CH 105 : INTRODUCTION TO CHEMISTRY II

Transcript title

Introduction to Chemistry II

Credits

5

Grading mode

Standard letter grades

Total contact hours

70

Lecture hours

40

Lab hours

30

Prerequisites

CH 104.

Course Description

Builds on concepts from CH 104 introducing basic principles of general and organic chemistry, including bonding in carbon compounds, equilibrium, stereochemistry and functional group chemistry. Supporting laboratory work included. Not designed for science majors.

Course learning outcomes

1. Draw and properly interpret the structures of organic compounds using various structural conventions: Lewis structures, structural and condensed structural formulas, and line-bond structures.
2. Draw organic structures from names, and name simpler organic structures by applying IUPAC rules and, in some instances, common names.
3. Apply an understanding of organic functional groups to name and/or draw representatives of the following organic families: alkane, alkene, alkyne, alcohol, ether, thiol, ketone, aldehyde, carboxylic acid, ester, amine, amide, and others.
4. Identify, interpret and explain isomerism of various types, including chirality and stereoisomerism.
5. Describe structure-function relationships within and between organic families, and explain those relationships by appealing to descriptions of intermolecular forces.
6. Predict properties from chemical structures.
7. Describe solutions, including quantitative descriptions, with molarity and percents by mass and volume and pH for acids and bases.
8. Use scientific (inductive) reasoning to draw appropriate conclusions from data sets or theoretical models.
9. Characterize arguments as scientific or not scientific.
10. Make measurements and operate with numbers properly to convey appropriate levels of certainty when drawing conclusions from experimental data.
11. Identify patterns in data by graphical means.
12. Use various sources to find chemical information and interpret that data appropriately.

General education/Related instruction lists

- Science Lab