HSE-280 HAZARDOUS MATERIALS HEALTH EFFECTS

3 Credit Hours

Prerequisites: HSE-100 Occupational Safety, HSE-105 Characteristics of Hazardous Materials, CHM-122 Introduction to General Chemistry and CHM-132 Introduction to Organic and Biochemistry

This course is a review of the research done to determine the systematic health effects of exposures to chemicals. Topics covered include determination of risk factors, routes of entry of hazardous materials and their effects on target organs, acute and chronic effects, and control measures.

Course Objectives

This course is designed to give the Hazardous Materials Technologist a working familiarity with the mechanisms and effects of hazardous material injury to cells, tissues and organ systems. Knowledge of environmental pathology will enable the technologist to:

1. Explain the research on the effects of hazardous substances on human health.

2. Examine the complex interplay between biological functions and chemical behavior of hazardous substances.

3. Continue to examine the complex interplay between biological functions and chemical behavior of hazardous substances, especially as related to the kidney, eye, blood, nervous system, and reproductive system.

4. Examine mechanisms of reversible and irreversible injury to cells following exposure to hazardous substances.

5. Recognize clinical manifestations (signs and symptoms) of acute and chronic injury and diseases that can result from exposure to hazardous substances.

"Health Effects" is not a clinical course as such, but some understanding of the clinical manifestations (signs and symptoms) of environmentally induced disease will also help the technologist recognize patterns of chemical injury in the workplace.