## General Instructional Objectives
## Chapter 16. Carboxylic Acids, Esters, and Other Acid Derivatives
## 16.1 Structure of Carboxylic Acids and Their Derivatives
## 16.2 IUPAC Nomenclature for Carboxylic Acids
## 16.3 Common Names for Carboxylic Acids
## 16.4 Polyfunctional Carboxylic Acids
## 16.5 "Metabolic" Acids
## 16.6 Physical Properties of Carboxylic Acids
## 16.7 Preparation of Carboxylic Acids
## 16.8 Acidity of Carboxylic Acids
## 16.9 Carboxylic Acid Salts
## 16.11 Preparation of Esters
## 16.14 Isomerism for Carboxylic Acids and Esters
## 16.16 Chemical Reactions of Esters
## 16.18 Polyesters
## 16.19 Acid Chlorides and Acid Anhydrides
## 16.20 Esters and Anhydrides of Inorganic Acids

Students should be able to:

1. Know the carboxylic acids and esters that are of natural, medical, or environmental importance.
2. Draw and name the common carboxylic acids and esters.
3. Write equations for the hydrolysis of esters.
4. Write equations for the synthesis of a carboxylic acid by the oxidation of primary alcohols or aldehydes
5. Write equations for the synthesis of esters from carboxylic acids and alcohols.
6. Define the term saponification and know how a soap works in the emulsification of grease and oils.
7. Write equations for the synthesis of acid chlorides and acid anhydrides.
8. Understand the significance of thioesters and phosphoesters in biological systems.