

**Chem 100B – Elements of General and Biological Chemistry
Fall 2006 – Marian College**

Instructor: Dr. John Buben
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Office Hours: MW 2:30 – 3:30 pm
 T 10:00 – 11:00 am
 and by appointment (250 MH)

Class: TR 6:00 – 8:15 pm (355 MH)
Help Session: T 5:00 – 5:50 pm
Credit: Four (4) credit hours

Course Description: An introductory course covering the principles of inorganic, organic, and biochemistry, designed for students in the health science areas.

Required Text: Chemistry: an Introduction to General, Organic, and Biological Chemistry, ninth edition, by Karen Timberlake, Pearson/Benjamin Cummings, Inc. 2006

Learning Objectives: Upon completion of this course students should understand:

1. Factors involved in measurements and unit conversions.
2. Heat energy and changes of state.
3. The structure of atoms and their organization in the periodic table.
4. The nature of ionic and covalent compounds.
5. Concepts related to chemical reactions and the calculations commonly used in chemistry.
6. The chemical properties of gases.
7. The preparation and properties of solutions.
8. The nature of acids, bases, pH and buffers.
9. General principles of radioactivity.
10. Simple nomenclature and general properties of organic compounds.
11. The composition and properties of carbohydrates and lipids.
12. The nature of proteins and enzymes.
13. The structure and biological roles of nucleic acids.
14. Metabolic pathways and energy production.

Grading: Course grades are based on one of two options. The primary option is indicated below.

Homework Assignments	16%
Exam 1 Chapters 1 – 5	21%
Exam 2 Chapters 6 – 9	21%
Exam 3 Chapters 10 – 14	21%
Exam 4 Chapters 15 – 18	21%

Homework will be assigned each week. Exams will be given upon completion of the indicated text segments and will be announced at least one week in advance.

Option B: If a student does not wish to turn in the homework assignments, then his/her course grade will be based on the four exams (each exam will count 25%).

Grading Scale:

A : 90%	B+ : 84%	C+ : 74%	D+ : 64%
A- : 87%	B : 80%	C : 70%	D : 60%
	B- : 77%	C- : 67%	

Course Outline: We will plan to cover all 18 chapters of our text.

Topics to be covered include: Measurements; Energy and Matter; Atoms and the Periodic Table; Compounds and Chemical Bonds; Chemical Reactions and Equations; Properties of Gases and Solutions; Acids and Bases; Nuclear Radiation; Introduction to Organic Chemistry; Introduction to Biomolecules and Biological Chemistry.

Attendance:

Regular attendance at class is expected. Students who repeatedly miss class (or part of class) may receive a grade penalty. Unexcused absences from an exam may result in a grade penalty.