Course Prefix and Number: CHM 242  Credits: 3

Course Title: Organic Chemistry II

Course Description: Introduces fundamental chemistry of carbon compounds, including structures, physical properties, syntheses, and typical reactions. Emphasizes reaction mechanisms. Part II of II. Prerequisite: CHM 241 or equivalent with a grade of C or better. Lecture 3 hours. Total 3 contact hours per week.

General Course Purpose: This is a transfer course in organic chemistry for science majors that will satisfy various pre-health degree requirements. This course is designed for students pursing bachelor’s degrees in biology, chemistry or chemical engineering, and as a prerequisite for students seeking professional degrees in medical, pharmaceutical, dental, veterinary programs, and certain advanced nursing programs.

Course Prerequisites and Co-requisites: Prerequisite: CHM 241 or equivalent with a grade of a C or better

Student Learning Outcomes:
Upon completing the course, the student will be able to:
a. Understand what an important role carbon compounds play in life systems, explain what role carbon compounds play in our economy and our daily life;
b. Predict the outcome and mechanism of typical reactions that organic molecules undergo;
c. Explain the concept of stereochemistry;
d. Use the complex naming system used naming organic molecules;
e. Be introduced to specific classes of biological molecules--proteins, carbohydrates, lipids, and nucleic acids;
f. Effectively write and speak on scientific matters; and
g. Effectively use the chemical literature to gather chemical information.

Major Topics to Be Included:
a. Organometallic compounds
b. Alcohols, ethers, and epoxides
c. Aldehydes, ketones, and nucleophilic addition to the carbonyl group
d. Enols, enolates, and enamines
e. Carboxylic acids and bases
f. Acyl transfer reactions
g. Ester enolates, alkylamines, amines
h. Thiols
i. Aryl halides, phenols, carbohydrates
j. Spectroscopy

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