



Wayne County Community College District

COURSE SYLLABUS

CHM 136 General Chemistry I

CREDIT HOURS: 4.00

CONTACT HOURS: 60.00 HL / 30 HLB

COURSE DESCRIPTION:

First lecture and laboratory course in a two semester general chemistry sequence. It includes a study of stoichiometry, solutions and concentrations of solutions, the gaseous state, molecular geometry and chemical bonding theory, reactions in aqueous solutions and a descriptive study of liquids and solids (meets six hours per week; four hours lecture and two hours laboratory).

PREREQUISITES: CHM 105, MAT 112

EXPECTED COMPETENCIES: *Upon successful completion of this course, the student will:*

1. Apply strategies of scientific inquiry.
2. Apply the scientific method to solve a problem.
3. Utilize chemical and physical properties to separate matter into its components.
4. Use simple algebraic equations to solve word problems involving basic physical quantities.
5. Describe the structure and behavior of atoms according to early models.
6. Solve mathematical problems involving isotopes and the atomic weight of a given element.
7. Solve mathematical problems related to the composition of a compound.
8. Solve mathematical problems related to the amounts of reactants and products in a chemical equation. (Stoichiometry)
9. Describe the changes that occur during chemical reactions.
10. Solve problems involving dilution and stoichiometry of solutions.
11. Solve problems involving acids, bases and pH.
12. Solve thermochemical problems involving heats of reaction.
13. Solve stoichiometry problems involving gases.
14. Explain how the postulate of the kinetic molecular theory relates to both ideal gases and real gases.
15. Describe the structure and behavior of atoms according to modern atomic theories.
16. Explain the relationship between chemical bonding and the size, shape and nature of ions and molecules.
17. Illustrate how intermolecular forces are related to various properties of substances.
18. Solve problems involving colligative properties of solutions.

ASSESSMENT METHODS:

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

GRADING SCALE:

90%-100% = A
80%-89.9% = B
70%-79.9% = C
60%-69.9% = D
<60% = E