C-ID Descriptor
Chemistry and Society

Descriptor Details

- **Descriptor Title**: Chemistry and Society
- **C-ID Number**: 100
- **Units**: 3.0
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General Description

This course introduces students to basic concepts of chemistry and requires analyses of the socio-cultural contexts within which chemistry plays a central role. The course is designed to provide a general educational exposure to the physical sciences, specifically chemistry, and is not recommended for science majors.

Prerequisites

Elementary algebra or higher or eligibility for transfer-level mathematics

Corequisites

None

Advisories

Reading Proficiency

Content

Fundamentals of Chemistry:

- Units of measure, light, heat and temperature, problem solving and dimensional analysis
- Principles of chemistry, including
    - introduction to the fundamental particles [electrons, protons and neutrons] and their relationship to atomic structure;
    - atoms, ions and molecules;
    - ionic interactions and covalent bonding;
    - the states of matter the nature of solutions including classifications of solutes

Contextual Topics such as:

- Human mobility: ships, planes, trains, automobiles and bicycles
- Energy: lighting the human environment, sources of energy, distribution and impact on the human condition; production of oil-based materials
- The politics of pollution - including water-based pollution concerns
- Chemicals in our foods and food supply chain
- Population dynamics - the chemistry of contraception
- Chemistry and chemical dependency
- Diseases of chemical origin

Lab Activities

Objectives

At the conclusion of this course, the student should be able to:

1. Apply scientific reasoning in contexts involving chemistry and society
2. Use chemical theories, principles, and models, in conjunction with the scientific method, to analyze socio-cultural phenomena involving chemistry and society
3. Critique the benefits and limitations of applying the scientific method to problems in the analysis of socio-cultural phenomena involving chemistry
4. Explore independently contemporary topics in which chemistry has a significant role

Evaluation Methods

Examinations
Homework
Lab work
Portfolios
Projects
Written papers and/or reports
Quizzes

Textbooks

Basic Chemistry. Daub, G. W. & W. S. Seese

Chemistry in Context, Applying Chemistry to Society. A project of the American Chemical Society