

Chemistry 101 Section 001 Spring 2015 Syllabus

Instructor: Dr. M. Paul Chiarelli, Flanner Hall 102, phone 773-508-3106, fax 773-508-3086,; E-mail mchiare@luc.edu.

Office Hours: Monday and Thursday 2-4 PM. Other times may be arranged by appointment.

Class Times: We will meet for lecture from 8:15 to 9:05 AM on Monday, Wednesday, and Friday. Discussion will meet from 10:25 to 11:15 AM and 11:30 to 12:20 PM on Wednesdays.

Course Objectives: To acquaint the student with the basic principles of chemistry and to provide a foundation for advanced studies in chemistry, biology, physics, and medicine.

Textbook: Chemistry: The Central Science, 13th Edition, Brown, LeMay, Burston, et. al. Pearson Higher Education, ISBN 0-321-91041-9. You may use the etext as an alternative. The solutions manual is optional.

Other Materials: You will need an inexpensive calculator (> \$20) having logarithmic (base 10 and base e), exponential, and trigonometric functions. Be sure you are familiar with your calculator and that it is in user-ready condition for quizzes and exams. Calculators cannot be shared during exams and the covers must be removed while taking the exam.

Discussion Sections: During discussion periods students will be assigned worksheets to be completed during the discussion section (you may work with other students together on this). If the student completes the worksheet during the period and hands it in to the discussion leader at the end of the period he/she will be given one point (1% total grade) on the upcoming exam. Students may work in groups and need not hand in perfect worksheets but must make a good faith effort (in the judgment of the instructor) to complete the assignment to get the extra credit. If you need to hand the worksheet in at a later date, you must do so before the instructor posts the answers on Sakai to get the credit for the assignment.

Homework Problems: Students who expect to do well on the exams should be able to do the problems at the end of the chapters that are recommended by the instructor. Representative problems will be demonstrated in lecture and worked out in the discussion sections. Students should attempt the problems on their own prior to looking at the answers. Simply trying to memorize the problems prior to a quiz or an exam will not produce a good score. Students who expect to do well must understand the concepts behind the problems. Homework will not be collected or graded.

Grading: The total grade for the course is based on five 1-hour exams given over the course of the semester, discussions, and one final. Your lowest 1-hour exam score will be dropped. If you have to miss an exam due to illness or some other reason, this will be your dropped grade. If you miss another exam, then you must have a valid excuse (doctor's note) to have a make-up exam arranged. Each of the five hour exams is worth 18 % of your grade (best four is 72% of total). The final is worth 20% of your total grade. Discussions are 8% of your total grade.

Scale: A 100-93; A- 92-89; B+ 88-85; B 84-81; B- 80-77; C+ 76-73; C 72-69; C- 68-65; D 64-57; F <56.

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/media/lucedu/cas/pdfs/academicintegrity.pdf>

Anything you submit that is incorporated as part of your grade in this course must represent your own work. Any students caught cheating will, at the very minimum, receive a grade of “zero” for the item 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.

Appropriate In Class Behavior and use of Electronic Devices

Rude, disruptive behavior (such as talking during class, viewing computer materials not concerning class subjects, texting or talking on phones...) will not be tolerated. It is acceptable to use laptops or comparable devices (tablets, iPads, etc.) for taking notes in class. Voice recording but not visual recording is allowed. Cell phones, pagers, wireless PDAs, etc. must be turned off during class. If your device is activated during class, you must leave the class immediately and cannot return for the duration of that class period.

Disability Accommodations

Students requiring accommodations at the University need to contact the Coordinator of Services for Students with Disabilities. The instructor will provide accommodations after receiving documentation from SSWD and allowance of a reasonable time frame for arrangements (minimally, one week in advance). Accommodations cannot be retroactive. Information is available at:

<http://www.luc.edu/sswd/>

Tentative Lecture, Discussion, and Exam Outline

<u>Date/Day</u>	<u>Topics</u>	<u>Chapter</u>
1/12/15 M	Matter and Measurement	1
1/14/15 W	Properties of Matter	1
1/14/15 W	Discussion 1: Chapter 1 and Math Review	
1/16/15 M	Matter and Measurement	1
1/19/15 M	No Class MLK day	

1/21/15 W	Atomic Theory	2
1/21/15 W	Discussion 2: Atomic Theory	2
1/26/15 M	Atoms, Molecules, and Ions	2
1/28/15 W	Exam 1: Chapters 1 and 2	
1/30/15 F	Mole Concept and Calculations	3
2/2/15 M	Mole Calculations	3
2/4/15 W	Mole Mass relations in Chemical reactions	3
2/4/15 W	Discussion 3: Mole mass calculations	3
2/6/15 F	Description of Solution concentration	4
2/9/15 M	Solution reactions	4
2/11/15 W	Exam 2: Chapters 3 and 4	
2/13/15 F	Thermochemistry	5
2/16/15 M	Heat Capacity and Enthalpy Changes	5
2/18/15 W	Calorimetry	5
2/18/15 W	Discussion 4: Thermochemistry	5
2/20/15 F	Quantum Mechanical Model of Atom	6
2/23/15 M	Electron Configurations of Atoms	6
2/25/15 W	E Configurations and Periodic Table	6
2/25/15 W	Discussion 5: Electronic structure of atom	6
2/27/15 F	Exam 3: Chapters 5 and 6	
3/2-6/15	Midterm Break	
3/9/15 M	Periodic Properties of Elements	7
3/11/15 W	Periodic Properties of Elements	7
3/13/15 F	Periodic Properties continued	7
3/16/15 M	Chemical Bonding	8

3/18/15 W	Ionic, Metallic, and covalent Bonds	8
3/18/15 W	Discussion 6: Periodic Properties and Bonding	
3/20/15 F	Lewis Structures	8
3/23/15 M	Exam 4: Chapters 7 and 8	
3/25/15 W	Molecular Geometry and Bonding	9
3/27/15 F	Hybrid Orbitals	9
3/30/15 M	Polarity and bond angles	9
4/1/15 W	Gases; Boyle's Law	10
4/2-4/6	Easter Holiday	
4/8/15 W	Exam 5: Chapter 9 and partial 10	
4/10/15 F	Gases; Ideal Gas Law	10
4/13/15 M	Gases; Mole Fraction and Partial Pressure	10
4/15/15 W	Kinetic-Molecular Theory of Gases	10
4/15/15 W	Discussion 8: Gas Law Calculations	10
4/17/15 F	Intermolecular Forces	11
4/20/15 M	Properties of Liquids; Phase Changes	11
4/22/15 W	Vapor Pressure	11
4/22/15 W	Discussion 9: Colligative Properties (EC)	11
4/24/15 F	Review for Final	
5/4/15 M	Final Exam	