

# Syllabus for Chemistry 101 11:30 am MWF

## Loyola University: Fall 2019

**Instructor:** Dr. Conrad Naleway; Office FH 200C    Office Hours: WF 12:30-1:30 pm    **SI:** Michael Mendoza <mmendoza4@luc.edu>

### Meeting Times; Days & Rooms:

Lecture: 11:30-12:20 MWF in Life Science Building FH-Auditorium

Discussion & Quizzes: Monday 12:35pm (FH007), 2:45pm(FH105), and 4:15pm (FH007)

### Materials:

**Text: Chemistry 14th Edition: Theodore E Brown, et. al.** (Prentice Hall) and **MasteringChemistry access code is required. Chem101.co** instructions for purchase will follow. Please note that the text is a secondary source of information to help clarify concepts presented in lecture.

**MasteringChemistry ID= [NALEWAYCHEM101FALL2019](#)**

**The primary information is presented in class and also appears on website and lecture handout materials.**

Calculators will be needed for homework assignments and exams but do not need to be programmable, but should have log/trig functions (typically under \$20). Use of any electronic or mechanical communication device during examination is considered academic dishonesty and will result in immediate failure of the class (see details below)

**Website:** *[conradnaleway.net/chem101.html](http://conradnaleway.net/chem101.html) materials may also be posted on Sakai ([sakai.luc.edu](http://sakai.luc.edu))*

### Course Content & Objectives:

This course is the first in a two-semester sequence of general chemistry. We will focus on building a conceptual understanding of fundamental chemical principles including properties of atoms, molecules, states of matter, and chemical reactions. Students will 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.

- Differentiate types of matter based on their chemical and physical properties (for example, pure substances vs. mixtures, metals vs. nonmetals, ionic vs. covalent vs. metallic, electrolyte vs. nonelectrolyte).
- Use multiple perspectives of matter (macroscopic, particle, symbolic levels) to qualitatively describe and explain characteristics, properties, and relationships of the following: atomic structure, nuclear chemistry, periodicity, molecular structure, chemical bonding, chemical reactions, thermochemistry, aqueous solutions, gases.

- Quantify relationships between variables controlling chemical systems.
- Solve quantitative multistep problems combining multiple concepts within the systems
- Differentiate among closely related factors, categorize problem types, and select appropriate tools to solve these problems.
- Apply chemical principles to explain natural phenomena.

**Exams: Midterms: F: [9/20] F: [10/25] F: [11/22] Final: Monday 12/9 1:00-3:00pm**

There will be three exams scheduled during the lecture periods and a cumulative final exam. All exams will consist of questions and problems representative of the lecture and text material. All answers to test problems must contain detailed information illustrating the steps and method of solution. Answers must contain correct units since this is an essential aspect of the course.

All exams must be signed in the front, upper right hand corner. This signature will be taken as a statement of honest and completely independent work. Instances of academic dishonesty will warrant **immediate failure** of the course plus referral to the Dean's office. For more information on university policy, please read: <http://www.luc.edu/cas/advising/academicintegritystatement/>

Exams will be graded and returned as soon as possible, usually the next class period. ALL grading questions, points of clarification and grading errors must be brought to the instructor's attention during office hours **no later than one week after exam is returned**. There will be no exceptions to this rule! Each returned exam must be copied with original being returned to instructor with a hand written note stapled to exam addressing concern(s). *Only exams completed in INK are eligible for possible re-grading.*

**Exam Grade (60%)** will be assigned according to the highest percentage computed by the two methods:

- 1) All three midterms plus the cumulative final are averaged. Thus each exam will weigh 1/4.
- 2) The top two mid-term exams weigh 1/4 each, and the final exam will weigh 1/2. This equates to the final exam score replacing the lowest midterm score.

### ***Pre-assignment MasteringChemistry Homework (15%)***

Grading settings for MasteringChemistry are visible within each assignment. Use each assignment to prepare for the upcoming lecture. Each assignment is weighted equally in the overall homework grade. Typically due before each class and found online at [masteringchemistry.com](http://masteringchemistry.com)

### ***Post-assignment and In-Class Chem101.co Homework (10%)***

### **Discussion Quizzes (15%)**

A problem set or quiz will be given in each discussion class. Each will cover material from the previous week of lectures. No make-ups will be given. Any missed discussion is scored as a zero. At the end of the semester, the lowest score will be dropped.

