UNIVERSITY OF HOUSTON – DOWNTOWN

ENGR 4310 - INDUSTRIAL HYGIENE INSTRUMENTATION

LECTURE NOTE OUTLINE – EVALUATION – CHAPTER 15

OCTOBER 13, 2009

I. General Principles

II. Basic Approach to Hazard Recognition
- A. Type – Chemical, Physical, Biological, Psychological
- B. Review of Literature
- C. Inventory

III. Description of Process or Operation
- A. Process Flow Sheet
- B. Checklists
- C. Process Safety Management

IV. Field Survey
- A. Sensory Perception
- B. Control Measures in Use
- C. Observation and Interview

V. Monitoring and Sampling
- A. Rationale
- B. Monitoring
  1. Personal
  2. Area
  3. Biological/BEIs
  4. Medical Surveillance
  5. Combined Effects

VI. Sampling
- A. Strategy
- B. Questions
  1. What and How?
  2. Where?
  3. Whom?
  4. When?
  5. How Long?
- C. Other Considerations
  1. Notations
  2. How many samples
  3. When to stop monitoring
  4. Who should conduct
  5. Other concerns
- D. Calculations
  1. Precision/Accuracy
  2. Gases/Vapors
     - a. Gas Laws
     - b. Conversions
  3. Time-Weighted Average (TWA)
  4. Excursions

VII. Interpretation of Results
- A. Comparison with Standards and Guidelines
- B. Limitations with Standards
- C. Comparison of Results with Other Data