ATLB-1600: ASBESTOS ABATEMENT

Cuyahoga Community College

Viewing: ATLB-1600 : Asbestos Abatement

Board of Trustees:
2003-05-22

Academic Term:
Spring 2019

Subject Code
ATLB - AIT-Construct/Hazard Material

Course Number:
1600

Title:
Asbestos Abatement

Catalog Description:
Study of concepts related to EPA, OSHA, and ODH requirements for asbestos abatement. Includes types of asbestos, diseases linked to asbestos exposure, sampling techniques, stages of development, and safe work practices.

Credit Hour(s):
2

Lecture Hour(s):
2

Requisites

Prerequisite and Corequisite
Departmental approval: admission to the Construction Tending and Hazardous Material Abatement program.

Outcomes

Course Outcome(s):
N/A

Objective(s):
1. List six types of asbestos and name the two most common types.
2. Describe various classes of asbestos work activity.
3. Identify two major routes of entry for asbestos into the body.
4. Explain four diseases linked to occupational asbestos exposure and the symptoms of each.
5. Explain the differences between static sampling and aggressive sampling.
6. Describe the stages of asbestos abatement.
7. List the elements of the decontamination chamber and explain the function of each.
8. Describe how a portable HEPA-filtered negative pressure enclosure.
9. Describe safe work practices when working with scaffolds.
10. List the limitations of air purifying respirators, supplied air respirators, and SCBA's.

Methods of Evaluation:
1. Quizzes
2. Exams
3. Classroom participation
4. Demonstration of assigned projects

Course Content Outline:

1. Asbestos
   a. Asbestos containing materials\
      i. nonfriable ACM
      ii. friable ACM
      iii. presumed ACM
   b. History
   c. Uses
      i. construction
      ii. thermal insulation
      iii. household products
      iv. fire protection
      v. brake linings
   d. Types
      i. chrysotile
      ii. amosite
      iii. crocidolite
      iv. anthophyllite
      v. tremolite
      vi. actinolite
   e. Measuring
      i. fiber limits
      ii. fiber lengths
   f. Classification
      i. class I
      ii. class II
      iii. class III
      iv. class IV
2. Health effects of asbestos
   a. Routes of entry
      i. ingestion
      ii. inhalation
   b. Related diseases
      i. asbestosis
      ii. cancers
      iii. pleural disease
      iv. latency
   c. Risk factors
      i. occupation
      ii. exposure
      iii. smoking habits
   d. Reducing the risk
3. Personal protective equipment
   a. Respiratory protection
      i. protection factors
      ii. exposure guides
      iii. maximum use concentration
   b. Air purifying respirators
      i. negative pressure respirators
      ii. limitations
   c. Filtering devices
      i. particulate filters
      ii. vapor and gas removing cartridges
   d. Atmosphere supplying respirators
      i. demand flow versus pressure demand
      ii. supplied air respirators
      iii. self-contained breathing apparatus
4. Site safety

a. Preventing accidents
b. Safe work practices
c. Electrical safety
d. Ladders and scaffolds
e. Fall protection
    i. guardrail systems
    ii. personal fall arrest
    iii. positioning device systems
    iv. safety net systems
    v. safety monitoring systems
    vi. training
f. Heat stress
g. Confined space entry
h. Fire safety
i. Air sampling
j. Control measures
    i. exposure limits
    ii. short duration abatement
    iii. engineering controls
    iv. work practice controls
    v. prohibited control measures
    vi. personal hygiene

5. Preparing the work area
    a. Steps in preparation
    b. Decontamination unit
        i. clean room
        ii. shower room
        iii. equipment room
        iv. waste load-out area
    c. OSHA requirements
        i. class I
        ii. class II
        iii. class III
        iv. class IV
6. Abatement rechniques
    a. Encapsulation
        i. materials
        ii. bridging and penetrating sealants
        iii. worker safety
        iv. locations
        v. reinspection
    b. Enclosure
        i. equipment
        ii. prepare area
        iii. basic steps
        iv. worker safety
        v. locations
        vi. reinspection
    c. Glove bag procedure
        i. work practice
        ii. materials
        iii. procedures
        iv. removal
        v. cleanup
7. Air monitoring
    a. Air sampling
    b. Bulk sampling
    c. Settled dust

d. Wipe sampling
e. Analytical methods
f. Sampling procedures

Resources

Environmental Protection Agency. *Regulated Asbestos.* U.S. Environmental Protection Agency: Washington, 1990.

Kominsky, John R. *Assessment of Asbestos Removal.* U.S. Environmental Protection Agency: Cincinnati, 1991.

Laborers Education and Training Fund. *Asbestos Abatement Worker.* LIUNA Innovation at Work: Pomfret Center, 1998.

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