## Final Course Grade will be based upon:

**60%** Exam Grade (2 options, see above)

**25%** Homework (MasteringChemistry Pre-Assignments) and Chem101.co Post-Assignments

**15%** Discussion Problem Sets/Quizzes

NOTE: **Grade is NOT based upon a class curve.** Thus individual performance determines one's grade and is not influenced by other's performance. This should encourage each student to work collectively to help each other learn. Often discussing and working through a problem with someone else, helps one more than the other person, since it forces one to more critically see through a problem. Tutorial help is also available at the Tutoring Center, [www.luc.edu/tutoring](http://www.luc.edu/tutoring)

## Assignment of Final Grade:

<b>A, A-</b>	<b>100% - 90%</b>
<b>B+, B, B-</b>	<b>89% - 78%</b>
<b>C+, C, C-</b>	<b>77% - 60%</b>
<b>D</b>	<b>59% - 50%</b>
<b>F</b>	<b>&lt;50 %</b>

NOTE: **In order to get a straight grade such as an A or B, one must have AT LEAST ONE exam grade with that straight grade value.** The cutoffs for plus and minus grades (for example, between A and A-) will fall within the percentage ranges listed above. These cutoffs will be determined at the end of the semester.

## Other Policies

**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 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.

**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/>

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!

**Loyola University Absence Policy for Students in Co-Curricular Activities:** 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/athletheadvising/attendance.shtml>

Information regarding disability services: [www.luc.edu/sswd](http://www.luc.edu/sswd)

Loyola Official Academic Calendar: [www.luc.edu/academics/schedules](http://www.luc.edu/academics/schedules)

**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

## TENTATIVE Schedule for Chemistry 101 (11:30am Fall 2019)

Chapter	Topic	Pages		Class #	Tentative Class Dates
<b>1</b>	Matter and Measurement (Matter & Method)	2	16	1,2	8/26, 8/28
	<i>Labor Day</i>				<b>9/2 (M)</b>
	(Measurement)	17	41	3,4	8/30, 9/4
<b>2</b>	Atoms, Molecules, and Ions – Nuclear Binding (Chapter 21)	42	81	5,6,7	9/6, 9/9, 9/11
<b>3</b>	Chemical Reactions and Stoichiometry	82	119	8,9,10	9/13, 9/16, 9/18
	<i>EXAM 1</i>			<b>11</b>	<b>Friday, Sept 20</b>
<b>4</b>	Reactions in Aqueous Solutions	120	161	12,13,14	9/23,9/25,9/27
<b>5</b>	Thermochemistry	162	211	15,16,17,18	9/30, 10/2, 10/4, 10/9
	<i>FALL BREAK</i>				<b>10/7(M)-10/8(T)</b>
<b>6</b>	Electronic Structure of Atoms	212	255	18,19,20	10/11,10/14,10/16
<b>7</b>	Periodic Properties of Elements	256	297	21, 22	10/21,10/23
	<i>EXAM 2</i>			<b>23</b>	<b>Friday, Oct 25</b>
<b>8</b>	Basis Concepts of Chemical Bonding	298	337	24,25,26,27,28	10/28,10/30,11/1,11/4,11/6
<b>9</b>	Molecular Bonding & Bonding Theory (VSEPR & Hybridization)	338	393	29,30,31,32,33,34	11/8,11/11,11/13,11/15,11/18, 11/20
	<i>EXAM 3</i>			<b>35</b>	<b>Friday, Nov 22</b>
	<i>THANKSGIVING BREAK</i>				<b>11/27(W)-11/30</b>
<b>11</b>	Gases and Properties	394	433	36,37,38,39	11/25, 12/2, 12/4, 12/6
	<i>FINAL EXAM</i>				<b>Monday Dec 9<sup>h</sup> 1:00pm</b>