

Chemistry 101 Fall 2020 Course Guidelines

Instructor: Daniel Graham, Flanner Hall Room 401 (office and voice-mail, 773 508-3169); Loyola Chemistry Office: 773 508-3100; FAX: 773 508-3086; email: dgraha1@luc.edu

Supplemental Instructor (SI): Catherine Nguyen

Course Assistant: Maxwell Gillum

DG meeting and tutoring hours: M, W, F 4:00 – 5:00, or by arrangement.

CN and MG meeting and tutoring hours: TBA

Class Meetings: T, Th 9:45 – 11:00 AM via Zoom

Discussion Meetings: Th 1:15 – 2:05 via Zoom
Th 3:00 – 3:50 via Zoom

Textbook: *Chemistry, the Central Science*, by Brown, LeMay, Bursten, Murphy, and Woodward, Fourteenth Edition. This text will also be used in Chemistry 102.

The course will cover essential material of Chapters 1 – 10 with a brief excursion into nuclear chemistry. The topics will include:

1. Matter, measurements, physical and chemical properties.
2. Atomic theory and the elements; molecules, ions, and compounds.
3. Stoichiometry and chemical formulas.
4. Reactions in Aqueous Solution
5. Thermochemistry
6. The electronic and nuclear structure of atoms
7. More electronic structure: periodic law.
8. Chemical bonding and molecular structure.
9. More molecular structure
10. Gas Laws

Exams:

There will be three in-class exams and one final exam: refer to the schedule on page three for dates and times. Each exam will consist of questions and problems representative of the textbook, lecture, and discussion meetings. All answers and supporting work will be entered into an electronic file provided by the instructor. A non-cell-phone calculator, periodic table, and a single page of notes (normal paper, both sides OK) may be used during each exam. Zoom audio and video transmission must remain on at all times during the exams. Web browsers and cell phones must not be used.

Important: Exams via electronic files will require some practice. The discussion meetings will include some practice sessions for (hopefully!) smooth sailing.

Exams will need to be signed electronically on the front page before returning. Each signature

will be taken as a statement of honest, independent work. Instances of academic dishonesty will warrant failure of Chemistry 101 and referral to the Arts and Sciences Dean's office. Please review the College's policy on academic integrity via the Loyola University website.

Exams will be graded and the results communicated as soon as possible. All grading questions, errors, and points of clarification must be brought to DG's attention no later than one week after return of the exam.

If special provisions are needed for exams and other aspects of Chemistry 101, please consult DG in the first week, and throughout the semester.

Assignment of Grades:

Grades will be assigned by weighting the in-class exams 55%, assignments 10%, and the final exam 35%, with account given to improvement. If the final exam score is greater than the average of the in-class exams, then the lowest hour-exam score is dropped—this is where improvement is valued. If the final exam score is less than the in-class exam average, then all three in-class exam scores figure into the final grade. Please see the last page for examples of grade computations. The following windows will be used for both mid-term and final grade assignments:

A: 88 – 100, A-: 87, B+: 81 – 86, B: 75 – 80, B-: 71 – 74, C+: 67 – 70, C: 60 – 66, C-: 59, D+: 55 – 58, D: 50 – 54, F < 50.

An aim of the grading policy is to allow time and incentive for improvement. Chemistry, languages, violin, ping-pong, and more are not easy to learn, but the journeys can be rewarding if necessary efforts are made to master fundamentals as they appear. Students are urged to contact DG and supplemental instructor Catherine Nguyen to discuss problems before they become serious. All grade records will be kept up to date in the Grade book section of Sakai.

Assignments: Multiple assignments will be based on the textbook and lectures. Students are urged to complete these with the help of each other, DG, and Catherine. Please turn in work on the assignment due-date via the upload function on the Sakai Assignments folder.

Quizzes: Quizzes will be part of the discussion hours. Discussion participation plus good-faith completion of each quiz will warrant one point of credit applied to the up-coming exam. Please turn in discussion hour quizzes via the Assignment folder on Sakai.

Resources: There will be multiple postings throughout the semester in the Resources folder of Sakai: lecture notes, assignment and quiz work, last-year's exams, study aids, and exam help. Please check the course website every day or two for the latest additions. Errors should be brought to DG's attention as soon as possible.

