

## CEM 143 – Survey of Organic Chemistry

**Description:** A survey of the basic organic compounds and the most common organic reactions, with examples of biological and industrial processes involving organic chemistry. You will learn how to name organic compounds, to draw and understand their structures in two and three dimensions, and to learn how chemical structure and chemical reactivity (reactions) are interrelated.

**Credit:** 4 hours (3 hours lecture, 1 hour of recitation, 2 hours lab per week)

**Prerequisite:** CEM 141 or CEM 151

### Lecture Topics:

1. Bonding and Isomerization
2. Alkanes and Cycloalkanes
3. Alkenes and Alkynes
4. Aromatic Compounds
5. Stereoisomerism
6. Organic Halogen Compounds
7. Alcohols and Phenols
8. Ethers and Epoxides
9. Aldehydes and Ketones
10. Spectroscopy and Structure
11. Carboxylic Acids and Derivatives
12. Lipids and Detergents
13. Amines and Nitrogen Compounds
14. Carbohydrates (Sugars)
15. Amino Acids and Proteins
16. Heterocyclic Compounds
17. Polymers
18. Nucleotides (DNA and RNA)