ATPF-1210: RIGGING

Cuyahoga Community College

Viewing: ATPF-1210 : Rigging

Board of Trustees:
2012-06-28

Academic Term:
Spring 2019

Subject Code
ATPF - Applied Ind Tech - Pipefitters

Course Number:
1210

Title:
Rigging

Catalog Description:
A study of different materials used in the rigging process. Recognize a variety of knots and exhibit an ability to tie them. Includes crane operation and many alternate methods of determining load weights.

Credit Hour(s):
2

Lecture Hour(s):
2

Requisites

Prerequisite and Corequisite
Departmental approval: admission to Pipefitter's apprenticeship program.

Outcomes

Course Outcome(s):
1. Recognize the characteristics and demonstrate an ability to tie knots using a wide variety of fiber ropes.

Objective(s):
1. 1. Specify various fiber types
2. 2. Assess safe working loads for fiber rope
3. 3. Demonstrate an ability to recognize and tie fiber rope knots and hitches.

Course Outcome(s):
2. Know the proper care and selection of wire rope slings used.

Objective(s):
1. 1. Review the classifications of wire rope
2. 2. Assess safe working loads of wire rope

Course Outcome(s):
3. Recognize the proper care and use of synthetic slings in rigging.

Objective(s):
1. 1. Explain the basic hitches used
2. 2. Discuss safe working loads for these slings
3. 3. Review inspection procedures

Course Outcome(s):

4. Relate work practices involving cranes and rigging operations.

Objective(s):

1. 2. Demonstrate hand signals
2. 3. Describe rigging safety procedures
3. 4. Practice rigging operations
4. 1. Summarize crane operations

Course Outcome(s):

5. Demonstrate methods for determining load weights.

Objective(s):

1. 1. Locate information available
2. 2. Practice mathematical calculations

Methods of Evaluation:

1. Quizzes
2. Tests
3. Field applications
4. Class participation

Course Content Outline:

1. Fiber ropes
    a. Natural fiber rope
        i. Manila
        ii. Sisal
        iii. Cotton
    b. Synthetic fiber rope
        i. Nylon
        ii. Polyester
        iii. Polypropylene
        iv. Mylar
        v. Combinations
    c. Safe working loads
        i. Rule of thumb
        ii. Off charts
    d. Knot tying and hitches
        i. Recognition
        ii. Tying ability
2. Wire rope slings
3. Classifications
    a. Right Regular Lay
    b. Left Regular Lay
    c. Right Lang Lay
    d. Left Lang Lay
    e. Safe working Loads
        i. 6x19 class wire rope
        ii. Extra improved plow steel
        iii. Improved plow steel
        iv. Rule of thumb for plow steel
    f. 6x 37 class wire rope
        i. Extra improved plow steel
        ii. Improved plow steel
        iii. Rule of thumb for plow steel
4. Synthetic Slings

a. Basic hitches
    i. Straight or vertical
    ii. Choker hitch
    iii. Basket hitch
b. Rated Capacities or SWL
    i. Dacron Web slings 5000 lb/in Material
        1. Basket hitch values
        2. Choker hitch values
    ii. Nylon Web slings 6000 lb/in Material
        1. Basket hitch values
        2. Choker hitch values
    iii. Nylon Web slings 8000 lb/in Material
        1. Basket hitch values
        2. Choker hitch values
c. Proper Inspection procedures

5. Safe work practices involving cranes and rigging operations
    a. Crane operations
        i. Rating charts
        ii. Proper crane set up
    b. Standard Hand Signals
        i. Helicopter hand-signals
        ii. Crane hand-signals
    c. Rigging safety
        i. Competent person
        ii. Hazard Recognition
            1. Working near power lines
            2. Emergency situations
    d. Rigging operations on rigging station
6. Determining load weights
    a. Locating Information available
        i. Shipping documents
        ii. Design plans
        iii. Manufacturer specifications
        iv. Name plate data
    b. Weighing the load
        i. Weight scales
        ii. Crane load indicating
    c. Calculations/reasonably accurate estimates
        i. Cubic feet
        ii. Cubic inches

.

Resources

United Association Training Department. *Rigging Manual.* current. Anapolis Md.United Association Training Department, 2011.

Ronald G. Garby. *IPT's Crane and Rigging Handbook.* current. Intl Pub Training Ltd, 1999.

Broderick Bascom Rope Co. *Rigger's Handbook.* current. Broderick Bascom Rope Co, 2011.

Jay O. Glerum. *Stage Rigging Handbook.* Third Edition. Southern Ilinois University Press, 2007.

Joseph MacDonald (Author), W. Rossnagel (Author), Lindley Higgins (Author). *Handbook of Rigging: For Construction and Industrial Operations.* 5th. McGraw Hill N.Y. N.Y., 1998.

Resources Other

www.us (http://www.usrigging.com)**rigging**.com

www. (http://www.rigging.com)**rigging**.com
www.industrial-**rigging**.com

Top of page
Key: 569