

Chem 102 119, General Chemistry B, Spring 2019

Instructor:	Dr. David Klinger Office: 408 Cudahy Science Hall			Email: <u>dklinger@luc.edu</u> Phone: (773) 508 – 3432			<u>edu</u> 432		
Course Meetings:	Lecture: Flanner Auditorium Tu Th 4:15 – 5:30 PM Discussion: Flanner 105 or 007 Discussion: Mo @ 8:15 AM (F105), Mo @ 9:20 AM (F105), Tu (F007) @ 2:30 PM University rules require that students attend their (registered) discussion section, and no other. <u>NO EXCEPTIONS.</u>								
Course Description:	This is the second semester of General Chemistry. It builds upon the study of General Chemistry A. In this course a more in-depth study is undertaken of basic chemical principles: States of matter, intermolecular forces and solution chemistry, chemical kinetics, chemical equilibrium acid and base chemistry, chemical thermodynamics, and electrochemistry.								
Expectations:	Students are expected to (1) read the relevant portion(s) of the text, (2) attend lecture (3) do the assigned homework and (4) take the quiz at the end of each lesson to check that they are mastering the material. As always students are expected behave appropriately, consistent with University regulations and the rules stated in this syllabus.								
Course Prerequisites:	Preregui	site: Chei	mistry 101	or equiv	alent			Course Grade Components	
Course Grade:	Your final course grade will be based on the rubric at right. There fifty-minute exams 45% will be EC opportunities irregularly throughout the course. 0urse Grade Components			45% 35% 10%					
Grading Scale:	Percentage [94, 100] [91, 94)	Grade A A -	Percentage [80, 83) [77, 80)	Grade B - C +	Percentage [65, 68) [59, 65)	e Grade D+ D		Homework (mastering)	10%
Exams:	[88, 91) B+ [72, 77) C [0, 59) F [83, 88) B [68, 72) C Image: Complete the second term of								
Final Exam:	There is a The same grade of Under ce rules allo	a cumula e rules re zero for t ertain wel w a make	tive 2-hou i garding lat the exam. I Il prescribe e-up.	r final ex eness ap Earning a d and lin <u>NO</u>	am in Flan ply to the good grad nited circu EXCEPTIO	final. No de in thi mstance	ditorium on 3 ot taking the s course is ur es (see misse "HE FINAL EX	BO April 2019 at 4:15 PM. final exam results in a nlikely in such cases. d exams), University AM POLICY.	
Quizzes:	Quizzes will be featured on-line following completion of a chapter in the text. Successfully completing the quizzes is the only way to tell if you are indeed mastering the material. Quizzes tend to be 30 – 45 minutes. There is a quiz on the syllabus, for credit, during the first week, delivered via Sakai. Low Chem quiz dropped. NO EARLY QUIZZES, NO MAKE-UP QUIZZES. NO EXCEPTIONS.								
Homework:	Learning chemistry is not just about learning and understanding concepts. Learning chemistry entails learning to do chemistry problems. The only established way to learn to do chemistry problems. It may seem like a vacuous tautology, but								

it contains truth. Homework, as stated above is worth ten percent (10%) of your course grade. Due dates are posted in this syllabus and in Mastering. Late Homework declines in value 25% per day late. **NO HOMEWORK DEADLINE EXTENSIONS, NO EXCEPTIONS.**

Working together with other students on homework is the best way to do homework, and a great way to help your fellow students who may not have mastered the material as quickly as you have, or for you to learn from students who have mastered the material before you have (more on this later). Still, your work on the homework should be your own. Most importantly, you should try to organize yourself to do homework problems with nothing but equations and a calculator, as if you were taking an exam (perhaps with your notes or textbook handy if you get 'stuck.'). After all, practice for quizzes and exams is what homework is all about! Do not spend lots of time on a problem if you are 'stuck.' Ask a friend, go to tutoring (either by appt or walk-in), go for a run, send me an e-mail (see below on how to do that). Homework problems are intended to be fun and satisfying (seriously).

Intent of Grades: One aim of the grading policy is to allow time and incentive for improvement. Chemistry is not easy to learn, but the process can be rewarding if the necessary effort is made to master fundamentals as they appear. Students are urged to contact me to discuss problems before they become serious. Please see my videos on Panopto on learning and study methods.

