

Chemistry 101

Fall 2017

Course: Chemistry 101	Instructor: Prof. Jacob Ciszek
Lecture (All): Monday, Wednesday, Friday 9:20-10:10A Sullivan – Galvin Auditorium	Flanner Hall 122 Phone: (773) 508-3107 E-mail: jciszek@luc.edu
Discussion (002): Wednesday 1:40-2:30P Flanner 105	Textbook: Chemistry the Central Science (14 th ed.) by Brown, LeMay, et al.
Discussion (003): Wednesday 2:45-3:35P Flanner 105	Online HW: MasteringChemistry
Website: Sakai (sakai.luc.edu)	

Course Philosophy: While every student may not enter the class with the intent to become proficient in chemistry, I strongly feel that my role as a professor is to get you to that point. Thus the expectations of you the student is through hard work, attending class, and completion of the homework you will obtain this proficiency and do well in the course. My role is to provide you with the information and the tools, in a coherent matter, so that solving said homework (as well as the quizzes and exams) are not burdensome.

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.

Office Hours: These consist of 2 or 1 hour(s) during the following time slots (3h total):

Monday 10:10A-12:10P

Wednesday 10:10-11:10A

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: For a typical week, three homework assignments are due. Roughly every two weeks, there will be a quiz or an exam.

The role of homework is to refresh the lecture information in your mind and prepare you for quizzes and exams. Homework will primarily be posted on MasteringChemistry with a rare paper assignment. Online homework will be due Monday, Wednesday and Friday at 8:00A. Collaboration on homework is allowed. MasteringChemistry does not necessarily mimic the style of questions on the exam/quizzes, so do not use it for exam prep; its main use is as a quick review of the lecture material and to see which concepts you're having trouble with. Your grade for homework will be the percentage of total points achieved, plus one percent, then scaled to be out of 60 points (example from last year, $137.2 \text{ pts out of } 169.5 = 81\% + 1\% = 82\%$ or $49.2/60$).

Quizzes are designed such that an average student who works hard and grasps the material should score ~85%. Exams (and the final) are designed so that this same student will score approximately 70-75%. This allows motivated students to truly go beyond what is expected and to distinguish themselves, not to penalize those who work as expected.

Discussion points 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.

There are no makeup exams, quizzes, or homework. However, circumstances may occasionally force you to miss one of these, and thus there are mechanisms that minimize the effect on your grade. For discussion points, two of the grades are automatically dropped. For homework, your grade will have 1% added to it (discussed above). One quiz and one exam can be dropped. The last point means two things: 1) you have the ability to miss an exam/quiz should circumstances (illness, wedding, etc.) prevent you from attending. However, if you miss an exam and a quiz, the final becomes a dramatically more important part of your grade (from 24% to 30%). For those of you who do not miss an exam or quiz, I will calculate your grade both with a dropped score and without, and you will receive the higher of the two.

Grading scale:		(w/ dropped exam&quiz)	
Homework:	60	60	A > 90%
Quizzes	4 × 15 pts 60	45	B > 80%
Exams	3 × 100 pts 300	200	C > 70%
Final	150 pts 150	150	D > 60%
Discussion	12 × 4 pts 48 (drop 2 of 14)	48	
Total	618	503	

Note, the intended scale for exams and the final would put the average just above the lowest C. Homework and quizzes will mitigate this a bit. 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 1-2% to the final A-B, B-C, and C-D divisions (e.g. A- is 90 to ~89)

MasteringChemistry: Homework for the class can be accessed via course number CISZEKCHEM101F17. In addition to acting as the online homework system, MasteringChemistry also has a “study area” available with additional resources.

Other: Simple calculators are allowed for exams. Those capable of storing complex (for example images) or large amounts (1+ pages of text) of information are not. See me if you are unsure about yours (or visit www.actstudent.org/faq/calculator.html).

Loyola Formal Statements:

The Tutoring Center offers free small group tutoring and lab (drop-in) tutoring for Loyola students. The groups meet once a week through the end of the semester and are led by a student who has successfully completed study in the course material. To learn more or request tutoring services, visit the Tutoring Center online at www.luc.edu/tutoring.

Students requiring accommodations at the University need to contact the Coordinator of Services for Students with Disabilities. The instructor will provide accommodations after receiving documentation from SSWD and allowance of a reasonable time frame for arrangements (minimally, one week in advance). Accommodations cannot be retroactive. Information is available at: <http://www.luc.edu/sswd/>

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 obtain a signature from 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.

Schedule (including approximate page numbers):

8/28	Matter. Syllabus	P1-11		
8/30	Measurements, units, convert	P17-33	H1	
9/1	Changes. Applications of chemistry	P5,6, 12-14	H2	
9/4	Labor Day			
9/6	Atoms: precedence & weight.	P44-54		Q1
9/8	Periodic table. Molecules & compounds	P55-60	H3	
9/11	Ions. Naming	P60-73	H4	
9/13	Nucleus, radioactive particles, change	P902-912	H5	
9/15	Nuclear applications.	P917-933	H6	
9/18	Nuclear conclusions. Review		H7	
9/20	Exam 1			E1
9/22	Reactions (1)	P85-109		
9/25	Reactions (2)	P85-109	H8	
9/27	Reactions (3)	P85-109	H9	
9/29	Solutions	P122-125		Q2
10/2	Precipitation, acid bases (basics)	P126-136	H10	
10/4	Interlude: oxidation/reduction	P137-143	H11	
10/6	Concentrations, conversions, stoichiometry	P144-152	H12	
10/9	Mid-semester break			
10/11	Review		H13	
10/13	Exam 2			E2
10/16	Introduction to energy. Simple E transfer	P164-175		
10/18	Tracking energy: enthalpy, Hess's law, H_f	P176-189	H14	
10/20	Calorimetry, Bond Energy	P178-194	H15	
10/23	Energy applied: foods & fuel	194-199	H16	
10/25	Electrons (and matter) as a wave	P214-218		Q3
10/27	Bohr model. Wave/math applied: soln.=orbital	P219-230	H17	
10/30	Orbital shapes, configuration	P231-240	H18	
11/1	Periodic predictions. Similarities in columns	P241-245, 259-287	H19	
11/3	Chapter 6-7 wrap up		H20	
11/6	Fundamentals of a bond	P300-307	H21	
11/8	Bonding complexities	P308-15	H22	
11/10	Bonding complexities (2)	P308-315		Q4
11/13	Bonding formalisms	P315-326	H23	
11/15	Molecular geometry: importance and intro.	P340-345	H24	
11/17	Complexities: lone pairs, expanded shells, etc	P346-353	H25	
11/20	Complexities: hybrids, etc.	P354-360	H26	
11/22	Thanksgiving			
11/24	Thanksgiving			
11/27	Complexities: multiple bonds, resonance	P361-68, 377-79	H27	
11/29	Review		H28	
12/1	Exam 3			E3
12/4	Gases and their calculations	P396-409		
12/6	Gas: application and behavior	P410-422	H29	
12/8	Gas reactions practice/Class choice		H30	
12/16	Final (cumulative) 1:00-3:00P			