

## CHAPTER 7 LEARNING OBJECTIVES

### Learning Objectives

To satisfy the minimum requirements for this course, you should be able to:

1. Distinguish alkanes, alkenes, alkynes, and aromatic compounds by differences in bonding, structure, and reactivity.
2. Use IUPAC rules to (1) name simple linear, branched and cyclic alkanes, or  
(2) generate a molecular structure given the name.
3. Identify two molecules, given their structural formulas, as structural or geometrical isomers.
4. Describe general trends in the physical properties of alkanes.
5. Describe the primary processes used in the refining of petroleum.
6. Recognize alcohol, amine, carboxylic acid, groups, and understand the nature of the condensation reactions that can occur between these to form ester and amide linkages.
7. Use concepts of Valence Bond (VB) model, such as orbital hybridization and overlap, to explain the different structural characteristics of alkanes, alkenes, alkynes and aromatics.