



-Course Syllabus Chemistry 12 General Chemistry II
Section D02D Spring 2006

Contact Information

Instructor's Name	Patrick Lloyd
Office & Office Hours	Room S316, M 11 ³⁰ -12 ³⁰ , T 12 ³⁰ -1 ³⁰ , TH 1 ⁵⁰ -2 ⁵⁰
Phone	(718) 368-5774
E-Mail	patrickofkings@yahoo.com
Course website	http://www.kingsborough.edu/academicDepartments/PHYSCI/index.html

Prerequisites: Successful completion of General Chemistry 1 and MAT 009.

Course Requirements

- 1. Class attendance and participation policy:** Attendance is required at all lectures and laboratories.
 - 2. Course textbook:** Chemistry: Matter and Its Changes, 4th Edition, by James E. Brady and Fred Senese, Published by Wiley, 2004, ISBN: 0-471-21517-1. Available at the bookstore and on-line.
 - 3. Laboratory manual:** Experiments in General Chemistry 2. Available at the campus bookstore only.
 - 4. Safety glasses or goggles**
 - 5. Scientific calculator**
 - 6. 3 1/2 inch diskette or USB flash drive**
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Optional Materials

- 1. Optional study guide:** Chemistry: Matter and Its Changes, Study Guide, 4th Edition, by James E. Brady, Fred Senese, Published by Wiley, 2004, ISBN: 0-471-21519-8.
 - 2. Optional Student solutions manual:** Chemistry: Matter and Its Changes, Student Solutions Manual, 4th Edition, by James E. Brady, Fred Senese, Published by Wiley, 2004, ISBN: 0-471-21518-X. I recommend this book since success in the course depends greatly on problem-solving.
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Grading Procedure

Grades are calculated from a weighted average of exams, quizzes, lab scores, and the final exam.

Exams and Quizzes	40% (6 quizzes and 2 exams)
Laboratory performance	25%
Final exam	35%

To calculate your course performance (in percentage) use the following equation:

$$\text{Overall \%} = 0.40(\text{exams and quizzes \%}) + 0.25(\text{lab \%}) + 0.35(\text{final exam \%})$$

Once you have calculated an overall percentage you can use the following table as a guide to determine your grade.

$$A = 90-100 \%, B = 80-89 \%, C = 70-79 \%, D = 60-69 \%, F = 0-59 \%$$

Academic Integrity

Each student in this course is expected to abide by the City University of New York Code of Academic Integrity. Any work submitted by a student in this course for academic credit will be the student's own work.

You are encouraged to study together and to discuss information and concepts covered in lecture and the sections with other students. You can give "consulting" help to or receive "consulting" help from such students.

However, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else, in the form of an e mail, an e mail attachment file, a diskette, or a hard copy.

Should copying occur, both the student who copied work from another student and the student who gave material to be copied will both automatically receive no credit for the assignment. Penalty for violation of this Code can also be extended to include failure of the course and University disciplinary action.

During examinations, you must do your own work. Talking or discussion is not permitted during the examinations. Comparing papers, copying from others, sharing calculators, or collaboration in any way is prohibited during examinations. Any collaborative behavior during the examinations will result in failure of the exam, and may lead to failure of the course and University disciplinary action.

Make-up Policy: There will be no scheduled make-up exams. If you miss an exam you should consult me.

Lecture and Homework Assignment Schedule

Chapter 16: Chemical Equilibrium-General Concepts (sections 1-9)

Review questions and problems: 1,4,5,8,13,18,20,22,24,30,32,42,46,48,50,54,56,60,62,64.

Chapter 15: Kinetics: The Study of Rates of Reaction (sections 1-9)

Review questions and problems:

2,3,6,7,13,20,25,32,39,41,45,50,56,65,67,71,75,77,79,81,85,89,97,99,101,103

Chapter 22: Nuclear Reactions and Their Role in Chemistry (sections 1-8)

Review questions and problems: 1,5,6,7,9,24,29,35,44,48,50,52,54,60,62,66,68,74,76,82,84

Chapter 17: Acids and Bases: A Second Look (sections 1-6)

Review questions and problems: 1,6,8,11,12,22,26,31,38,41,43,45,47,49,51,59,61,65,69,73,75

Chapter 18: Equilibrium in Solutions of Weak Acids and Bases (sections 1-8)

Review questions and problems:

1,2,3,5,9,13,14,23,27,30,33,37,40,43,45,49,53,57,61,65,71,75,77,83,85,89,91,97,101,105,111,113,117

Chapter 19: Solubility and Simultaneous Equilibria (sections 1-4)

Review questions and problems: 3,5,10,15,17,21,23,25,31,33,35,37,43,47,57,59

Chapter 20: Thermodynamics (sections 1-10)

Review questions and problems:

1,12,19,22,25,31,55,59,61,65,67,69,73,75,79,85,87,91,93,99,101,103,109

Chapter 21: Electrochemistry (sections 1-9)

Review questions and problems: 1,2,3,9,11,20,21,28,55,67,69,71,73,75,79,81,87,89,93,101,103,107,111

Chapter 23: Metallurgy and the Properties of Metals and Metal Complexes (sections 1-9)

Review questions and problems:

47,48,55,62,65,69,70,78,80,81,104,106,108,110,114,118,122,124,126,130

Chapter 25: Organic Compounds and Biochemicals (sections 1-5)

Review questions and problems: 1,4,6,8,16,21,23,83,85,87,89,91,93,95,97,103,113

Laboratory Schedule

Each week we will meet to perform an experiment according to the schedule listed below. You are expected to bring your safety glasses and laboratory manual to each meeting. The experimental background and procedure should be read before coming to the laboratory meeting. Several of the experiments we will perform require the use of graphs in the data analysis. The graphing software we use is called Vernier Graphical Analysis. A copy of this program is available if you bring a 3 1/2 inch diskette or USB flash drive.

This book is available in the campus bookstore. You will need it each meeting beginning with the second meeting. Experiments in Laboratory Experiments for General Chemistry II by HF Carroll and AG Gillies:

Meeting #	Experiment #	Title
Meeting 1.	Experiment A.	LeChatelier's Principle
Meeting 2.	Experiment B.	Qualitative analysis–Group I known
Meeting 3.	Experiment B.	Qualitative analysis–Group I unknown
Meeting 4.	Experiment B.	Qualitative analysis–Group II known
Meeting 5.	Experiment B.	Qualitative analysis–Group II unknown
Meeting 6.	Experiment D.	Properties of Radioactive Isotopes
Meeting 7.	Experiment E.	Kinetics
Meeting 8.	Experiment F.	Determination of an Equilibrium Constant
Meeting 9.	Experiment X.	Determining the Solubility Product of a compound (handout)
Meeting 10.	Experiment H.	Titration curves of acids and bases & A strong acid/strong base titration curve
Meeting 11.	Experiment J.	Galvanic cells, reduction potentials, and Nernst equation
Meeting 12.	Experiment K.	Synthesis of a coordination complex and aspirin