Chemistry and Society

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| **C-ID Number** | CHEM 100 |
| **Discipline** | Chemistry |
| **Date Approved** | March 30, 2011 |

## General Course 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.

## Minimum Units

3.0

## Any rationale or comments

## Advisories/Recommendations

Reading Proficiency

## Course 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:

Lighting the human environment
Human mobility:  ships, planes, trains, automobiles and bicycles
Energy: 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

## Laboratory Activities

## Course Objectives

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

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

## Prerequisites

Elementary algebra

## Corequisites

None

## Methods of Evaluation

ExaminationsHomeworkLab workPortfoliosProjectsWritten papers and/or reportsQuizzes

## Sample Textbooks

Basic Chemistry. Daub, G. W. and W. S. Seese
Chemistry in Context, Applying Chemistry to Society, . A project of the American Chemical Society

## Notes