

# CHEM124: Introduction to General, Organic, and Biochemistry II

## Course Syllabus: Summer 2014

**Course Instructor** Allison Tracy, Ph.D.  
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Office hours: By appointment

### Course Meeting Times and Location

Monday and Wednesday; 9:00 A.M -12:10 PM  
IT Building; Room 233

### Required Course Materials

#### *Course Textbook*

- *Fundamentals of General, Organic, and Biological Chemistry, 7th<sup>th</sup> ed.*, McMurry, Castellion, and Ballantine; Pearson Prentice Hall. 2009.

#### *Calculator*

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

### Course Website

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

**CHEM124** is the second 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.**

<b>Course Grading</b>	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, July 16, 2014  
**Exam 2:** Wednesday, July 30, 2014  
**Final Exam:** Wednesday, August 13, 2014

*Problem Sets.* You will complete 6 problem sets over the course of the semester. These will be assigned as take-home assignments and are due at the start of the following class period. 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.

### **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:**

**Monday, July 7, 2014:**

Chapter 15: Amines  
Chapter 16: Aldehydes and Ketones

**Wednesday, July 9, 2014:**

Chapter 17: Carboxylic Acids  
**Problem Set #1**

**Monday, July 14, 2014:**

Chapter 18: Amino Acids and Proteins  
**Problem Set #2**

**Wednesday, July 16, 2014:**

**EXAM #1**

**Monday, July 21, 2014:**

Chapter 20: The Generation of Biochemical Energy  
Chapter 21: Carbohydrates

**Wednesday, July 23, 2014:**

Chapter 22: Carbohydrate Metabolism  
**Problem Set #3**

**Monday, July 28, 2014:**

Chapter 23: Lipids  
**Problem Set #4**

**Wednesday, July 30, 2014:**

**EXAM #2**

**Monday, August 4, 2014:**

Chapter 24: Lipid Metabolism

Chapter 25: Nucleic Acids and Protein Synthesis

**Wednesday, August 6, 2014:**

Chapter 26: Genomics

**Problem Set #5**

**Monday, August 11, 2014:**

Chapter 28: Chemical Messengers

**Problem Set #6**

**Wednesday, August 13, 2014:**

**FINAL EXAM**