General Chemistry A
Chemistry 101 - Summer 2011

Instructor: Dr. A. W. Herlinger, 418 Flanner Hall, 773-508-3127, **email:** aherlin@luc.edu.

Office Hours: M. & W. 3:30–4:30 PM, other times by appointment.

Textbook: Chemistry & Chemical Reactivity, J. C. Kotz, P. M. Treichel & G. C. Weaver, Thomson Brooks/Cole, 7 ed.

Lecture Outlines for each chapter will be periodically sent by Email.

Meetings: Lectures will be at 12:30–3:20 PM in FH-133 on Monday, Wednesday and Friday as scheduled.

Course Description: A study of chemical principles and reactions with emphasis on the development of a scientific attitude and an understanding of the fundamental concepts of chemistry.

Course Objectives: Provide a foundation for advanced work in chemistry and an appreciation for the scientific method with special emphasis on problem solving and the acquisition of knowledge of the properties and reactions of matter. Gain an understanding of the principles of chemistry and its applications.

Calculators: Only simple inexpensive scientific calculators may be used during examinations. Graphing and/or programmable calculators **are not allowed** during examinations. Calculators may not be shared and their cases or covers must be removed.

Cell Phones: Cell phones **may not be physically present or used during examinations.**

Tentative Schedule of Topics

Date	*Day*	*Topics*	*Chapter*	*Pages*
5/23	M	Basic Concepts	1	1 – 20, A1–6
		Tools of Chemistry		24 – 43
5/25	W	Atomic Structure	2	50 – 81
		The Mole Concept		82 – 100
5/27	F	**Examination I**		
		Chemical Reactions	3	112 – 121
5/30	M	Memorial Day – No Class		

6/1	W	Aqueous Reactions Redox Reactions	3	122 – 138 139 – 152
6/3	F	**Examination II** Stoichiometry	4	158 – 168
6/6	M	Chemical Analysis	4	169 – 195
6/8	W	Energy & The First Law Enthalpy Change	5	208 – 226 227 – 241
6/10	F	**Examination III** Atomic Spectra	6	268 – 281
6/13	M	Quantum Mechanical Model	6	282 – 297
6/15	W	Electron Configurations Periodic Trends	7	304 – 318 319 – 331
6/17	F	**Examination IV** Bonding; Lewis Structures	8	348 – 365
6/20	M	Molecular Shapes; Bond Properties	8	366 – 394
6/22	W	Valence Bond Theory; Hybridization	9	404 – 422
6/24	F	**Examination V** Gases	11	514 – 523
6/27	M	The Ideal-Gas Law Kinetic Theory & Real Gases	11	524 – 531 532 – 545
6/29	W	Intermolecular Forces Liquids	12	555 – 569 570 – 580
7/1	F	**Final Examination**		

End-of-Chapter Problems: Students making good progress in the course should be able to solve, independently, most or all of the end-of-chapter problems in the textbook. The exemplary problems listed below are "assigned". The assigned problems are to be attempted, but are to not be submitted for grading.

End-of-Chapter Exercises:

Chapter 1: 3, 7, 11, 13. 17, 19, 33, 37

Review: 3, 7, 9, 15, 19, 21, 25, 31, 35, 41, 47

Chapter 2: 1, 11, 13, 19, 25, 27, 29, 37, 41, 45, 53, 57, 59, 63, 77, 79

Chapter 3: 3, 5, 7, 9, 13, 17, 19, 23, 25, 27, 31, 39, 43, 47, 53, 55, 61, 65, 69, 75, 77

Chapter 4: 1, 7, 13, 15, 19, 23, 25, 29, 31, 39, 45, 51, 59, 67, 73, 75, 83

Chapter 5: 1, 5, 11, 13, 17, 19, 25, 27, 29, 35, 39, 41, 43, 47, 49, 53, 57, 61, 67, 71, 77, 89

Chapter 6: 3, 7, 13, 21, 23, 27, 29, 33, 39, 43, 45, 47, 51, 55, 59, 79, 83, 89

Chapter 7: 3, 5, 11, 13, 15, 19, 25, 27, 31, 33, 35, 37, 39, 41, 47, 51, 55, 61, 63, 69

Chapter 8: 3, 7, 13, 17, 21, 29, 33, 35, 39, 41, 47, 49, 57, 59, 61, 65, 67

Chapter 9: 1, 5, 9, 11, 25, 27, 35, 37, 45, 47, 51, 53

Chapter 11: 1, 5, 7, 9, 11, 15, 17, 19, 25, 29, 33, 37, 43, 49, 51, 55, 67, 71, 77, 93

Chapter 12: 3, 5, 9, 11, 13, 17, 19, 21, 25, 29, 39, 41, 43

Grading Scheme: Course grades will be based on the average score received on the final exam and the highest four of the five hour exams given, i.e., the **lowest hour exam** score will be dropped. If an hour exam is missed for any reason, the score for this exam (0, zero) will be dropped. If a second hour exam is missed, a make-up exam will be given at the discretion of the lecturer. A make-up exam will be given only in case of an extreme family crisis or serious illness, which must be verified by a letter from a parent or an attending physician. A written request for a make-up exam for the second missed hour exam must be received by the course instructor no later than three (3) calendar days after the scheduled date of the exam. If a written request is not receive by this deadline a make-up exam will not be given. A grade of F is assigned if three hour exams are missed.

Grading Scale: The following scale will be used to determine letter grades, **A** 100-86; **B** 85-74; **C** 73-62; **D** 61-50; **F** < 50. Plus and minus grades will be assigned proportionately within the designated ranges. Grading contributions are entirely from exams.

Examinations and Academic Honesty: Course grades will be determined from the scores achieve on examinations given on the dates listed above. All examinations are cumulative and may include material, which has appeared on previous exams. **Five points will be deducted from your exam score if the answer sheet is turned in after the exam has ended and/or your name and identification number are not properly filled in.**

All students are responsible for exercising the highest level of academic integrity while taking examinations. The University policy on academic integrity is stated in the Undergraduate Catalog at **http://www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml.**

Laboratory: A general chemistry laboratory, e.g., Chem. 111, may be taken concurrently with a general chemistry lecture course. The lecture and laboratory courses are graded independently.