

CHEM 151 : Elementary Survey of Chemistry

Credits: 3

Class Hours: 3 lecture

Prerequisites: Qualified for ENG 100. "C" or higher in MATH 75X or MATH 82X.

Corequisite Courses:

CHEM 151L

Description: This survey of general principles and descriptive chemistry is intended for students with no previous background in chemistry. Topics include atoms and molecules; moles and formulas; properties of solids, liquids, and gases; enthalpy and entropy; acids and bases; chemical composition; stoichiometry; and equilibria.

Semester Offered: Fall, Spring

Designation:

Diversification: Physical Sciences – DP

Course Student Learning Outcomes (CSLOs):

1. Apply various quantitative and mathematical methods used in chemistry such as dimensional analysis, graphic analysis, statistical analysis and molar stoichiometry.
2. Utilize qualitative and quantitative chemical symbolism, nomenclature, chemical classification scheme, atomic and molecular modeling and bonding theories.
3. Explain the properties of pure substances, their states, and homogeneous and heterogeneous mixtures, thermal chemistry, chemical thermodynamics, chemical equilibrium and electrochemistry.
4. Use critical thinking skills and processes such as observation, classification, prediction, inference, measurement, making operational definitions, hypothesizing, experimentation, modeling, theorizing and evaluation.
5. Describe the benefits and hazards of scientific literacy and ethics, chemical literacy and chemical applications to the environment.