Course Syllabus Fall 2013
Chemistry 203: General Chemistry I

(CRN:1459 – CHM 203 – Section 101)
Department of Chemistry, Marshall University

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Office Hours: 9-10 M, W, F; 1-2 M; 3-4 T, R or by appointment
Credit Hours: 3.00 hours
Course Time and Location: 8:00 AM – 8:50 AM M, W, F Science Building 473

Required Materials:
Text: The text for this course is Hein, Pattison, Arena, Best**:** ***Introduction to General, Organic, and Biochemistry, 10th Edition.*** Wiley and Sons has made a special, low price version available to Marshall students. This version contains only the chapters for the first semester course and is printed in black and white. The price for this version is about $68. All the color photos and such are in grey tones but this shouldn't make any difference in your ability to understand the text because most of things in color are just supplemental material. This version is bound as a paperback. The ISBN number is 9781119938330. This version is available at the Marshall Bookstore and at the Stadium Bookstore. You will not find this version at Amazon or any of the other online dealers.
Calculator: You will need a basic nonprogrammable scientific calculator. You should be able to find a suitable calculator for around $15 or less. Calculators with alphanumeric and/or graphing capabilities are **not permitted** during quizzes or exams.
Clicker: Turning Technologies Responsecard RF LCD at about $35

Determination of Course Grade: Four tests will be given composed of multiple choice and free response (including problems) questions. The tests will make up 60% of the final grade. The final exam will count as 20% of the grade. Quizzes will be given and will represent 20% of the final grade. Approximately 1 in 5 quizzes will be dropped. Clicker question will be given regularly and participation will count as 5% of your grade. The grading scale will be no higher than **A** > 90%, **B** 80 to 89%, **C** 70 to 79%, **D** 60 to 69%, and **F** < 60%.

Tentative exam schedule*

Exam	Date	Chapters
Exam I	9/16	1-5
Exam II	10/18	6-9
Exam III	11/6	10-13
Exam IV	11/22	14-17

***The exam schedule may change based on the rate the class is progressing.**

Final exam: **Saturday 12/14/13, 9:50 AM** (Chapters 1-18)

Catalog Description: An introduction to chemical science, its' development, basic concepts and interrelationships with other sciences. This course is intended primarily for non-science majors and B.A. degree candidates.

Course Curriculum: Lectures and assignments will cover chapters 1 through 18 in the text.

Important Learning Objectives:

• To learn accepted protocol for making scientific measurements and stating numeric values, in terms of unit labels, specifying levels of accuracy, and the use of scientific notation.
• To learn about basic physical properties of substances and the fundamental forces that drive chemical and physical processes.
• To understand the basic structure of atoms and how atoms bond together to form molecules and other compounds.
• To understand how the chemical structure of a compound determines the chemical and physical properties of that substance.
• To learn the basic calculations involved in predicting the amount of reactant needed for a reaction and the amount of product that can be obtained from a reaction.
• To learn about acid-base chemistry, what affects the relative strengths of acids and bases and how they react with other substances.
• To understand how chemical buffers work to establish chemical balance, particularly in living organisms.
• To be introduced to the topic of nuclear reactions and the techniques of nuclear medicine used for medical diagnoses and treatment.

Topics to Be Covered in This Course:

Chapter 1
- 01-Introduction

Chapter 2
- 02-Scientific Notation
- 03-Significant Figures
- 04-Units of Measurement
- 05-Unit Conversions
- 06-Density and Specific Gravity

Chapter 3
- 07-The Elements
- 08-Names and Symbols for Elements
- 09-Compounds and Chemical Formulas

Chapter 4
- 10-Properties of Matter
- 11-Heat and Energy

Chapter 5
- 12-Dalton's Atomic Theory
- 13- Modern Concept of Atomic Structure

Chapter 6
- 14-Elements and Ions
- 15-Binary Compounds

Chapter 15
- 54-Acids and Bases
- 55-Salts and Electrolytes
- 56-Titration
- 57-Net Ionic Equations
- 58-Colloids

Chapter 16
- 59- Equilibrium
- 60-LeChâtelier's Principle
- 61- Equilibrium Constants
- 62-Ion Product Constant for Water
- 63-Ionization Constants
- 64-Solubility Product Constant
- 65-Buffers and Hydrolysis of Salts

Chapter 17
- 66-Redox Reactions
- 67-Balancing Redox Reactions
- 68-The Activity Series
- 69-Voltaic and Electrolytic Cells

Chapter 18
- 70- Radioactivity
- 71-Nuclear Reactions
- 72-Radiation Units
- 73-Uses of Radiation and Nuclear Chemistry

Attendance: Regular attendance is expected. See me for makeup tests or quizzes. Makeup day will be 12/5. Homework problems will be assigned for each chapter and will be discussed in class, but will not be collected for a grade. Problems similar to those on the homework will be included on the tests and quizzes. Attendance, reading, and working the homework are essential for successful completion of this course. Plan on 2 hours out of class work for each hour in class. **Please seek me out if you want or need help.** Should attendance problems arise contact me before you miss if at all possible. Please be on time and do not disrupt class by coming in late. Any student involved in an official school function or an unavoidable commitment to his or her employer can arrange to take an exam at another time than the scheduled time.

Electronic Device Policy: All cell phones and pagers must be turned to vibrate during class. The instructor reserves the right to answer any ringing cell phones during lecture, or to dismiss the offending student. Recording of lectures without the instructor's permission is prohibited. During examinations, all electronic devices except calculators must be inaccessible. Students **MUST BRING A CALCULATOR** to class for all lectures and exams. Calculators that are part of a cell phone or PDA are not acceptable during an exam or quiz.

University Policies: All university policies, which can be found at this link http://www.marshall.edu/wpmu/academic-affairs/?page_id=802, will be observed.

Important Dates:

8/26 First Day of Class, 9/2 Labor Day Holiday, 10/21 Freshman D &F midterm grades 11/1 Last day to drop individual courses, 11/25-11/30 Fall Break, 12/2-12-7 Dead Week 12/14 Final Exam **Saturday** 9:50 AM