Important Date: 25 March: Last day to withdraw with a grade of "W." After this date the penalty grade of "WF" is assigned.

 Required Materials:
 Text: Chemistry: The Central Science, 14th ed., Brown LeMay et al, Pearson (2018).

 MasteringChemistry is an online resource that accompanies the textbook. To use

 MasteringChemistry, you will need to purchase a student access code. Once you have

 signed up for MasteringChemistry, you should enroll in this course, using the Course ID:

 CHEM102SPRING2019DK.

 Calculator:
 Scientific calculator that can do trigonometric, exponential, and logarithmic

<u>Calculator</u>: Scientific calculator that can do trigonometric, exponential, and logarithmic functions; graphing capacity not required

Communication:Email is the best way to contact me. My service commitment on e-mail is to respond within
24 hrs. during the week, and within 48 hrs. on the weekends during the course, but I always
strive to exceed expectations. Technology issues go to Loyola's Help Desk
(helpdesk@luc.edu) or service provider (Pearson). If you cannot resolve an issue with
Pearson and need support to have it solved, please forward your e-mail chain to me, along
with a clear request stating what you need help with and why Pearson should comply with
your request. I cannot be helpful in such cases without the requisite background
information specified above.

Questions about Chemistry: If you cannot attend office hours, or are just wondering about some problem and are stuck, you are encouraged to send me an e-mail with your question(s). I require the following format for your e-mail questions(s): (a) pdf of the problem including, (b) pdf of your attempt(s) to solve the problem and (c) your question. To facilitate easy to create and easy to read pdfs, use of the <u>CamScanner</u> app is strongly encouraged, as it seems superior in my view to I-scanner and other popular apps. Screen shots are not readable on most of my electronic devices, so I am unlikely to be able to respond at all to your questions unless you send them in pdf format as specified.

Intellectual Property: All lectures, notes, PowerPoints and other instructional materials in this course are the intellectual property of the professor or Pearson. As a result, they may not be distributed or shared in any manner, either on paper or virtually without my written permission. Lectures may not be recorded without my written consent; when consent is given, those recordings may be used for review only and may not be distributed. Recognizing that your work, too, is your intellectual property, I will not share or distribute your work in any form without your writtenpermission.

Student Conduct: One important aspect of a Jesuit education is learning to respect the rights and opinions of

others. Please respect others by (1) allowing all classmates the right to voice their opinions without fear of ridicule, and (2) not using profanity or making objectionable or insensitive comments, especially comments directed at another member of the Loyola community, ie another student, your instructor, staff member etc. Students should not engage in side conversations during class. If something is important enough to discuss during lecture, then please let everyone hear your questions/comments. If electronic devices are used in class, they should only be deployed to support a student's learning process. Please be respectful of others' needs, both the learning process of other students and the teaching process of your instructor.

Academic Integrity: Loyola University Chicago takes seriously the issues of plagiarism and academic integrity. Loyola has an academic code of conduct that students are expected to follow. Any incidence of academic dishonesty on an exam will result in a grade of "0" and will be reported to the Chairperson of the Chemistry Department, who may refer the matter to the Dean of the College of Arts and Sciences at the Chair's discretion. A full copy of the Statement of Academic Integrity is available <u>online</u> in the undergraduate catalog.

Special Situations: Students are urged to contact me should they have questions concerning course materials and procedures. If you have any special circumstance that may have some impact on your course work, please let me know so we can establish a plan for positive action. If you require assignment accommodations, please contact me early in the semester so that arrangements can be made with Student Accessibility Center (SAC).

Couse Success: To succeed in this class, it is imperative that you interact with the material every day. As in learning a language or playing a musical instrument, you cannot learn chemistry just from listening to lectures. Make sure you do the readings before coming to class. Attempt the example problems as you read the textbook. That is, try the problems yourself, do not just *read along.* Only by struggling with chemistry problems can students learn to do chemistry problems. Do all the homework, and ideally participate actively in a study group. The assigned MasteringChemistry problems are designed to provide a starting point for you to practice problems and for me to evaluate your understanding of the material. To fully understand the material and develop problem-solving capabilities, you should do practice problems beyond those required for MasteringChemistry. The tutorials in Mastering are designed to help you work through a topic within a subject that you are struggling with. Students are encouraged to work together. Learning from your peers can help you with concepts that may be difficult; in addition, teaching your peers can deepen your own understanding, as well as deliver one of the most satisfying kinds of social justice: Helping those around us in our daily lives. Students are encouraged to contact each other to work on problems together, discuss ideas outside of class, and to study together. Sakai forums are available tools that can be used for this purpose. You should feel free to work together on MasteringChemistry assignments; however, each person should contribute to solving the problem. Simply copying from another student will not help you learn the material and is not acceptable. Exams are of course to be worked individually without assistance.