Beginning- and End-of-Week Videos: There will be bookend videos posted weekly in the Panopto Section of Sakai. Each will run about 15 minutes. The first will appear by Monday morning: its purpose is to chart where we need to go in our road trip for the week. The second will be posted by late Friday afternoon and review where we have been. One video lays the groundwork for another and students are encouraged to watch them as they appear. The videos aim to keep everyone up to date with announcements, answers to FAQs, and big-picture context for class and discussion meetings and

textbook reading.

Announcements: There will be announcements posted in the Announcements folder (where else?) of Sakai. Please check these daily to stay abreast of 101-news, FAQs, additions, and corrections. The aim is to keep the scatter of email to a minimum.

The Announcements Section will also include the access codes to all Zoom recordings. The codes will be stored as rich text files for universal compatibility. Please observe the privacy policy described below in red.

Forum: The Forum folder of Sakai offers ways and means for students to communicate with each other. Students learn from students about problem solving and concepts. Students are encouraged to use the 101-Forum as a go-to resource. The instructor will participate only infrequently as the Forum is meant to be student-centered.

Lecture and Discussion Meetings: Lecture and discussion meetings will transpire via Zoom. Both the audio and visual tracks will be recorded and stored in the Cloud. The turnaround time will be a few hours for each meeting. Students will be provided up-to-date links to the Cloud files via attachments in the Sakai Announcements folder (cf. above italics statement in red). The audio/visual files will be available throughout the semester, and people are encouraged to use them as a resource. Let us hope the technology cooperates!

Note that the Cloud recording files for Lecture and Discussion meetings will only be available to students registered in Chemistry 101, Section 004, and only during Fall Semester, 2020. These are privacy rules set by Loyola University Chicago which must be respected by all parties at all times. Do not share access to the files with individuals and organizations outside the class.

Note that Discussion files will only be available to individuals registered for a particular section. The same privacy rules hold here as well.

Tutoring: There will be tutoring by DG via Zoom after each class meeting, and at 4 PM on Tuesdays. Tutoring and other consultations will not be recorded.

In past years, the student chapter of the American Chemical Society has offered tutoring throughout the semester. Times and places will be announced in class as they become available. Students are urged to participate in individual and small group discussions so offered by tutoring. There is a tutoring center at LUC. Details will be provided as soon as possible.

Exam Coaching: There will be coaching sessions organized by DG prior to each exam. Zoom logistics will be worked out and announced. These sessions will not be recorded. Please bring Qs and scratch paper to coaching sessions.

Advisory Committee: A committee of students will be organized at the start of the semester. The purpose of meetings will be to advise the instructor throughout the semester. Please consult DG after the first or second class meeting if you wish to contribute to this committee. It takes a village.

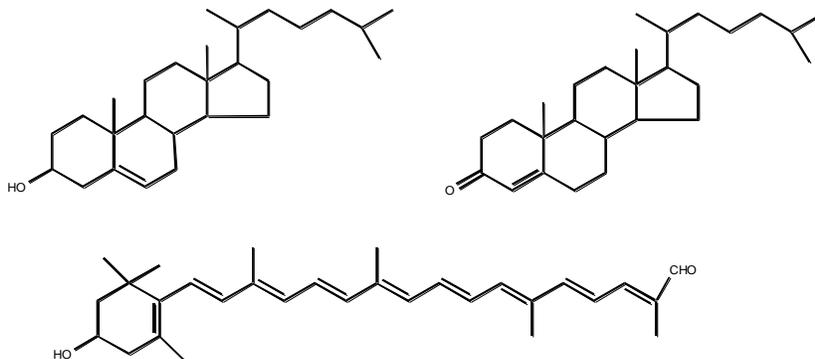
Schedule:

The typical week will feature:

- (1) Monday morning and Friday afternoon videos recorded on Panopto.
- (2) Classes meetings via Zoom for seventy-five minutes on Tuesdays and Thursdays starting at 9:45 AM. The links to recordings will be made available as soon as possible in the Announcements Folder of Sakai.
- (3) DG meeting and tutoring hours M, W, F at 4 PM
- (4) Discussion Meetings on Thursdays at 1:15 and 3:00 PM. There will be a quiz at each meeting. Please turn in your work on the following Monday.
- (5) Postings in the Announcements, Resources, Forum, and Grade book folders of Sakai. Please check the website daily for the latest postings.

