CH 222 Chapter Twenty Study Guide

- Be able to identify and name representative examples from the following organic classes:

    * alkanes
    * cycloalkanes
    * alkyl halides
    * alkenes
    * alkynes
    * aromatic compounds (especially benzene and toluene)
    * alcohols
    * ethers
    * aldehydes
    * ketones
    * amines
    * carboxylic acids

- Know the systematic name for a compound matching one of these functional groups.

- Be able to draw structural formulas for unbranched and branched-chain alkanes as well as cyclohexanes. Be able to name these compounds.

- Understand the bonding behavior of alkenes, alkynes, aromatic compounds, aldehydes and ketones.

- Be able to identify possible isomers given a formula.

- Know the general reaction behavior for addition, elimination and substitution organic reactions.

- Be able to draw and name various *cis* and *trans* stereoisomers of alkenes.

- Recognize the importance of the carbonyl group in organic chemistry. Aldehydes, ketones, carboxylic acids, esters, etc. all contain a carbonyl group.

- Be able to name and write the structural formula of common polymers. Know how to write equations for the formation of addition polymers and condensation polymers.

- Be able to solve and understand the assigned problems in problem set #3.