CHM 101 - INTRODUCTORY CHEMISTRY

Course Description

A one-semester chemistry course for the non-science major exploring the language, concepts and methods of chemistry. Topics include atomic theory, chemical periodicity, chemical bonding, stoichiometry, gases, nuclear energy, equilibrium, and acid/base chemistry. The laboratory will include descriptive and analytical experiments, focusing on measurement, physical and chemical properties of materials, acids and bases, laboratory procedures and calculations. Science, engineering, and premedical students must select CHM 150 and 151 to meet chemistry requirements. Consult with an advisor before enrolling. Group 1 lab course. Students enrolling in CHM 101 who have not completed these requirements should plan on additional study time.

Credit Hours

4

Contact Hours

5

Lecture Hours

3

Required Prerequisites

MTH 111 or MTH 120 with a grade of 2.0 or better.

Corequisites

CHM 101L

Recommended Prerequisites or Skills Competencies

ENG 111; the ability to work algebraic problems involving unknown variables, fractions, percents and proportions

General Education Outcomes supported by this course

Quantitative Reasoning

Course Learning Outcomes

Knowledge:
- Define scientific and mathematical concepts.
- Determine how compounds are formed from the elements.
- Identify how chemical reactivity of the elements is related to their location in the Periodic Table.
- Describe different types of chemical bonding.
- Use laboratory glassware and equipment correctly.

Application:
- Demonstrate problem solving skills.
- Effectively use laboratory equipment to perform experiments.
- Demonstrate how numerical data collected in lab is related to precision.
- Apply problem solving skills, including unit analysis.
- Demonstrate how molecular polarity affects solubility.

Integration:
- Evaluate a numerical problem using quantitative reasoning.
- Calculate the mass relationship among reactants and products in a chemical reaction, including the conservation of mass.
- Analyze data generated in a laboratory.

Human Dimension:
- Develop interpersonal skills required to work effectively with a laboratory partner.
- Relate chemistry their everyday lives.

Caring - Civic Learning:
- Recognize the importance of chemistry in their life.

Learning How to Learn:
- Apply their problem solving skills many situations.