

# CARPENTER

## Appendix A

O\*NET CODE 47.2031.01

This training outline represents minimum standards for work processes and related instruction. Changes in technology and regulations may result in the need for additional on-the-job or classroom instruction.

### WORK PROCESSES

	<b>Approximate Hours</b>
<b>A. Tools and Materials</b>	<b>325 - 450</b>
1. Care, cleaning, and safe use of tools, measuring devices and woodworking machinery	
2. Identifying trade materials and their uses	
<b>B. Form Building</b>	<b>780 – 1,100</b>
1. Building and placing straight concrete forms; irregular concrete forms; concrete forms for footings, stairways, floors, walls, and columns	
2. Stripping and salvaging forms for reuse	
3. Locating and erecting forms for ground-mounted solar collector systems (optional)*	
<b>C. Rough Framing</b>	<b>780 – 1,100</b>
Framing floors, walls, roofs, stairs, scaffolding – on both house and heavy construction	
1. Laying out mud sills or plates for anchoring	
2. Placing girders or beams	
3. Installing sills	
4. Placing and bracing girder posts	
5. Installing and bridging floor joists	
6. Laying out stairwell	
7. Laying sub-floors	
8. Laying out story-poles	
9. Constructing, installing and bracing wall frames	
10. Trimming for openings	

11. Framing and placing ceiling joists
12. Framing roofs, laying roof decking
13. Roof covering (if in keeping with area practices)
14. Building and erecting scaffolding
15. Using builder's level

**D. Layout** **325 – 450**

Batterboards, partitions, doors and windows, box-out in concrete walls, stairs and roofs

**E. Outside Finishing** **520 – 800**

1. Putting on insulation board or housewrap for all types of walls (if in keeping with area practices)
2. Laying out and installing door frames and jambs
3. Laying out and installing window frames
4. Fitting and sanding doors and windows
5. Applying exterior door and window trim and hardware
6. Applying insulation (if in keeping with area practices)
7. Cutting and installing water tables
8. Constructing and applying all types of cornice and soffit
9. Finishing gable ends
10. Constructing verge or bargeboards
11. Installing gutters (if in keeping with area practices)
12. Constructing and setting columns
13. Constructing and setting newels and railings
14. Constructing porches and entrance canopies
15. Applying outside wall coverings (in keeping with area practices)
16. Laying out, constructing, and setting louvers
17. Installing other exterior trim
18. Applying all hardware and fittings to outside of building

**F. Inside Finishing** **650 – 900**

1. Fitting, sanding, installing doors and windows
2. Applying interior door and window trim
3. Applying hardware and fittings to interior of building, doors and windows

4. Applying baseboards and moldings
5. Applying interior trim
6. Constructing and setting cupboards, cabinets and wardrobes
7. Constructing and setting stair work
8. Preparing sub-floor and applying finished wood floorings
9. Laying other types of finished flooring (in keeping with the carpenter craft and area practices)

## **G. Acoustics and Drywall**

**650 – 900**

1. Ceilings – Laying out, cutting, assembling and installing materials and component parts:
  - a. hangers, channels, furring and backing boards
  - b. bars: main tees, cross tees, splines
  - c. stiffeners and braces
  - d. ceiling angles or moldings
  - e. finish ceiling materials
2. Walls and Partitions – Laying out, cutting, assembling, erecting, applying materials and component parts:
  - a. floor and ceiling runners
  - b. studs (wood and metal), stiffeners, bracing, fireblocking
  - c. resilient and furring channels
  - d. laying out, framing, enclosing vents, light wells, other openings
  - e. wall angles and moldings
  - f. soffit work
  - g. drywall installation on metal framing
  - h. studless and laminated installations
  - i. thermal and sound insulation, if in keeping with area practices
  - j. backing and finish materials
  - k. fireproofing columns, beams and chases

## **H. Welding and Cutting**

**300 – 500**

1. Welding as it applies to the trade
2. Conducting oxyacetylene cutting operations
3. Safety

<b>I. Plastics and Resilients</b>	<b>100 – 300</b>
<ol style="list-style-type: none"> <li>1. Knowing various types of materials and their uses</li> <li>2. Laying out, cutting, welding and installing</li> </ol>	
<b>J. Hazardous Materials (optional)*</b>	<b>70 - 100</b>
<ol style="list-style-type: none"> <li>1. Asbestos abatement</li> <li>2. Handling and disposing of other hazardous materials</li> </ol>	
<b>K. Piledriving/dockbuilding (optional)*</b>	<b>500-1000</b>
<ol style="list-style-type: none"> <li>1. Piledriving equipment: hammers, leads, rigging, motors and pumps</li> <li>2. Rigging and signaling</li> <li>3. Driving of piles: wood, concrete, steel, etc</li> <li>4. Cofferdams and caissons</li> <li>5. Bridge, dock and wharf construction</li> <li>6. Welding</li> <li>7. Diving and diver tending</li> </ol>	
<b>L. Miscellaneous (if in keeping with area practices)</b>	<b>200 – 400</b>
<ol style="list-style-type: none"> <li>1. Rigging and signaling</li> <li>2. Ensuring conformity of design and materials to blueprints, plans and specifications</li> <li>3. Building walkways</li> <li>4. Erecting shoring</li> <li>5. Building sheds</li> <li>6. Building weather protection devices and structures</li> <li>7. Erecting fencing</li> </ol>	

