Calendar portion revised 8-21-20

General Chemistry 102 - Spring 2021

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Lecture	Tu/Th	3:00 – 4:15 p.m.	Zoom (Sect 004)
Discussion	Th	11:30 – 12:20 p.m.	Zoom (Sect 005)
	Th	1:15 – 2:05 p.m.	Zoom (Sect 006)

Office Hours Wed: 12:00 p.m. – 1:30 p.m. & Fri: 12:00 p.m. – 1:30 p.m.

Teaching Assistant	Matt Kochert
Email	mkochert@luc.edu
Office Hours	TBD

Supplemental Instructor	Thomas Hansen
Email	thansen@luc.edu
Office Hours	TBD

Required Text: Brown/LeMay/Bursten/Murphey/Woodward, "Chemistry: The Central Science" 14th Ed. hard copy or eText

Required Online: ALEKS (login information can be found under the resources tab in Sakai)

1. *Content-specific 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:
1. 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.
2. Quantify relationships between variables controlling chemical systems.
3. Solve quantitative multistep problems combining multiple concepts within the system.
4. Differentiate among closely related factors, categorize problem types, and select appropriate tools to solve these problems.
5. Apply chemical principles to explain natural phenomena.

2. *IDEA Objectives:* Chosen by the faculty for General Chemistry; also apply across other courses and disciplines

1. Gaining a basic understanding of the subjects (e.g., factual knowledge, methods, principles, generalizations, theories)
2. Learning to *apply* course material (to improve thinking, problem solving, and decisions)
3. Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
5. Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course

3. *Exam Dates (subject to change):*

Thursday, February 18, 2021:	**Mid-term Exam 1**
Thursday, March 18, 2021:	**Mid-term Exam 2**
Thursday, April 22, 2021:	**Mid-term Exam 3**
Wednesday, May 5, 2021:	**Final Exam, 8:00-10:00 p.m.**

4. *Quiz Dates (subject to change):*

Thur, February 4, 2021	**Quiz 1**
Thur, February 18, 2021	**Quiz 2**
Thur, March 4, 2021	**Quiz 3**
Thur, March 25, 2021	**Quiz 4**
Thur, April 15, 2021	**Quiz 5**
Thur, April 29, 2021	**Quiz 6**

5. *Quizzes, Exams, and Grading:* A total of six group quizzes will be given during the day of your discussion section. You will be assigned a discussion group the first week of class. Each group's quiz will be posted to the discussion section Sakai page. Each group will find the quiz posted under the "Assignments" tab at 12:00 p.m. Each group must submit one answered copy, signed by every member of the group, no later than 8:00 p.m. that same night. Do not submit more than one copy of the quiz per group. The lowest of your six quiz grades will be dropped. If you miss a quiz, that is the quiz that will be dropped. **No make-up quizzes will be given under any circumstances**.

There are three cumulative 50-minute mid-term exams and one cumulative 2-hour final exam. The three mid-term exams will be administered at the beginning of the scheduled lecture class. The exam will be posted to Sakai 10 minutes before the exam time. This time is to be used to print out a copy of the exam and get yourself into a quiet and comfortable place. All exams will be proctored over Zoom. **Students MUST take their exams on camera.** The use of cell phones, tablets, or any electronic devices is prohibited. You may not discuss or share the questions and answers with any other student in any class. Any violation of these policies will be in violation with the Academic Honesty policy described below. **Students cannot use their tablet or phone to take the exam. Exams must be answered on a printed copy of the exam or on loose leaf paper.** After the 50 minutes, you will have an additional 10 minutes to scan your exam (I recommend using CamScan) and upload your exam to Sakai. Exams will be graded and returned to you via

Gradescope within one week. Exams will consist of a combination of multiple choice, short, and long answer questions.

All grading questions, points of clarification, and grading errors must be brought to the instructor's attentions during office hours no later than one week after return of the exam. Depending on the class average, exams may be curved. The lowest of the three mid-term exams will be dropped. If you miss an hourly exam, that is the exam than that will be dropped. **No make-up mid-term exams will be given under any circumstances**. The final exam is cumulative and cannot be dropped.

ALEKS	15%	
Quizzes	10%	(Best five out of six quizzes)
Mid-term exams	40%	(Best two out of three mid-term exams)
Final Exam	35%	
TOTAL	100%	

The grading scale used to determine letter grades are as follows: **A** 100 – 92, **A-** 92 – 87, **B+** 86 – 83, **B** 82 – 78, **B-** 77 – 74, **C+** 73 – 70, **C** 69 – 64, **C-** 63 – 60, **D** 59 – 45, **F** < 45.

