

**CUYAHOGA COMMUNITY COLLEGE
OFFICIAL COURSE OUTLINE**

SUBJECT AREA TITLE

Applied Industrial Technology (Healthcare and Institutional Facilities Maintenance)

COURSE TITLE

Basic Principles for Construction for Healthcare and Institutional Facilities

SUBJECT AREA CODE: ATHM

COURSE NUMBER: 1000

COURSE CREDIT HOURS: 2

I. DESCRIPTION OF COURSE:

CATALOG DESCRIPTION

Introduction to the construction industry, major associations in construction, safety issues, and tools used. Topics include team work, codes, hand and power tools and tool categories, print reading and common construction calculations.

LECTURE HOURS: 2

LAB HOURS: None

OTHER REQUIRED HOURS: 00

PREREQUISITE(S): Departmental Approval

II. OUTCOMES/OBJECTIVES

Upon satisfactory completion of ATHM 1000 Basic Principles for Construction for Healthcare and Institutional Facilities, the student should be able to perform the following outcomes and supporting objectives.

- A. Explain roles of categories of personnel and groups in construction within healthcare facility.
 1. Describe and explain role of construction personnel and forms of ownership.
 2. List and describe various Construction Associations
 3. Explain importance of teamwork and various forms of communication used among team members.
 4. Identify different groups served within healthcare facility construction.

- B. Perform basic construction within the Healthcare facility in accordance with OSHA standards, guidelines for personal protective equipment, and standard work practices.
 - 1. Explain what an accident is and its causes.
 - 2. Define OSHA and explain its impact on construction workers.
 - 3. Explain how fires are ignited, sustained, and extinguished.
 - 4. Recognize the dangers of working in trenches and explain how to work safely in a trench.
 - 5. Explain electric shock and list safety considerations in working around electricity.

- C. Safely perform basic construction operations using common hand and power tools, basic math and basic plan reading skills.
 - 1. Discuss basic specifications for common hand and power tools.
 - 2. Explain what operations are commonly performed with common hand and power tools.
 - 3. Demonstrate proper use of common hand and power tools.
 - 4. Describe common fasteners, select appropriate fastener for common construction jobs, and install or use each common fastener type correctly.
 - 5. Solve problems involving multiple operations with whole numbers, decimals, fractions, linear measure, percentages, area and volume, right angles, and combined operations.
 - 6. Draw simple isometric sketches and identify plan views, elevations, and sections.

III. COURSE CONTENT:

- A. Organization of the Industry
 - 1. Construction Personnel
 - 2. Overall View of Design and Construction
 - 3. Forms of Ownership

- B. Building Codes
 - 1. Model Codes – 3
 - 2. International Building Code - 2006
 - 3. Role at Worksite

- C. Construction Associations
 - 1. Craft Unions
 - 2. Construction Contractors

- D. Working on a Team
 - 1. Importance of Teamwork
 - 2. Communication

E. Customer Service

1. Customer Satisfaction
2. Other Qualities

F. Jobsite Safety

1. Accidents
 - a. Work Practices
 - b. Work Conditions
2. OSHA
 - a. Employee/Employer Responsibility
 - b. OSHA Standards
3. Personal Protective Equipment
4. Fire Safety Issues
5. Trench Safety
6. Material Handling
7. Electricity

G. Common Safety Issues

1. Ladders
2. Scaffolds
3. Machines

H. Construction Calculations

1. Whole numbers
2. Decimals
3. Fractions
4. Linear Measure
5. Percentage
6. Area and Volume
7. Right Angles
8. Combined Operations

I. Hand and Power Tools

1. Selection
2. Proper Use
3. Care

J. Fasteners

1. Nails
2. Screws
3. Bolts
4. Anchors

K. Print Reading

1. Views
2. Scales
3. Alphabet of Lines
4. Use of Symbols
5. Plan Views
6. Elevations
7. Sections and Details

IV. METHODS OF STUDENT EVALUATION MAY INCLUDE ANY OF THE FOLLOWING:

- A. Quizzes
- B. Exams
- C. Classroom participation
- D. Completion of assigned projects
- E. Completion of homework assignments

V. RESOURCES MAY INCLUDE ANY OF THE FOLLOWING:

- A. Huth, Mark. Basic Principles for Construction. Second Edition. Thomson Delmar, 2007, New York
- B. Levy, Sidney, Construction Superintendent's Operations Manual. McGraw-Hill, 2004, New York.
- C. Kelleher, Thomas, Ed. smith, Currie, & Hancock. Common Sense Construction Law. Wiley, 2005, Hoboken.