LOYOLA UNIVERSITY CHICAGO

Department of Chemistry & Biochemistry
1068 W. Sheridan Rd.
Chicago, IL 60660
https://www.luc.edu/chemistry/

**Course:** **General Chemistry (CHEM 101)**
Semester: Spring 2021
Lecture: 001 - MWF 2:50-3:40 PM CST https://luc.zoom.us/j/89042530150
Discussions: 002 – W 9:30-10:20 AM https://luc.zoom.us/j/87030968959
003 – W 10:50-11:40 AM https://luc.zoom.us/j/89153594654
004 – W 1:30-2:20 PM https://luc.zoom.us/j/82540460695
***Attend assigned discussion section*
***Synchronous lecture/discussion may switch to asynchronous or include asynchronous supplemental material, as circumstances warrant*
***Use Zoom-Pro link in Sakaii side-bar or links provided to access Zoom meetings*
***Lecture will be recorded / uploaded to Panopto (Sakaii side-bar) within 2 days*

**Professor:** **Dr. Caitlin G. Decker, PhD**
Office: FH 200A (Zoom 289 445 029) https://luc.zoom.us/j/289445029
Office Hours: T 10:30-11:30 AM (Chem 101designated OH)
F 11:30 AM-12:30 PM (Open to all sections)
Email: *cdecker@luc.edu*
*** No problem-solving questions via email – only in discussion section / office hours.*
*** Use "Office Hours" link in Sakaii side-bar or link provided to access zoom*

**Teacher's Assistant:** **Adri Lugosan** (alugosan@luc.edu)
Office Hours: M&F 1:30-2:30 PM (Zoom https://luc.zoom.us/j/87800859985)

**Supplemental Instructor:** **David Hill** (dhill9@luc.edu)
SI Sessions: M 5-5:50pm, T 4-4:50pm, Th 6-6:50pm https://luc.zoom.us/j/81114942074

**Course Description:** Lecture and discussion. Basic chemical principles. Topics: atomic and molecular structures, states of matter, energetics and reaction stoichiometry. For non-chemistry majors and students in the B.A. Chemistry program.

**Prerequisite:** Math 117 w/ C- or better OR math proficiency exam (CHEM 111 co-req.)

**Materials:** **Textbook / Learning Platform**
Brown, LeMay, et. al. (2018) Pearson Modified Mastering Chemistry Access Card for Chemistry, The Central Science (plus eText) **14th Ed.**

Registration:
Course ID: decker91444
**Follow registration / purchase instructions posted in Sakaii Resources
**can later purchase loose-leaf within Mastering etext for ~$44.99

**Required Technology**
Zoom (https://www.luc.edu/its/itrs/teachingwithtechnology/zoom/)
Modified Mastering Chemistry Platform (included with above purchase)
Non-graphing calculator (ie// TI-30XIIS) -$13 (amazon)

**Sakaii:** All students are enrolled in the class Sakaii site. It is imperative that you check this site daily to keep informed of all activities.

**Important Dates:** Mar 19th – Midterm Grades / Academic Alerts
Mar 29th – withdraw deadline (W vs. WF)

**Homework:** **Mastering Chemistry Assignments (10%)**
It is expected that students will read the chapters prior to the first class in which the material is presented (this should take 2-3 hours per chapter – highlight, take notes!). Homework assignments and optional practice assignments will be listed in the Mastering Chemistry platform. The "Calendar" function is a good place to look and see what is due and when. Additional practice is encouraged using the end-of-chapter problems (odd answers at the back of the textbook). Suggested problems may be highlighted for emphasis throughout lecture and discussion. Keep in mind that for a 3-unit (3-credit) course students should spend ~9-12 hours / week studying and attempting practice problems to keep-up with the pace of the course. The highest homework score will replace the lowest *two* scores – this allows for 2 missed assignments due to illness or any other reason.
**assignment content and due dates / times in Mastering may be edited / altered, added/removed at the professor's discretion, as the semester dictates

**Participation:** **Discussion Session Participation (10%)**
Students are expected to regularly attend discussion. Discussion sessions will include interactive activities, problem solving, hand-outs, practice quizzes and/or other activities. Much of this work will be done in small groups (Zoom break-out sessions) although some individual work may be assigned. Grading of these assignments/sessions will be for effort and participation rather than correctness. Participation will be monitored by the TA and/or professor, and attendance may be recorded in a variety of ways (upload a filled-out handout on Sakaii, answer a mini-quiz on Sakaii, Zoom attendance record, etc). The TA or professor will notify students each session as to how attendance should be submitted. Attending is not a guarantee of points- actively answering questions (but allowing other students to also speak!) and actively problem-solving (showing work on handouts) is required. Students may earn up to 1% per session for up to 10 sessions (so 10% max possible participation points).

