

ATIW-2330: PRE-CONSTRUCTION PLANNING OF SPECIALTY APPLICATIONS

Cuyahoga Community College

Viewing: ATIW-2330 : Pre-Construction Planning of Specialty Applications

Board of Trustees:

March 2020

Academic Term:

Fall 2020

Subject Code

ATIW - Appld Indus Tech - Ironworking

Course Number:

2330

Title:

Pre-Construction Planning of Specialty Applications

Catalog Description:

Includes erection sequence and handling of specialty products. Installation of members and connections performed in compliance with OSHA regulations.

Credit Hour(s):

2

Lecture Hour(s):

2

Requisites

Prerequisite and Corequisite

ATIW-2320 Welding Blueprints and Design, or departmental approval.

Outcomes

Course Outcome(s):

Formulate pre-construction plans of specialty applications.

Objective(s):

1. Identify specialty applications.
2. Design plans for specialty applications.
3. Apply plans for specialty applications.
4. Write plans for specialty applications.

Course Outcome(s):

Evaluate erection sequence of specialty building products.

Objective(s):

1. Correlate erection sequences.
2. Create erection sequences.
3. Interpret erection plans.

Course Outcome(s):

Plan proper and safe material handling.

Objective(s):

1. Analyze job site for material handling.
 2. Correlate material handling equipment.
 3. Apply material handling plans.
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Course Outcome(s):

Interpret proper and safe installation of specialty applications.

Objective(s):

1. Formulate installation plans.
 2. Evaluate installation plans.
 3. Apply installation plans.
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Course Outcome(s):

Utilize OSHA regulations for all handling and installation functions.

Objective(s):

1. Research OSHA regulations.
 2. Adapt OSHA regulations.
 3. Apply OSHA regulations.
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Methods of Evaluation:

1. Quizzes
2. Exams
3. Classroom participation
4. Demonstration of project assignments

Course Content Outline:

1. Pre-construction planning
 - a. Responsibility of the general contractor
 - b. Erection sequence
 - c. Hazard identification
 - d. Precast considerations
 - i. size
 - ii. weight
 - e. Equipment selection
 - f. Erection safety plan
 - g. Field verification
 - h. Layout
 - i. Lifting devices
 - j. Scaffolds
2. Specialty materials
 - a. Transportation
 - i. jobsite access
 1. loading
 2. delivery
 3. unloading
 - ii. sequence of erection
 - b. Safe site storage
3. Material handling
 - a. Rigging
 - i. training
 - ii. selection
 - iii. lifting hardware
 - iv. lifting devices

- v. types of picks
- vi. use of crane
- b. Guying and bracing
- c. Connections
 - i. bolted
 - ii. welded
 - iii. post-tensioned
 - iv. dowel/anchor bolt
- 4. Installation
 - a. Load-bearing members
 - b. Floor or roof members
 - c. Cladding
 - d. Bridge members
- 5. OSHA regulations

Resources

International Association of Bridge, Structural and Ornamental Iron Workers. *Architectural and Ornamental Training Manual for Ironworkers: Hand Tools, Power Tools, Anchors and Fasteners, Volume 1*. Washington, D.C.: AFL-CIO, 1996.

International Association of Bridge, Structural and Ornamental Iron Workers. *Architectural and Ornamental Training Manual for Ironworkers: Operating Layout Instruments, Constructing Curtain Walls, Constructing Window Walls, Volume 2*. Washington, D.C.: AFL-CIO, 1996.

International Association of Bridge, Structural and Ornamental Iron Workers. *Precast Concrete Manual for Ironworkers: Manual XI*. Washington, D.C.: Precast/Prestressed Concrete Institute, 1999.

Resources Other

International Association of Bridge, Structural, Ornamental and Reinforcing IronWorkers, Instructor Materials. <http://www.ironworkers.org/training/for-instructors>

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