

Common Course Outline

CHEM 202

Organic Chemistry II

3 Semester Hours

The Community College of Baltimore County

Description

CHEM 202--3 Credits--Organic Chemistry II serves as a continuation of CHEM 200; discusses spectroscopic, chemical & physical properties & uses of organic compounds; emphasizes ethers, aldehydes, ketones, aromatics, amines, acids & derivatives; touches on carbohydrates, amino acids & proteins.

3 lecture hours & 1 recitation hour per week

Prerequisites: Minimum grades of C in CHEM 200 and CHEM 201

Concurrent enrollment in CHEM 203 is highly recommended.

Overall Course Objectives

Upon completion of this course the student will be able to:

1. describe the physical and chemical properties and reactions of ethers, aldehydes, ketones, aromatic compounds, amines, carboxylic acids and derivatives, such as esters, amides, nitriles, acid halides and acid anhydrides;
2. use the IUPAC system to name the above named classes of organic compounds;
3. predict the structure of the products formed and mechanisms involved when selected reagents are reacted with the above named classes of organic compounds;
4. determine the reagents that are needed for a specific transformation involving the above named classes of organic compounds;
5. describe the physical and chemical properties of carbohydrates;
6. describe the physical chemical properties of amino acids and proteins; and
7. to interpret UV-visible, $^1\text{H-NMR}$, $^{13}\text{C-NMR}$ and mass spectra of organic compounds and assign structures there from.

Major Topics

I. IR, UV-vis, $^1\text{H-NMR}$, $^{13}\text{C-NMR}$, Mass Spectra Analysis

II. Ethers

III. Aldehydes and Ketones

IV. Aromatics

V. Carboxylic acids

VI. Derivatives of Acids

VII. Amines

VIII. Carbohydrates

IX. Amino Acids and Proteins

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will include at least two 1-hour exams and a 2-hour final exam.

Writing: Individual faculty member may decide to assign a term paper to replace one of the 1-hour exams.

Other Course Information

Individual faculty members may include additional course objectives, major topics, and other course requirements to the minimum expectations stated in the Common Course Outline.