**Approximate Total Hours      5,200 – 8,000**

**\*If optional work processes are not selected, the hours should be devoted to further mastery of the other required work processes.**

*Apprenticeship work processes are applicable only to training curricula for apprentices in approved programs. Apprenticeship work processes have no impact on classification determinations under Article 8 or 9 of the Labor Law. For guidance regarding classification for purposes of Article 8 or 9 of the Labor Law, please refer to <https://dol.ny.gov/public-work-and-prevailing-wage>*

**CARPENTER**  
**APPENDIX B**  
**RELATED INSTRUCTION**

**Safety & Health**

1. Accident Prevention, Fall arrest & Protection, Safety Hazards, State and Federal safety codes and regulations. Safety training as Required by Occupational Safety and Health Administration (OSHA)
2. OSHA 10-Hour Construction Course – if required for Public Work
3. Drug and Alcohol Awareness
4. First Aid – minimum 6.5 hours every 3 years
5. Sexual Harassment Prevention Training – must comply with Section 201-g of the Labor Law
6. Confined Space Safety
7. Asbestos Safety:
  - a. If apprentice will do any handling of asbestos:
    - i. Successfully complete a course approved by the New York State Department of Health for “Asbestos Handler” and obtain, and keep current, an “Asbestos Handler (Worker)” certificate from the New York State Department of Labor
  - b. If apprentice will do no handling of asbestos:
    - i. Asbestos Awareness – minimum 4 hours (see attachment)
8. Hazardous Waste Worker (if Work Process “J” is elected)

**Math**

1. Review and Application of Basic Mathematics
2. Estimating for the Trade

**Blueprints**

1. Elementary Blueprint Reading
2. Advanced Blueprint Reading
3. Freehand Sketching and Layouts

## **Industrial and Labor Relations (20 hours)**

1. History and Background (6 hours, 1<sup>st</sup> year)
2. Current Laws and Practices (14 hours, 2<sup>nd</sup> year)

## **Trade Science and Theory**

1. Carpentry and the Other Skilled Construction Trades
2. Tools and Materials of the Trade
3. State and Local Building Codes
4. Foundations
5. Rough Framing
6. Exterior Finishes
7. Interior Finishes
8. Roof Framing
9. Stair Building and Finishing
10. Cabinetmaking
11. Reinforced Concrete Form Construction
12. Heavy Timber Construction and Framing
13. Welding and Cutting
14. Acoustics and Drywall
15. Plastics and Resilients
16. Use of Lasers in Construction (optional)
17. Solar Collector Systems (optional)
18. Piledriving Equipment and Materials (if Work Process "K" is elected):
  - a. Piledrivers
    - i. Floating of water drivers
    - ii. Construction
    - iii. Rigging- anchors, lines, buoys, hammer line, pile line, jet rigging, lead rigging, deck winches, rigger leads,
    - iv. Hammers and leads (drop, steam, pneumatic, diesel)
    - v. Hammer rigging
    - vi. Lead construction (stationary, swinging, pendulum, false, pile extractors)
19. Tools- drilling and setting with long augers
20. Piling

- a. Material- wood, treated wood, steel, tube and sheet, concrete, cutoffs
- b. Driving of material, driving to bearing, jetting
- 21. Rigging- building sections, stressed beams, knots, hitches and splices (manilla and wire), stiff legs, gin pole, shear legs, mobile cranes, righting capsized drivers
- 22. Excavations and shoring
- 23. Form Building
- 24. Construction of cofferdams- steel sheet piling, wood construction, sealing of cofferdams, removal
- 25. Construction of wood trestles- truss type, heavy framing
- 26. Construction bridge -overpasses, abutments, sills, column, vertical curves and supers, beams (cast in place, pre-case, pre-stressed and post-stressed)
- 27. Dock building (wood and concrete)
- 28. Float and pontoon
- 29. Welding and burning
- 30. Construction of engines, jets and jet pumps

A minimum of 144 hours of Related Instruction are required for each apprentice for each year.

Appendix B topics are approved by New York State Education Department.

## ATTACHMENT TO APPENDIX B

### Asbestos Awareness

This course must be delivered by one of the following:

1. A provider currently approved by the New York State Department of Health to deliver asbestos safety training.
2. A person holding a current Asbestos Handler certificate from the New York State Department of Labor in the title of: Inspector, Supervisor, Project Monitor, Management Planner, or Project Designer.
3. Anyone otherwise approved by the New York State Education Department.

Minimum course contents must include the following:

1. Definition of asbestos
2. Types and physical characteristics
3. Uses and applications
4. Health effects:
  - a. Asbestos-related diseases
  - b. Risks to families
  - c. Cigarette smoking
  - d. Lack of safe exposure level
5. Employer-specific procedures to follow in case of potential exposure, including making a supervisor or building owner immediately aware of any suspected incidental asbestos disturbance so that proper containment and abatement procedures can be initiated promptly.

**Notwithstanding the above course requirement, employers are advised that they must also be in compliance with New York State Department of Labor Industrial Code Rule 56 at all times.**

**Employers are further advised, and must advise all apprentices, that completion of the above course requirement does not authorize any person to remove, encapsulate, enclose, repair, disturb, or abate in any manner, any friable or non-friable asbestos, asbestos containing material, presumed asbestos containing material, or suspect miscellaneous asbestos containing material.**