

University of Arkansas - Fort Smith
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General Syllabus

CHEM 31763 Organic Chemistry II

Credit Hours: 3 Lecture Hours: 3 Laboratory or other types of Hours: 0

Prerequisite: CHEM 31663 Organic Chemistry I

Effective Catalog: 2026

I. Course Information

A. Catalog Description

A continuation of Organic Chemistry I; this course continues a systematic study of carbon-based chemistry. The chemistry of specific functional groups such as alcohols, conjugated and aromatic compounds, and carbonyl compounds is studied. Reaction mechanisms and synthesis of small molecules is emphasized.

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of **Organic Chemistry II**, the student will be able to:

1. Name alcohols, benzene derivatives, aldehydes, ketones and carboxylic acids
2. Describe the unique property of aromaticity
3. Predict reaction products involving alcohols, radicals, and aromatic and carbonyl chemistry.
4. Propose synthetic pathways to molecules containing more than one functional group.

B. University Learning Outcomes

Organic Chemistry II enhances student abilities in the following areas:

Analytical Skills

Critical Thinking Skills

Students will identify a problem or issue and will research, evaluate, and compare information from varying sources in order to evaluate authority, accuracy, recency, and bias relevant to the problems/issues. Students will generate solutions/analysis of problems/issues evaluated and will assess and justify the solutions and/or analysis.

Communication Skills (written and oral)

Students will communicate proficiently. Students will compose coherent documents appropriate to the intended audience and effectively communicate orally in a public setting.

III. Major Course Topics

- A. Alcohol, benzene and carbonyl-containing compound nomenclature.
- B. Physical and chemical properties of alcohols, radicals, and benzene and carbonyl-containing compounds.
- C. Reaction mechanisms of alcohols, radicals, benzene, and carbonyl-containing compounds
- D. Chemoselectivity and protecting group strategy
- E. Planning multistep synthesis pathways for molecules with more than one functional group.