

CHAPTER 24 and 25 LEARNING OBJECTIVES

To satisfy the minimum requirements for this course, you should master the following learning objectives.

Explain the differences between alkanes, alkenes and alkynes.

Discuss the importance of functional groups in organic chemistry and recognize the following functional groups: amines, carboxylic acids, alcohols, esters, amides.

Explain how different fractions of petroleum are obtained and how they are used for industrial applications.

Explain what a polymer is and why they are important. Be able to

- define, with examples, the terms polymer, monomer, and repeat unit.
- recognize that polymers are formed from monomers via addition and condensation polymerizations.
- explain the differences between a thermoplastic and thermoset and the ramifications in the recycling of plastics.
- describe what is meant by crosslinking and explain how it affects polymer properties.
- describe how the chemical structures of polymers affect their strength, elasticity, crystallinity, and density.

Define “biopolymer” and recognize proteins.

Define the terms peptide, protein, backbone and side chain.

Write the condensation reaction that forms a peptide bond given two amino acids.

List the four levels of protein structure hierarchy, and know what forces or bonds stabilize each level.

List several functions for proteins.

Understand the meaning of the Key Words on page 1080.