Missed Exams:As stated above, there are no early nor make-up exams in this course. Normally, if youmiss an exam you will receive a score of zero on that exam.

There are five exceptions to this rule, which apply only in very limited circumstances, as per University Regulations.

a) Absence due to medical emergency. This exemption will be granted only under the most extraordinary circumstances. The student must be able to demonstrate beyond doubt that it was a medical emergency. The student must supply the instructor with a doctor's verification of the emergency. If a student has a medical emergency, they must see a doctor immediately or go to a hospital emergency room that day. Colds, headaches, sore-throats, etc. do not constitute medical emergencies.

	b) Death of a member in the immediate family, with appropriate documentation.
	c) Court appearance that cannot be rescheduled, with appropriate documentation.
	 Absence while representing Loyola University in an official capacity, with appropriate documentation.
	e) Religious obligation requiring the student to miss class, with appropriate documentation.
	If you must miss an exam for one of the reasons specified in University regulations, please let me know as soon as practicable, and submit supporting and verifiable documentation. In such cases your final exam will be weighted more to compensate for the missed exam. Other exams or a heavy workload during your exam day are not valid reasons for missing your exam. Missing, stolen, or lost textbooks or class notes are not a sufficient reason to delay taking the exam at the scheduled time. Vacation travel plans or a desire to end your semester early are not valid reasons for missing an exam.
Sakai:	This course will use the Loyola's implementation of Sakai to distribute information outside of class time. You should check Sakai every day, including weekends, for the duration of the course. Errors should be brought to the instructor's attention as soon as possible.
Mastering Chemistry:	Quizzes and homework are delivered via mastering to make the material more useful to students, i.e. so students can get immediate feedback. Students are responsible for insuring that they have a sound internet connection to do this work. Therefore, unless there is a documented mastering outage, slowdown, etc. problems that students encounter with using mastering are not considered valid excuses . What should students do therefore? Two suggestions: Don't leave homework and quizzes to the last minute and use University computers to do quizzes. More on technical difficulties later.
Accommodations:	Students who have disabilities which they believe entitle them to accommodations under the Americans with Disabilities Act should register with the Student Accessibility Center (SAC). To request accommodations, students must schedule an appointment with an SAC coordinator. Students should contact the SAC at least four weeks before their first semester or term at Loyola. Returning students should schedule an appointment within the first two weeks of the semester or term. The University policy on accommodations and participation in courses is <u>available</u> .
	I have a sincere interest in helping students who have a physical or psychological challenge that impedes their ability to study and/or learn. Please do not hesitate to ask me about your options, although of course the folks in the SAC in Sullivan are always the best resource if you have questions. I will do whatever I can (that is appropriate) to help you navigate these waters.
Course Repeat Rule: <u></u>	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 <u>permission to register form</u> or print it from Depart of Chemistry & Biochemistry website, 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. Students are encouraged to seek help with the course material early and often during the semester. Attend office hours regularly for assistance before any deficiencies become serious!
Course Schedule:	The course is comprised of lecture, discussion section, reading assignments from the text, homework assignments (mastering), quizzes (mastering), and exams. The schedule for all assignments and due dates are all on Mastering but are included below for completeness. Please make a note of these dates.

