time will not be granted, even if you start late. There will be no make-up final exams given under any circumstance, and the exam will not be given early, either. Instructors may not reschedule final exams for a class for another day and/or time during the final exam period. There can be no divergence from the posted schedule of dates for final exams. Individual students who have four (4) final examinations scheduled for the same date may request to have one of those exams rescheduled. If a student reports having four final examinations scheduled for the same date, students should be directed to e-mail a petition to Adam Patricoski, Assistant Dean for Student Academic Affairs, CAS Dean's Office (apatricoski@luc.edu).

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: <http://www.luc.edu/chemistry/forms/> 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.

Student Accommodations

The Student Accessibility Center (formerly known as Services for Students with Disabilities), Sullivan Center (773-508-3700), <http://www.luc.edu/sac>, has the mission "to support, service, and empower Loyola University Chicago students with disabilities" and to "Partner with faculty and staff to provide opportunities for collaboration, professional development, personal growth, and staff interaction, as they relate to students with disabilities." Please direct all questions concerning accommodations of disabilities to the Student Accessibility Center. Academic accommodations afforded to students require documentation and review. The Student Accessibility Center will issue accommodation letters for registered students to present to their instructors; accommodations are not active until students present these letters to their instructors. If students' accommodations involve attendance or deadlines, instructors and students will jointly complete and execute an Agreement Form articulating their terms. See <https://www.luc.edu/sac/faculty/facilitatingaccommodations/> for guidance about implementing various kinds of accommodations in a way that is appropriate to your class. The Student Accessibility Center stands ready to work with you.

Academic Integrity

All students in this course are expected to have read and to abide by the demanding standard of personal honesty, drafted by the College of Arts & Sciences, which can be viewed at:

<http://www.luc.edu/cas/advising/academicintegritystatement/>

A basic mission of a university is to search for and to communicate the truth as it is honestly perceived. A genuine learning community cannot exist unless this demanding standard is a fundamental tenet of the intellectual life of the community. Students of Loyola University Chicago are expected to know, to respect, and to practice this standard of personal honesty.

Academic dishonesty can take several forms, including, but not limited to cheating, plagiarism, copying another student's work, and submitting false documents.

Any instance of dishonesty (including those detailed on the website provided above or in this syllabus) will be reported to The Chair of The Department of Chemistry & Biochemistry who will decide what the next steps may be. 100 points will be deducted from your grade.

Loyola University Absence Policy for Students in Co-Curricular Activities (including ROTC):

Students missing classes while representing Loyola University Chicago in an official capacity (e.g. intercollegiate athletics, debate team, model government organization) shall be allowed by the faculty member of record to make up any assignments and to receive notes or other written information distributed in the missed classes.

Students should discuss with faculty the potential consequences of missing lectures and the ways in which they can be remedied. Students must provide their instructors with proper documentation (develop standard form on web) describing the reason for and date of the absence.

This documentation must be signed by an appropriate faculty or staff member, and it must be provided as far in advance of the absence as possible. It is the responsibility of the student to make up any assignments. If the student misses an examination, the instructor is required to give the student the opportunity to take the examination at another time.

(<https://www.luc.edu/athletheadvising/attendance.shtml>)

Accommodations for Religious Reasons

If you have observances of religious holidays that will cause you to miss class or otherwise effect your performance in the class you must alert the instructor ***within 10 calendar days of the first class meeting of the semester*** to request special accommodations, which will be handled on a case by case basis.

Privacy Statement

Assuring privacy among faculty and students engaged in online and face-to-face instructional activities helps promote open and robust conversations and mitigates concerns that comments made within the context of the class will be shared beyond the classroom. As such, recordings of instructional activities occurring in online or face-to-face classes may be used solely for internal class purposes by the faculty member and students registered for the course, and only during the period in which the course is offered. Students will be informed of such recordings by a statement in the syllabus for the course in which they will be recorded. Instructors who wish to make subsequent use of recordings that include student activity may do so ***only*** with informed written consent of the students involved or if all student activity is removed from the recording. Recordings including student activity that have been initiated by the instructor may be retained by the instructor only for individual use.