Chemistry Department

 Course Outline - Chemistry , CPC 201.

 Introduction to Inorganic Chemistry, 2.

Prerequisites

Credit Hours - 3

Instructor - Paul S. Cohen. Kinggama45@aol**.com** **Information for the course will occasionally be posted at www.pinchaschemsite.com on a "Touro" page.**

General inorganic chemistry is an introduction to college chemistry. The course is consistent with American Chemical Society standards in both coverage and difficulty. Topics in chemistry 2 include aqueous solutions, kinetics, equilibrium, thermodynamics,acid-base equilibria, Ksp, electrochemistry, nuclear, and organic chemistry.

The objectives of the course are

 1. To provide the foundation necessary for more advanced work in chemistry, for courses such as organic and physical chemistry.

 2. To prepare students adequately for examinations such as the MCAT’s

 which they may need for later advancement.

3. To provide sufficient background in chemistry to enrich the student’s understanding of the physical world, and to enhance comprehension in related science areas, such as geology, physics, and biology.

Course Content. (Based on “Brown and Lemay – Chemistry” cited below)

1. Solutions. Chapter 13. Omit section 13.6 Answer problems

 15,17, 25,29, 35, 39 , 41, 43, 45, **47**, 55,57, 61,63, 65,69.**71**,73, 75

2. Kinetics. Chapter 14. Answer problems

3, 5, 13, 17,19,23,25,**27**, **29**,30, **31**, **33**, 34, **35** 37, 39,41,43,**45**,47,69,73, **77**, 99, 100,115, 116.

3. Chemical Equilibrium. Chapter 15. Answer problems 13,15,17, 19, 21,23, 25, 27, 31,**33**, 35a, **37**, 39, 43, 44, 45, 49, 51,53,55, **61, 63 ,** 67

4. Acids and bases. Chapter 16. Problems 13,15 through 20, 21,23, 27,29, 33, 35, 37, 41,43, 45, 47, 49, **51**, 53, **55**,57, 59. 63, 73, 75, 77, 79, 81, 83, 95, 107, 120

5. Aqueous equilibria. Chapter 17. Omit mathematical treatment of formation constants, page 731. Answer questions **15** through 25, odd numbers only, **27,** 31, 33, 35, 37, 39, 41, **43**, **45**, 47, 49, **51**, 53, 54.**55,57,71** ,

6. Thermodynamics. Chapter 19. Answer problems 11,13,15,21,25,31,37,41

 43a,b,c, 49,53,55,57,59, 61,63,65,71,77, **79**, **81**, 85

7. Electrochemistry. Chapter 20. Omit section 20.8 (corrosion) Answer problems

12a,b,c,13,15, 17,19, 21,23,25,**27,** 29,33, **35**, 37, **41**, 49, 51, **53**, **55,57,58**, 59,61, 63.67, 89,91, 92, 99, 104

8. Coordination Compounds. Chapter 23. Answer problems 23,25,27, 35,37,40, 41, 47

9. Organic Chemistry. Chapter 24. 24.1 to 24.7 only. Answer problems

 13,14,15,17, 21,23, 27, 31,35, 45,47, 55,57 ,

General Calendar for chemistry 2. Summer.

Week 1. Chapters 13 and 14.

Week 2. Test, Monday, chapters 13 and 14. No class Tuesday. Chapter 15, Wed. and Thurs.

Week 3. Chapter 16 and 17

Week 4. Test Monday, chaps. 15 to 17. Chaps. 19 and 20

Week 5. Test Monday, Chaps. 19 and 20. Chaps. 23 and 24.

Final exam is cumulative, with slightly higher emphasis on organic chem.

Students are expected to answer all of the questions in the text listed above.

**Grading**: The grade is based on performance on three one hour examinations, plus a final exam. The three one hour examinations together constititute 50 % of the grade, and the final 30%. Students must also complete a laboratory program; the laboratory grade is counted 20 %.

 Should a student miss an exam there are NO make-ups. I will simply increase the value of the final to make up for the missed points. The grades on the final are generally LOWER than those on the one hour exams, so it is not a good idea to miss an exam.

Text - Brown, Lemay, Bursten - Chemistry, the Central Science 12th Edition.

The Mission Statement of the Department of Chemistry and Physics is attached.

Chemistry 2 will meet the following goals and objectives of the Mission Statement:

1.1 The student will be able to demonstrate knowledge of the following basic concepts in chemistry:

1. Thermodynamics and kinetics
2. Acid-base equilibria
3. Electrochemistry and nuclear chemistry
4. Nomenclature and structure of organic compounds
5. Chemistry of functional groups

2. The students will be able

2.1 To demonstrate competence in the scientific method by conducting scientific investigations that involve observing, recording, and interpreting data

2.2 To develop analytic and critical thinking skills

3.1 To demonstrate their knowledge of Chemistry though oral and written communication