W	Dates	Content	Reading Assignment
1	Jan 15, 17	Preliminaries, Liquids and Intermolecular Forces	Read Chapter 11
2	Jan 22, 24	Solids, Liquids and Intermolecular Forces Properties of Solutions	Read Chapter 12
3	Jan 29, 31	Properties of Solutions Chemical Kinetics	Read Chapter 13
4	Feb 5, 7	Chemical Kinetics	Read Chapter 14
5	Feb 12, 14	Chemical Kinetics Exam I - 2/14 (through Chapter 14)	
6	Feb 19, 21	Chemical Equilibrium	Read Chapter 15
7	Feb 26, 28	Chemical Equilibrium Acid-Base Equilibrium	Read Chapter 16
8	Spring Break	No Classes Mo 3/4 - Fr 3/8	
9	Mar 12, 14	Acid-Base Equilibrium Exam II - 3/14 (through Chapter 16)	
10	Mar 19, 21	More about Aqueous Equilibrium	Read Chapter 17
11	Mar 26, 28	More about Aqueous Equilibrium Chemical Thermodynamics	Read Chapter 19
12	Apr 2, 4	Chemical Thermodynamics	
13	Apr 9, 11	Chemical Thermodynamics Electrochemistry	Read Chapter 20
14	Apr 16	Exam III - 4/16 (through Chapter 19)	
	Easter Break	No Classes Apr 18 – 21	
15	Apr 22, 24	Electrochemistry	
16	Finals Week	Final Exam - Tu 4/30 4:15 PM	Enjoy the Summer!

Student Support:

ITS Help Desk: 773-508-4487 Tutoring Center

Ethics Hotline: 855-603.6988

Pearson Support Student Accessibility Center Tutoring: Supplemental Instructor Hours

Торіс	Homework Due	Quiz Window
Gen Chem A Review	1/19 at 2 am	
Liquids and Intermolecular Forces	1/26 at 2 am	1/25 2 pm to 1/26 2 pm
Solids and Modern Materials	2/2 at 2 am	2/1 2 pm to 2/2 2 pm
Properties of Solutions	2/9 at 2 am	2/8 2 pm to 2/9 2 pm
Chemical Kinetics	2/13 at 2 am	2/12 2 pm to 2/13 2 pm
Chemical Equilibrium	2/27 at 2 am	2/26 2 pm to 2/27 2 pm
Acid-Base Equilibrium	3/13 at 2 am	3/12 2 pm to 3/13 2 pm
More Aqueous Equilibrium	3/30 at 2 am	3/29 2 pm to 3/30 2 pm
Chemical Thermodynamics	4/13 at 2 am	4/12 2 pm to 4/13 2 pm
Electrochemistry	4/27 at 2 am	4/26 2 pm to 4/27 2 pm

Privacy Statement:	Ensuring 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 (this one) 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. I do not anticipate recording any student sessions, and this statement is included for completeness.
Technical Difficulties:	It is strongly encouraged that all required submissions to Sakai and Mastering Chemistry are made via a University computer and over a reliable wired internet connection [not wireless], which the University itself provides in the Information Commons and various computer labs on the Lake Shore Campus. Under NO circumstances will excuses of "technical difficulties" be accepted as reason for a late or missed quiz, in the absence of a verified mastering or Sakai outage, disruption etc. This syllabus therefore states that all students should use a wired internet University computer [not wireless internet] to submit work in Sakai or Mastering, and access course data/files. This list is not exhaustive and it should be noted that any activities required for this course that involve an internet connection should be completed using University computers with wired internet connection. Use of home internet [wired or wireless], University wireless, or public wireless is at your, the student's, own risk. It is not prohibited but as there is a disclaimer in this part of the syllabus, your Instructor is not responsible for technical difficulties with non-University devices [cell phone, tablet, home/work/public wireless internet or computer], even in the event of verified outages. Please do not submit items to Sakai or mastering using a cell phone or a tablet device as these do not generally provide reliable internet connection. Macs are also known to be less reliable with mastering. Please take note.
Student email:	You must have an LUC email account to use Sakai and communicate with me. If you use an email provider other than Loyola, forward your Loyola mail to that account. You should check your LUC e-mail every day for the duration of the course. I will only respond to e-mail from a Loyola e-mail address. Furthermore, inappropriate e- mails, including e- mails which address issues specifically prohibited, such as homework extensions, early exams etc., or in fact any topic covered in the syllabus may not get a response.
Schedule Adjustments:	Throughout the term, depending on progress in lecture, the schedule will be modified as appropriate. Changes to the schedule detailed in this syllabus will be communicated via Sakai (Overview page for this course), and e-mail. Quiz dates often change. Another reason why it is in your interest to check luc.edu e-mail and Sakai on a daily basis.
Statement of Intent:	By remaining in this course, students are agreeing to accept this syllabus and to abide by the guidelines outlined in the document. Students will be informed should there be a necessary change to the syllabus.