

Biochemistry I Fall Term, 2005

Lecture 1: Introduction to Biochemistry

Instructor: Christina Lee

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Lecture: MWF 10:30-11:20 Baker Hall A51

Tutorial/SI: Andy Hsieh and Marciela DeGrace

Recitations/TA: Tim Feinstein

Required Reading: Campbell Chapter 1

Link to organic nomenclature web site: [Organic Nomenclature](#)

Web Resources:

The home page for the course can be found at: <http://www.bio.cmu.edu/Courses/03231/biochemF05.htm> Mirror Site:

Please spend some time this week to become familiar with the following areas of the course web page:

* [Syllabus](#) * [Goals & Expectations](#) * [Problem Sets & Exams](#) * [WWW Tools & Links](#)

You should check the "Current Topics & Announcements" section of the course web page. This area will be frequently updated and will contain information on current tasks and announcements for the course. These items will also be announced in lecture.

Course Grading Scheme:

Problem Sets

15%

Lowest one dropped

CMU Online Quizzes

10%

Pretest, 1st, and lowest dropped

In-class exams

45%

Half of lowest one dropped (2x18%, 9%)

Comprehensive Final Exam

30%

Tentative letter grades: <50 R, 50-60 D, 60-80 C, >80 B, >90 A.

Biochemical Terms: You should be familiar with the following terms. What is it? If it is part of a cell where is it? What does it do? If you can't recognize any of these terms please read chapter 1 of the textbook.

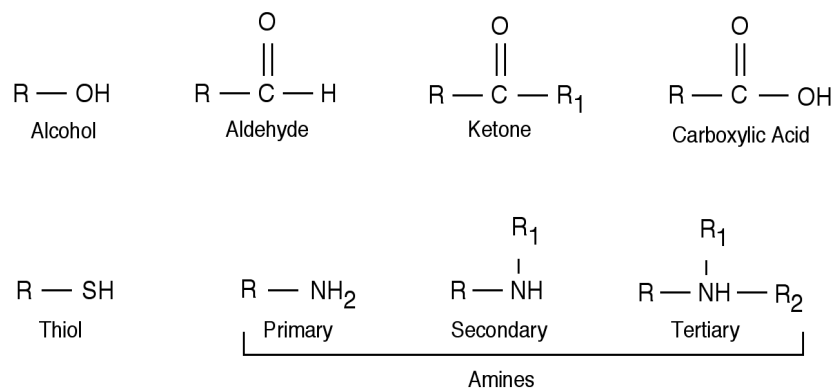
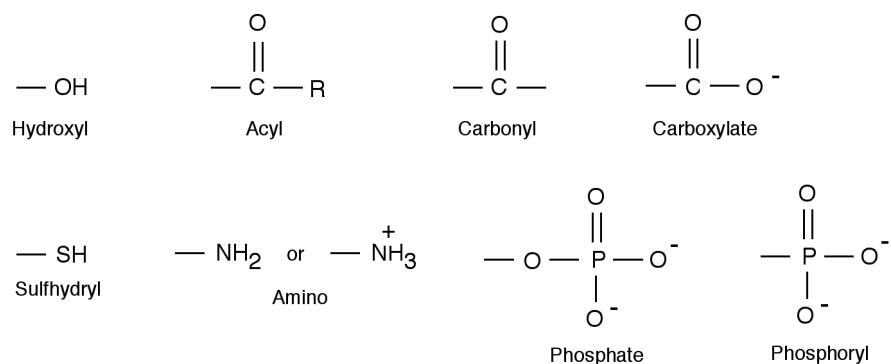
- * plasma membrane
- * cell wall
- * chromatin
- * chromosome
- * cytosol
- * eukaryote
- * genetic code
- * genome
- * mitochondrion
- * prokaryote
- * nucleic acid, DNA, RNA
- * nucleus
- * ribosome
- * protein
- * enzyme
- * catalyst
- * monomer/polymer
- * ATP
- * Golgi
- * Endoplasmic reticulum

Organic Chemistry:

Nomenclature: A considerable part of Biochemistry is the study of organic reactions in biological systems. Consequently it is necessary that you are familiar with some of the fundamentals of organic chemistry. The essentials of what you need to know can be found in Table 1.1 of Campbell and on a simpler summary page on Organic Nomenclature. A more comprehensive compilation on the web can be found at David Woodcock's [Introduction to Basic Organic Nomenclature](#) at Okanagan University College. If you have not yet had organic chemistry, I would encourage you to learn as much nomenclature as possible such that we have a common language.

Topics in Chemistry/Organic Chemistry you should be familiar with:

- * Chemical bonding (covalent bonds, resonance structures, dipole moments)
- * Alkanes (nomenclature, physical properties, conformational analysis)
- * Alkenes (nomenclature)
- * Aromatic compounds
- * Functional Groups (alcohols, amides, amines, ketones, aldehydes, carboxylic acid, thiols)
- * Esters (Nomenclature)
- * Nucleophilic Substitution (nucleophile)

Important Organic Compounds, Functional Groups and Linkages in Biochemistry:*Organic Compounds**Functional Groups**Linkages in Biochemical Compounds*