University of Arkansas – Fort Smith
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General Syllabus

CHEM 2713 Organic Chemistry II

Credit Hours: 3 Lecture Hours: 3 Laboratory Hours: 0

Prerequisite: CHEM 2703 Organic Chemistry I

Effective: 2018~2019

I. Course Information

A. Catalog Description

Focuses on the chemistry of specific functional groups such as alcohols, carbonyl, conjugated systems and aromatic compounds. Analysis methods such as IR, MS, and NMR will also be covered.

B. Additional Information - None

II. Student Learning Outcomes

A. Subject Matter

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

1. Name and write structural formulas for each of the functional groups mentioned in the topical outline below.
2. Understand and discuss the chemical reactions of the functional groups mentioned in the topical outline below.
3. Understand and be able to interpret spectroscopic data (IR, MS, and NMR)

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.

Ethical Decision Making
Students will model ethical decision-making processes. Students will identify ethical dilemmas and affected parties and will apply ethical frameworks to resolve a variety of ethical dilemmas.

Global & Cultural Perspectives
Students will reflect upon cultural differences and their implications for interacting with people from cultures other than their own. Students will demonstrate understanding or application of their discipline in a global environment and will demonstrate how their discipline impacts or is impacted by different cultures.

III. Major Course Topics

A. Alcohols, Ethers, and Epoxides: Structure, Nomenclature, and reactions
B. Aldehydes and Ketones: Structure, Nomenclature, and Reactions
C. Dienes: Structure, Nomenclature, and Reactions
D. Carboxylic Acids and Their Derivatives: Structure, Nomenclature, and reactions
E. Aromatic Compounds: Structure, Nomenclature, and reactions
F: Basic Theory and Analysis Techniques of Mass Spectroscopy (MS), Infrared Spectroscopy (IR), and Nuclear Magnetic (^{1}H and ^{13}C NMR)