Students wanting to drop lecture after midterm may stay in the co-req lab only if lecture midterm grade, posted in LOCUS, is a D or better. Students should continue to attend lecture until the week of the drop date to gain as much background knowledge as possible. For Fall 2017 students wishing to drop lecture, and have a mid-term grade of D or better, can seek assistance from the Department of Chemistry and Biochemistry office beginning Monday 10/30 at 9:00am through Friday 11/3 at 4:00pm. Students with a midterm grade of F must drop the co-req lab along with the lecture. No exceptions.

6. *Final Exam:* The University sets the schedule for all final exams. The final exam will be held on:

Wednesday, May 5, 2021 8:00 – 10:00 p.m.

You will have 2 hours to complete the exam. There will be no make-up final exams given under any circumstance, and the exam will not be given early, either. Please contact your instructor immediately about any issues (e.g. poor internet connection, defective equipment) that arise before or during the exam.

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).

7. *ALEKS Assignments:* Online, www.aleks.com, due Tuesday, Thursday, and Sunday 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.

8. *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.

9. *Norms of Online Course Proceedings*: Class will consist of a live Zoom lecture. Students are encouraged to attend the live lecture. The Zoom chat function will be enabled so students can ask questions in real time. All lectures will be recorded and posted to the class Sakai page for students who are unable to attend the lecture or would like to review the content that was discussed during the lecture.

The classroom is to be a safe place to question and explore ideas. Student and teacher voices are important to this work. Collegial disagreement can be a healthy part of this process but must always include respect for all members of the class.

Course activities will be designed to help students reach the goal of learning chemistry content and developing critical thinking skills. This will more often be driven using data and reasoning to discover concepts and solutions rather than the identification and exchange of chemical facts and algorithms.

Students are expected to read individually on their own time outside of class.

10. *Discussion:* The discussion section will be devoted to working on discussion hand-outs and answering questions regarding homework problems. Discussion worksheets containing exam level content will be posted to the Sakai page on Thursdays at 9:00 a.m. CST. Use the time before your discussion section to work on these problems. The discussion class will be used to discuss how to answer these problems. All discussions will be recorded and posted to the class Sakai page for students who are unable to attend the discussions or would like to review the content that was discussed during the discussion class.

11. *Panopto and Recorded Lectures:* In this class software will be used to record live class discussions. As a student in this class, your participation in live class discussions will be recorded. These recordings will be made available only to students enrolled in the class, to assist those who cannot attend the live session or to serve as a resource for those who would like to review content that was presented. All recordings will become unavailable to students in the class when the course has concluded. *Students will be required to turn on their cameras at the start of class. Students who have a need to participate via audio only must reach out to me to request audio participation only without the video camera enabled.* The use of all video recordings will be in keeping with the University Privacy Statement shown below.

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.

12. *Copyright and Intellectual Property:* All material disseminated to the class (lectures, discussion worksheets, quizzes, exams) are copyrighted and the Intellectual Property of the class's Instructor. Students cannot share, upload, or distribute in any way the material presented in the class to any person who is not enrolled in the class without the Instructor's written permission. All materials distributed to the class will become unavailable to students in the class when the course has concluded.

13. *Forums*: Forums, found in Sakai, will be used to ask questions regarding the class, exams, and ALEKS. Please feel free to use this option to ask questions and start conversations that pertain to these topics.

14. *Students 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. Seehttps://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.

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

http://www.luc.edu/cas/pdfs/CAS_Academic_Integrity_Statement_December_07.pdf

Anything that you submit that is incorporated as part of your grade in this course (*e.g.* quiz, examination, homework, lab report) must represent your own work. Any students caught cheating will, at the very minimum, receive a grade of "zero" for the exam that was submitted and this grade cannot be dropped. If the cheating occurred during a course exam, the incident will be reported to the Chemistry Department Chair and the Office of the CAS Dean. Depending on the seriousness of the incident, additional sanctions may be imposed.

16. *Strategies and Suggestions:*

- The best method of learning organic chemistry is to work the assigned problems and write out the answers. *Then* check your answers versus the Answer Key.
- Study at least 10 hours per week and maintain a steady pace of studying. Chemistry continually builds, like a language, so studying some every day is most effective.
- Skim the current chapter before the corresponding lecture, so that you will be aware of the topics to be covered.

