University of Arkansas - Fort Smith
5210 Grand Avenue
P. O. Box 3649
Fort Smith, AR 72913-3649
479-788-7000

General Syllabus

CHEM 30761 Organic Chemistry II Laboratory

Credit Hours: 1 Lecture Hours: 0 Laboratory or other types of Hours: 3

Prerequisite or Corequisite: CHEM 31763 Organic Chemistry II

Effective Catalog: 2026

I. Course Information

A. Catalog Description

A continuation of CHEM 30661, this course introduces common organic synthesis techniques, and demonstrates reactions of alcohols, aromatic, and carbonyl compounds. Modern analytical techniques, especially infrared and nuclear magnetic resonance spectroscopy are emphasized.

II. Student Learning Outcomes

A. Subject Matter

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

1. Observe and formulate conclusions based on observed outcomes of organic reactions.
2. Interpret infrared and nuclear magnetic resonance spectroscopy data.
3. Suggest ways to improve reaction purity and yield.
4. Propose chemical mechanisms consistent with observed data.

B. University Learning Outcomes

Organic Chemistry II Laboratory enhances student abilities in the following areas:

Analytica 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 using the vocabulary of organic chemistry.

III. Major Course Topics

A. Use of common lab glassware in mini- and microscale synthesis
B. Reactions of alcohols, aromatic, and carbonyl compounds
C. Infrared and nuclear magnetic resonance spectroscopy
D. Common organic reaction workup methods