

UNIVERSITY OF HOUSTON – DOWNTOWN

ENGR 4310 - INDUSTRIAL HYGIENE INSTRUMENTATION

LECTURE NOTE OUTLINE – CHAPTER 1

WEEK 1

- I. Professional Ethics
 - A. Organizations
 - B. Code of Ethics
 - C. Occupational Health and Safety Team
 - 1. Goal
 - 2. Team Members
 - 3. Management Commitment
 - 4. Functions of Team Members

- II. Federal Regulations
 - A. OSHA Act
 - B. Duties
 - C. OSHA/NIOSH

- III. Environmental Factors/Stresses
 - A. Chemical Hazards
 - 1. MSDS
 - 2. Solvents
 - 3. Toxicity versus Hazard
 - B. Physical Hazards
 - 1. Noise/Sound Pressure Levels
 - 2. Extremes of Temperature
 - a. Measurements
 - b. Heat Stress
 - c. Cold Stress
 - 3. Ionizing Radiation
 - 4. Nonionizing Radiation
 - 5. Pressure Extremes
 - C. Ergonomic Hazards
 - 1. Biomechanics
 - 2. Vibration
 - 3. Lifting
 - 4. Workplace Design
 - D. Biological Hazards

- IV. Routes of Entry
 - A. Inhalation
 - B. Absorption
 - C. Ingestion
 - D. Skin and Eyes

- V. Types of Airborne Contaminants
 - A. Dusts
 - B. Fumes
 - C. Smoke
 - D. Aerosols
 - E. Mists
 - F. Gases
 - G. Vapors
 - H. Respiratory Hazards/Oxygen-Deficient Atmospheres

- VI. Threshold Limit Values
 - A. TLV-TWA
 - B. TLV-STEL
 - C. TLV-C
 - D. Skin Notation
 - E. Mixtures

- VII. Federal Occupational Safety and Health Standards
 - A. PELs/TWA
 - B. 29 CFR 1910.1000

- VIII. Evaluation
 - A. Hazard Recognition
 - B. Information Required
 - C. Degree of Hazard
 - D. Air Sampling

- IX. Occupational Skin Diseases
 - A. Dermatitis
 - B. Causes
 - C. Prevention

- X. Control Measures
 - A. Engineering Controls
 - B. Ventilation
 - C. PPE
 - D. Administrative Controls

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LECTURE NOTE OUTLINE – CHAPTER 28

WEEK 1

- I. OSHA
 - A. Secretary of Labor
 - B. General Duties and Obligations
 - C. Key Provisions
 - D. State Plans

- II. OSHA Standards
 - A. Categories
 - B. Standards Development
 - C. Hazard Communication

- III. OSHAct
 - A. Enforcement
 - B. Field Operations
 - C. Reorganization and Reinvention
 - D. IH Inspections/Procedure
 - E. Employer's Occupational Health Programs
 - F. Compliance Programs
 - G. Citations
 - H. Engineering Controls

- IV. NIOSH
 - A. Responsibilities
 - B. Testing and Certification
 - C. Research
 - D. Training
 - E. Recommendations for Standards
 - F. Field Investigations

- V. Other Agencies
 - A. Mining
 - B. EPA
 - 1. TOSCA
 - 2. RCRA
 - 3. CERCLA

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LECTURE NOTE OUTLINE – CHAPTER 29

WEEK 1

- I. Agency Creation
 - A. Overview
 - B. OSHA Program Structure
 - 1. Universal Coverage
 - 2. Employer Obligations
 - 3. Enforcement
 - 4. Employee Participation
 - 5. Checks and Balances
 - 6. Role of the States
 - 7. Information and Data
 - 8. Training and Education

- II. Early Agency Activities
 - A. Secretary/Department of Labor
 - B. Compliance Activity
 - C. Start-Up Standards
 - D. Asbestos
 - E. States/Workers
 - F. Injury/Illness Rates

- III. Health Standards
 - A. Issues
 - B. Preambles
 - C. Requirements
 - D. Promulgation
 - E. Court Precedents
 - F. Procedural Scrutiny
 - G. Emergency Standards
 - H. Balanced Approach
 - 1. Cotton Dust
 - 2. Hearing Conservation
 - 3. Hazard Communication
 - 4. Asbestos
 - 5. Field Sanitation
 - 6. Ethylene Oxide

- IV. Re-Evaluating OSHA
 - A. Bloodborne Pathogens
 - B. Asbestos
 - C. Ethylene Oxide
 - D. Lead
 - E. Lab Safety and Health
 - F. Cotton Dust
 - G. Cadmium
 - H. PSM
 - I. LO/TO
 - J. Grain Handling
 - K. HAZWOPER
 - L. Confined Spaces
 - M. Construction Standards

- V. Occupational Safety and Health Review Commission

- VI. Overview of the New OSHA
 - A. Standards Activity
 - 1. Ergonomics
 - 2. Tuberculosis
 - 3. Final Standards
 - 4. Pending Health Standards
 - 5. Safety Standards
 - 6. Standards Procedure