17. *Practices for Success:* Supporting claims with evidence, making applications, solving and analyzing problems, and using chemical principles to explain phenomena are critical skills in the field of chemistry. The development of these skills is not without some frustration, but it carries the reward of deepening one's ability to think critically and solve problems in any field. The use of targeted, guiding questions, regularly scheduled work, and strategic study plans can greatly assist the learning of chemistry. With such a focus, hopefully any frustration will quickly turn to appreciation and fascination for the relevance and connectedness of chemistry in your life and within the world around you. Solving and analyzing problems is the most important feature of this work. If, at any time, you need assistance framing such plans for your work in chemistry, please do not hesitate to ask the instructor.

18. *Tutoring:* The tutoring Center at the university offers free tutoring to students. To see the complete tutoring schedule and find additional information, visit the Tutoring Center webpage at www.luc.edu/tutoring

19. *Office Hours:* My "office" door will be open per the times listed. Join the Zoom link posted for office hours. Please use this time to if you have extra questions regarding this course. If you are unavailable to meet at the listed times, please use "*Forums*" to ask me questions.

20. *Email:* Feel free to email me questions at any time. All emails must be sent through the student's LUC email address and **MUST** include "CHEM 102-004" in the subject line. Emails that are sent Monday – Friday will be answered within 24 hours. Emails sent on Saturday, Sunday, or doing breaks will be answered within 48 hours. This policy applies to the Instructor, Teaching Assistant, and Supplemental Instructor.

21. *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/athleteadvising/attendance.shtml)

22. *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.

23. *Harassment (Bias Reporting):* It is unacceptable and a violation of university policy to harass, discriminate against or abuse any person because of his or her race, color, national origin, gender, sexual orientation, disability, religion, age or any other characteristic protected by applicable law. Such behavior threatens to destroy the environment of tolerance and mutual respect that must prevail for this university to fulfill its educational and health care mission. For this reason, every incident of harassment, discrimination or abuse undermines the aspirations and attacks the ideals of our community. The university qualifies these incidents as incidents of bias.

In order to uphold our mission of being Chicago's Jesuit Catholic University-- a diverse community seeking God in all things and working to expand knowledge in the service of humanity through learning, justice and faith, any incident(s) of bias must be reported and appropriately addressed. Therefore, the Bias Response (BR) Team was created to assist members of the Loyola University Chicago community in bringing incidents of bias to the attention of the university. If you believe you are subject to such bias, you should notify the Bias Response Team at this link: http://webapps.luc.edu/biasreporting/

Calendar portion revised 8-21-20

General Chemistry 102 Tentative Lecture Schedule (subject to change)

1-19	11	Introduction & Review, Liquids and Intermolecular Forces
1-21	11	Liquids and Intermolecular Forces
1-26	11	Liquids and Intermolecular Forces
1-27	11/13	Liquids and Intermolecular Forces/Properties of Solutions
2-2	13	Properties of Solutions
2-4	13/14	Properties of Solutions/Chemical Kinetics
2-9	14	Chemical Kinetics
2-11	--	*Spring Break 1.0?*
2-16	14	Chemical Kinetics
2-18	--	*EXAM 1 (Chapters 11 – 14 or as announced)*
2-23	15	Chemical Equilibrium
2-25	15	Chemical Equilibrium
3-2	15	Chemical Equilibrium
3-4	16	Acids and Bases
3-9	--	*Spring Break 2.0?*
3-11	16	Acids and Bases
3-16	16	Acids and Bases
3-18	--	*Exam 2 (Chapters 15 & 16 or as announced)*
3-23	17	Additional Aspects of Aqueous Equilibria
3-25	17	Additional Aspects of Aqueous Equilibria
3-30	17	Additional Aspects of Aqueous Equilibria
4-1	17	Additional Aspects of Aqueous Equilibria
4-6	19	Chemical Thermodynamics
4-8	19	Chemical Thermodynamics
4-13	19	Chemical Thermodynamics
4-15	19/20	Chemical Thermodynamics/Electrochemistry
4-20	20	Electrochemistry
4-22	--	*Exam 3 (Chapters 17 – 20 or as announced)*
4-27	20	Electrochemistry
4-29	21	Nuclear Chemistry
5-5	--	**Cumulative Final Exam, Zoom** **Wednesday, May 5, 8:00-10:00 p.m.**