CH 106 : INTRODUCTION TO CHEMISTRY III

Transcript title

Introduction to Chemistry III

Credits

5

Grading mode

Standard letter grades

Total contact hours

70

Lecture hours

40

Lab hours

30

Prerequisites

CH 105.

Course Description

Builds on concepts from CH 105 introducing basic principles of general and biochemistry, including consideration of protein, carbohydrate and lipid structure and metabolism, bioenergetics, enzymes and nucleic acid chemistry.

Course learning outcomes

1. Draw and interpret various types of structures of biomolecules.
2. Apply fundamental concepts of chemical structure to the description of major biomacromolecules: proteins, carbohydrates, and DNA, and also lipids; connect biochemical roles and properties of each of these substances to their structural elements and overall structures.
3. Explain in various contexts molecular recognition, and apply these understandings to descriptions of enzymes, receptors, communication between cells, recognition of self and non-self, etcetera.
4. Describe enzymes as biological catalysts that can be regulated through various means.
5. Link disease states, the action of drugs, and healthy physiology to biochemical processes.
6. Adopt appropriate terminology to read, write, and interpret information of a biochemical nature.
7. Describe central metabolic pathways and determine the consequences of alterations to such pathways that may result from disease or drug interference with their functioning.
8. Describe, using biochemical description, the ways that organisms extract and use energy from their environment.
9. Interpret and carry out a set of written experimental instructions and then to convey the experimental results in a laboratory report.
10. Use scientific (inductive) reasoning to draw appropriate conclusions from data sets or theoretical models.
11. Characterize arguments as scientific or not scientific.
12. Make measurements and operate with numbers properly to convey appropriate levels of certainty when drawing conclusions from experimental data.
13. Identify patterns in data by graphical means.

General education/Related instruction lists

- Science Lab