Important Dates:

M	082420	Beginning of Semester Video: See Panopto Folder on Sakai.
T	082520	First Class Meeting. We will begin discussing Chapter I.
Th	092420	Exam I
Th	102220	Exam II
Th	111920	Exam III
T, Th	112420, 112620	Thanksgiving Break
Th	120320	Last Day of Class
M	120720	Final Exam 1 – 3 PM, Note: the final exam schedule is subject to revision.



How to compute grades throughout the semester

1. After exam one, compute:

$$90\% * (\text{exam score} / 100) + 10\% * (\text{completed assignments} / \text{total assignments})$$

Example: 82 exam score and four of four assignments completed:

$$90\% * (82 / 100) + 10\% * (4 / 4) = 83.8. \text{ This falls in the "B+" window on page two of the syllabus}$$

2. After exam two, compute:

$$90\% * (\text{average of exams one and two} / 100) + 10\% * (\text{completed assignments} / \text{total assignments})$$

Example: 72 on exam one, 68 on exam two, and eight of eight assignments completed:

$$90\% * ((72 + 68) / 2) / 100 + 10\% * (8 / 8) = 73. \text{ This falls in the "B-" window.}$$

The post-exam-two computation will determine the mid-term grade.

3. After exam three, compute:

$$90\% * (\text{average of exams one, two, and three} / 100) + 10\% * (\text{completed assignments} / \text{total assignments})$$

Example: 72 on exam one, 68 on exam two, 82 on exam three and ten of ten assignments completed:

$$90\% * ((72 + 68 + 82) / 3) / 100 + 10\% * (10 / 10) = 76.6. \text{ This falls in the "B" window.}$$

4. After the final exam, there are two scenarios. The first is where the final exam score is greater than the lowest of exams one, two, and three. In this scenario, the lowest of the first three exam scores is dropped. The top-two exams are then weighted 55%, the final exam is weighted 35%, and the assignments are weighted 10%.

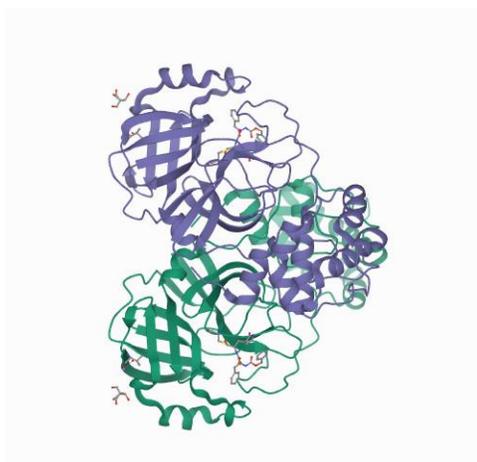
Example: 72 on exam one, 68 on exam two, 82 on exam three, twelve of twelve assignments completed, and 90 on the final exam. Here we drop the 68 and compute:

$$35\% * (90 / 100) + 55\% * ((72 + 82) / 2) / 100 + 10\% * (12 / 12) = 83.8. \text{ This falls in the "B+" window and so determines the final grade.}$$

In the second scenario, the final exam score is less than the average of the first three exams. Example: 72 on exam one, 68 on exam two, 82 on exam three, twelve of twelve assignments completed, and 64 on the final exam. We compute:

$35\% * (64/100) + 55\% * ((72 + 68 + 82) / 3) / 100 + 10\% * (12 / 12) = 73.1$. This falls in the "B-" window and so determines the final grade.

Please consult DG where Qs arise regarding Chemistry 101 grades. And *very important*: during the semester, if you find that health problems, life stressors or emotional difficulties are interfering with your academic or personal success, and you are therefore finding it difficult to cope or to complete your academic work, please consider contacting the Wellness Center. Healthcare services, crisis intervention, time-limited individual counseling, and group therapies are free of charge, and strictly confidential, having nothing to do with student educational records. Students can make an appointment online at www.luc.edu/wellness/appointment. Students may also call 773-508-2530 for counseling appointments or 773-508-8883 to speak with a nurse about medical concerns. More information is available at <http://www.luc.edu/wellness>. If your medical or mental health condition requires ongoing academic accommodations, please consult the Student Accessibility Services [<http://www.luc.edu/sac/>].



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