**Exams:** **Online Exams + Final (80%)**
Exams will be taken online. Exams are not cumulative; however, material builds on prior knowledge. Final exam IS cumulative. Exams may be entirely multiple choice or have short answer, essay or matching questions in addition. Pdf upload may be required for long answer sections if included. The first 10 minutes on Zoom will be used for announcements and set-up prior to the start time. Exams are timed to include sufficient buffer for internet connectivity issues and file upload. Exam timer does not start until "Begin Assessment" is clicked.
**Exam Dates:**
**Exam 1 – Fri Feb 19th**
**Exam 2 – Fri Mar 19th**
**Exam 3 – Fri Apr 16th**
**FINAL - Wed, May 5th, 8 PM *online*** *Final Exam IS Cumulative

**Exam Protocol:**

1) Sign-in to zoom (via Sakaii course site) cameras ON at class start on a phone or other *secondary device*. **Angle camera** towards self, desk, and computer or *primary device* screen (ie// from side or behind).
2) Download and launch Respondus LockDown Browser on primary device https://loyola.screenstepslive.com/s/17190/m/84387/c/329155
3) Open Sakaii-based exam through LockDown app on primary device.

***SAC students will have **time and a half** from the same start-time*
**It is the students' responsibility to ensure that Respondus LockDown Browser functions on the primary device ***prior*** to each exam. All issues should be referred to ITRS: ITSservicedesk@luc.edu 773.508.4487
** Do NOT wear any headphones, although ear *plugs* are permitted
****Announcements on Sakaii override any described procedures here**

**Grading Scale:**

| | | |
|---|---|---|
| | 93-100% = A | 90-92% = A- |
| 87-89% = B+ | 83-86% = B | 80-82% = B- |
| 77-79% = C+ | 73-76% = C | 70-72% = C- |
| 60-69% = D | | |
| Below 60% = F | | |

***Professor reserves right to implement a curve. Grade rounded up **if** within 0.5% (89.5 = A- and 89.4 = B+)*

**Grade:**

Grades will be determined using the *higher* of the two methods below:

1) Participation + Mastering Homework = 20%.
   Remaining 80%: All three midterms + final are averaged
2) Participation + Mastering Homework = 20%.
   Remaining 80%: Top 2 mid-terms weigh ¼ each, final weighs ½
   ***due to this policy there will be NO make-up exams. If you miss an exam, it will count as the "dropped" exam, and method #2 will be used to calculate the grade.*

To calculate what you need on the Final:

Ex 1) Student X wants to calculate the grade needed on the final exam in order to gain an overall score of 70% or a C- in the class. Student X has received the following scores thus far:

Homework: 60%; Participation: 90%
Exam 1: 56%; Exam 2: 70%; Exam 3: 42%

Method 1:
(56+70+42+N)/4 *0.8+ 60*0.1+90*0.1 = 70
Subtract 15 from each side, then x4 and /0.8 on each side to give:
56+70+42+N=275
Subtract the 3 known scores to give
N=107%

Method 2:
(56+70+2N)/4*0.8+60*0.1+90*0.1 =70
Subtract 15 from each side, then x4 and /0.8 on each side to give:
56+70+2N=275
Subtract the 2 known scores to give
2N= 149
Divide by 2 on each side
N=74.5%

Therefore, Student X needs to earn a score of 74.5% on the final exam in order to pass the class with an overall grade of 70% or C-

**Additional Resources:**

**1) SI (Supplemental Instruction) Sessions**
There are **online** Supplemental Instruction (SI) study sessions available for this course. SI sessions are led by an SI leader, who is a student that has recently excelled in the course. Session attendance is open to all, and while it is voluntary, it is extremely beneficial for those who attend weekly. Times and locations for the SI session can be found here: www.luc.edu/tutoring. Students who attend these interactive sessions find themselves working with peers as they compare notes, demonstrate and discuss pertinent problems and concepts, and share study and test-taking strategies. Research shows students whom regularly attend sessions have higher grades at the end-of-the-semester and more deeply understand course concepts than those who do not. Students are asked to arrive with their Loyola ID number, lecture notes, and textbook. The SI is your advocate, and all interactions with an SI are confidential. The SI may share general feedback to the professor but will never indicate the comments or performance of any specific student. Attendance in the SI sessions will not be shared with the professor and does not affect final grades.

**2) Tutoring Center**
The tutoring center offers drop-in Zoom tutoring sessions as well as individual appointments via TutorTrac. Success coaches are also available. https://www.luc.edu/tutoring/

## Institutional Policies:

Loyola Official Academic Calendar: www.luc.edu/academics/schedules

Incomplete Grade:
If the Final Exam is missed for extenuating circumstances (incapacitating illness, immediate family member death, fire/flood or related emergency) students must fill-out an "Incomplete Grade Form". Be aware that the option to apply for an incomplete grade is at the discretion of the professor. Incomplete grade info: https://www.luc.edu/regrec/faculty.shtml

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.
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!

