

CHEM123: Introduction to General, Organic, and Biochemistry I

Course Syllabus: Summer 2015

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Office hours: By appointment

Course Meeting Times and Location

Tuesday, Wednesday, Thursday; 9:00-12:10 PM
Performing Arts and Humanities, Room 132

Required Course Materials

Course Textbook

- *Fundamentals of General, Organic, and Biological Chemistry*, 7th ed., McMurry, Ballantine, Hoeger, and Peterson; Pearson: Prentice Hall. 2014.

Calculator

- TI 36X (solar)
- TI 30Xa (battery)

Course Website

<http://www.umbc.edu/blackboard>

CHEM123 is the first semester of a two-semester course that covers general, organic, and biochemistry. Topics include bonding and molecular structure, elementary organic chemistry, proteins, lipids, carbohydrates, and nucleic acids. This course will fulfill requirements in chemistry for students in the nursing, dental hygiene, and physical therapy programs. **This course is not appropriate for students planning to major in chemistry.**

Course Grading

30%	Exam 1
30%	Exam 2
15%	Problem Sets
<u>25%</u>	<u>Final Exam</u>
100%	

The following grading scale will be used in determining final grades:

A: 90-100; B: 80-89; C: 70-79; D: 60-69; F: 0-59

Description of Graded Assignments

Exams. There will be two exams given during the course and a comprehensive final exam. All exams are closed book. Exams are multiple choice and a scantron form will be used. **It is your responsibility to bring a pencil and approved calculator to the exams.** Answer keys will be posted on Blackboard. There are no make-up exams. If you miss an hourly exam because of a documented University recognized excuse, your remaining scores will be averaged. Unexcused absences will result in a grade of zero for that exam. The exam dates are as follows:

Exam 1: Wednesday, June 3, 2015
Exam 2: Wednesday, June 17, 2015
Final Exam: Tuesday, June 30, 2015

Problem Sets. You will complete 6 problem sets over the course of the semester. Unless announced otherwise, the problem sets will be due at the start of the next class. The lowest problem set score will be dropped from your grade. No make-up problem sets or time extensions will be given. If you are unable to turn in your problem set because of a documented University recognized excuse, then that problem set will be dropped and the remaining scores averaged. Answer keys and grades will be posted on Blackboard.

Learning Objectives

The central focus of this course is to make the wide variety of chemical processes, occurring both within our bodies and in our surroundings, accessible to you and to teach the problem-solving skills you will need in your future studies. Specific learning objectives include an understanding of:

- The scientific method
- The basic mathematics and the language of chemistry
- Physical and chemical properties
- Modern atomic theory
- The composition of compounds
- The formation of chemical and ionic bonds
- The nomenclature and reactions of hydrocarbons

How to do well in this course

The following is a list of a few tips for doing well in this course. You should come to class every day and read the text before class. You should review your class (and book) notes immediately after class and clear up any questions you may have while the material is still fresh in your mind. In this course, we are going to be covering a very large amount of material in a relatively short period of time. In Chemistry, the understanding of new material often relies on comprehension of earlier concepts and principles. Therefore, do not fall behind in your reading. There are several “example problems” in your textbook that you should try as you read the chapters as well as many problems at the end of each chapter. Studying in a group may also help you to be successful in this course.

Supplemental Instruction

Supplemental Instruction (SI) is a proactive academic assistance program that provides opportunities (via group review sessions and collaborative learning) for students to increase academic performance. More information will be provided throughout the semester regarding the dates/times of review sessions. This is a service provided by the University that is separate from the Chemistry Tutorial Center.

Statement of Academic Integrity

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, **but is not limited to**, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, the UMBC Policies section of the UMBC Directory, or <http://www.umbc.edu/provost/integrity/index.html>.

Course Schedule:

Tuesday, May 26, 2015:

Chapter 1: Matter and Measurements

Wednesday, May 27, 2015:

Chapter 2: Atoms and the Periodic Table

Problem Set #1

Thursday, May 28, 2015:

Chapter 3: Ionic Compounds

Problem Set #2

Tuesday, June 2, 2015:

Chapter 4: Molecular Compounds

Wednesday, June 3, 2015:

EXAM #1

Thursday, June 4, 2015:

Chapter 5: Classification and balancing of chemical reactions

Chapter 6: Chemical reactions: Mole and Mass relationships

Tuesday, June 9, 2015:

Chapter 7: Chemical reactions: Energy, rates, and equilibrium

Chapter 8: Gases, Liquids, and Solids

Problem Set #3

Wednesday, June 10, 2015:

Chapter 9: Solutions

Problem Set #4

Thursday, June 11, 2015:

NO CLASS

Tuesday, June 16, 2015:

Chapter 10: Acids and Bases

Wednesday, June 17, 2015:

EXAM #2

Thursday, June 18, 2015:

Chapter 11: Nuclear Chemistry

Tuesday, June 23, 2015::

Chapter 12: Introduction to Organic Chemistry
Problem Set #5

Wednesday, June 24, 2015:

Chapter 13: Alkenes, Alkynes, and Aromatic Compounds
Problem Set #6

Thursday, June 25, 2015:

Chapter 14: Oxygen, Sulfur, and Halogen Compounds

Tuesday, June 30, 2015:

FINAL EXAM