

UCLA Extension

Department of Humanities, Sciences, Social Sciences and Health Sciences

(310) 825-2301

Summer, 2011

Chemistry XL 14A General Chemistry for Life Science Majors

Reg #: W5099

Units: 4

Instructor: Robert G. Iafe, Ph.D.

Day of the Week/Inclusive Dates: Saturday

Time: 9:00 AM – 1:00 PM

Location: Young Hall, Room 2200

Office Hours: *to be announced*

Course Description: This course provides an introduction to physical and general chemistry principles; atomic structure based on quantum mechanics; atomic properties; trends in periodic table; chemical bonding (Lewis structures, VSEPR theory, hybridization, and molecular orbital theory); gaseous and aqueous equilibria; properties of inorganic and organic acids, bases, and buffers; and titrations.

Prerequisites: High school chemistry or equivalent, three and one-half year of high school mathematics and successful completion of the chemistry diagnostics examination. Students who lack the necessary background should enroll in Chem 917, preparation for college chemistry.

Required Text: Chemical Principles: The Quest for Insight, by Peter Atkins and Loretta Jones, 5th edition (ISBN-13: 978-1-4292-1955-6) and study guide. The 4th edition and 3rd editions are also acceptable.

Final Exam: Saturday, September 10, 2011, 10:00 AM – 1:00 PM, Cumulative

Web Enhanced Course:

This course will use a password-protected internet site on Blackboard to post course materials and announcements. Course materials can include the syllabus, handouts and internet links referenced in class.

Planning Your Study Time:

To plan your study time, it is estimated that you will spend 3 hours per week "in class" with the instructor and approximately 7 additional hours per week outside of class studying for exams, reading, and completing assignments. Depending on the extent of your academic preparation and recent college-level coursework in this topic area, the amount of study time needed may vary considerably.

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Student Conduct:

By enrolling in this course, all students are expected to comply with the UCLA Extension *Student Conduct Guidelines* provided in the current Quarterly catalog (print or online) under “*General Information*.” Students found cheating on exams will be removed from the class.

Please silence all cell phones and refrain from texting during class lectures.

Accommodations: If you need any accommodations for a disability, please contact the UCLA Extension Disabled Student Services at: (310) 825-7851 or via e-mail access@uclaextension.edu

Grading: *Course grades will be based on the following:*

Breakdown of Points for Each Assignment/Exam:

Exam #1: 100 Points
Exam #2: 100 Points
Final Exam: 200 Points

Total Points for the Course: 400

Letter Grade (%): A (85-100%), B (75-84%), C (65-74%), D (50-64%), F (\leq 51%)

Course Rules: There will be NO MAKE-UPS for the midterms or the final. Also, there are no early or late exams, so please plan accordingly. Failure to take the final will result in a failing grade. There are no re-grades. Only non-programmable, non-graphing calculators are allowed on tests.

All grades are final when filed by the instructor on the Final Grade Report.

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Course Outline

Date	Lecture Topic	Readings	Quizzes/Exams and Assignment Due Dates
Week 1	06/25	Fundamentals B, C, D, E, F, G, H, L1-3, M; Appendix 1B, 1C, 1D	
Week 2	No Class – Independence Day		
Week 3	07/09	Chapter 1. Atoms: The Quantum World	
Week 4	07/16	Chapter 2. Chemical Bonds	
Week 5	07/23	Chapter 3. Molecular Shapes and Structures	Exam I: Fundamentals, Chapter 1, 2
Week 6	07/30	Chapter 3. Molecular Shapes and Structures Chapter 16. Coordination Compounds	
Week 7	08/06	Chapter 4. Gases	
Week 8	08/13	Chapter 9. Physical Equilibrium	Exam II: Chapter 3, 4, 16
Week 9	08/20	Chapter 10. Chemical Equilibrium	
Week 10	08/27	Fundamentals J. Chapter 11. Acids and Bases	
Week 11	No Class		
Week 12	09/10	Review session followed by	Final Exam: Cumulative

It is estimated that students will spend approximately 7.0 hours outside class each week to complete class assignments, readings and study for exams. Depending on the extent of your academic preparation and recent college-level coursework in this topic area, the amount of study time needed may vary considerably.

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Suggested problems:

Fundamentals Problems: E 9, 13, 15, 17, 19; F 1, 3, 5, 7, 9, 11, 13, 15, 19, 21; G 5,7,11,13, 15, 17; H 1, 3, 5, 7, 11, 13, 15; L 1, 3, 5, 7, 23, 31; M 1, 3, 7, 9, 11, 13, 15, 17.

Chapter 1: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 29, 33, 35, 39, 47, 49, 51, 53, 55, 57, 59, 61, 65, 67, 69, 73, 75, 81, 85, 91, 93, 99, 101, 103, 105, 109, 119, 121, 123.

Chapter 2: 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 27, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 71, 73, 75, 77, 79, 83, 85, 87, 89, 93, 97, 101, 111, 113, 115.

Chapter 3: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 49, 51, 53, 55, 57, 59, 61, 63, 73, 77, 81, 83, 85, 87, 93, 95.

Chapter 4: 1, 3, 5, 7, 9, 11, 13, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 41, 43, 45, 46, 49, 53, 55, 57, 59, 61, 63, 65, 69, 71, 73, 75, 77, 79, 85, 87, 89, 91, 93, 97, 99, 103, 117, 121.

Chapter 9: 1, 5, 7, 9, 11, 13, 27, 29, 31, 33, 35, 37, 43, 49, 51, 55, 59, 61, 63, 65, 71, 73, 75, 77, 79, 81, 83, 85.

Chapter 10: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 85, 87, 95, 99, 101.

Chapter 11: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 71, 73, 75, 79, 109, 111, 113, 117, 131, 135.

Chapter 16: 1, 3, 5, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45.

Course Syllabus Subject to Update by the Instructor