Accommodation Requests:
Additional time on exams, a quiet space for exams, a note-taker, or permission to record lectures can be requested for qualifying students. It is the responsibility of the student to register with SAC and to provide documentation to the professor prior to the initiation of such accommodations.
Student Accessibility Center: https://www.luc.edu/sac/registerwithsac/

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. **Lapses in academic integrity will result in a grade of 0 (zero) on the assignment or exam, which cannot be "dropped" per any other class policy. A second transgression will result in a grade of 0 (zero) in the course overall.**

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)

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.

Recording of Zoom class meetings:
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. Students may not share, electronically (uploading to the web) or otherwise (email, text message, in-person, etc.), any material outside of this course including but not limited to: Zoom/Panopto recordings, PowerPoint or other presentations, tests, quizzes, screenshots, handouts, journal articles, or any created material from the course. Any breach to this policy can result in legal action.

## Tentative Course Schedule/Outline:

**The instructor reserves the right to adjust the schedule, assignments, and grading rubric as circumstances may warrant during the semester.

| Week | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
| 1 | *Jan 18th* | *Jan 19th* | *Jan 20th* | *Jan 21st* | *Jan 22nd* |
| | ***MLK*** | | Syllabus / Ch. 1 | | Ch. 1 |
| 2 | *Jan 25th* | *Jan 26th* | *Jan 27th* | *Jan 28th* | *Jan 29th* |
| | Ch. 2 | | Ch. 2 | | Ch. 2 |
| 3 | *Feb 1st* | *Feb 2nd* | *Feb 3rd* | *Feb 4th* | *Feb 5th* |
| | Ch. 3 | | Ch. 3 | | Ch. 3 |
| 4 | *Feb 8th* | *Feb 9th* | *Feb 10th* | *Feb 11th* | *Feb 12th* |
| | Ch. 4 | | Ch. 4 | ***Break 1*** | |
| 5 | *Feb 15th* | *Feb 16th* | *Feb 17th* | *Feb 18th* | *Feb 19th* |
| | Ch. 4 | | Review / Catch-up | | ***EXAM 1*** |
| 6 | *Feb 22nd* | *Feb 23rd* | *Feb 24th* | *Feb 25th* | *Feb 26th* |
| | Ch. 5 | | Ch. 5 | | Ch. 5 |
| 7 | *Mar 1st* | *Mar 2nd* | *Mar 3rd* | *Mar 4th* | *Mar 5th* |
| | Ch. 6 | | Ch. 6 | | Ch. 6 |
| 8 | *Mar 8th* | *Mar 9th* | *Mar 10th* | *Mar 11th* | *Mar 12th* |
| | ***Break 2*** | | | | Ch. 7 |
| 9 | *Mar 15th* | *Mar 16th* | *Mar 17th* | *Mar 18th* | *Mar 19th* |
| | Ch. 7 | | Review / Catch-up | | ***EXAM 2*** |
| 10 | *Mar 22nd* | *Mar 23rd* | *Mar 24th* | *Mar 25th* | *Mar 26th* |
| | Ch. 8 | | Ch. 8 | | Ch. 8 |
| 11 | *Mar 29th* | *Mar 30th* | *Mar 31st* | *Apr 1st* | *Apr 2nd* |
| | Ch. 8 | | Ch. 8 | | ***Break 3*** |
| 12 | *Apr 5th* | *Apr 6th* | *Apr 7th* | *Apr 8th* | *Apr 9th* |
| | ***Break 3*** | | Ch. 9 | | Ch. 9 |
| 13 | *Apr 12th* | *Apr 13th* | *Apr 14th* | *Apr 15th* | *Apr 16th* |
| | Ch. 9 | | Ch. 9 / Review | | ***EXAM 3*** |
| 14 | *Apr 19th* | *Apr 20th* | *Apr 21st* | *Apr 22nd* | *Apr 23rd* |
| | Ch. 10 | | Ch. 10 | | Ch. 24 |
| 15 | *Apr 26th* | *Apr 27th* | *Apr 28th* | *Apr 29th* | *Apr 30th* |
| | Ch. 24 | | Ch. 24 | | Review |
| 16 | *May 3rd* | *May 4th* | *May 5th* | *May 6th* | *May 7th* |
| | **Final Exam Week** | | ***FINAL EXAM 8 PM*** | **Final Exam Week** | |

## Course Content:

Ch 1. Matter, Energy, and Measurement.
Ch 2. Atoms, Molecules, and Ions
Ch 3. Chemical Reactions and Reaction Stoichiometry
Ch 4. Reactions in Aqueous Solution
Ch 5. Thermochemistry
Ch 6. Electronic structure of atoms
Ch 7. Periodic Properties of the Elements
Ch 8. Basic Concepts of Chemical Bonding
Ch 9. Molecular Geometry and Bonding Theories
Ch 10. Gases
Ch 21. Nuclear Chemistry (*Selected Topics, if time allows*)
Ch 24. Organic & Biological Chem. (*Selected Topics, as time allows)*