



APPENDIX A

CARPENTER (RESIDENTIAL)

D.O.T. 860.381- 022

O*NET 47-2031.01

This training outline is the current standard for Work Processes and Related Instruction. Changes in technology, regulations, and safety/health issues may result in the need for additional on-the-job or classroom learning.

WORK PROCESSES

	<u>Approximate Hours</u>
A. <u>Safety, Tools, Materials and Rigging</u>	500
1. Using safe work practices.	
2. Proper use, care and maintenance of trade-related tools, instruments, machines and equipment.	
3. Identifying and safely using building materials, fasteners, adhesives.	
4. Signaling, rigging, hoisting.	
5. Safely using, erecting, inspecting and maintaining ladders, scaffolds, rigging.	
6. Installing and maintaining weather protection devices (if applicable).	
7. Safely loading, moving and unloading materials, heavy objects by manual methods, forklift (forklift operation is optional*).	
8. Measuring, marking and safely cutting materials.	
9. Using transit and level, laser level (if applicable).	
10. Safely using oxy/acetylene cutting torch (optional*).	
11. Welding for the trade (optional*).	
12. Using powder actuated tools (if applicable).	
13. Plasma cutting (optional*).	
14. Asbestos abatement (optional*).	
15. Lead abatement (optional*).	

B. Layout and Site Preparation

300

1. Ensuring conformity of design and materials to blueprints, plans, specifications, work orders.
2. Removing damaged or defective parts or sections of old construction (if in keeping with area practices).
3. Laying out partitions, stairs, roofs, windows, doors, box out for concrete.
4. Identifying direction and layout of studs.
5. Laying out foundation lines.
6. Laying out and erecting batter boards and locating building lines.

C. Form Building

550

1. Locating area from blueprints, specifications, plot plan, work orders.
2. Building and placing straight and irregular concrete forms for footings, slabs, floors, stairways, walls, columns, beams, girders.
3. Stripping and erecting forms for reuse.
4. Locating and erecting forms for ground-mounted solar collector systems (optional*).
5. Bracing or anchoring framework, forms, structures.
6. Insulating concrete forms.

D. Wood Framing

800

1. Shaping, cutting, fitting, joining wood materials.
2. Standard wood framing and building:

a. floors	g. sills	m. foundations (optional*)
b. walls	h. joists	n. roofs
c. stairs	i. headers	o. roof decking
d. door frames/jambs	j. girders	p. truss roof
e. decks	k. beams	q. posts
f. patios	l. window frames	

heavy timber (optional*)

other specialty work (optional*)

E. Metal Framing

800

1. Shaping, cutting, fitting, joining metal materials.
2. Standard metal framing and building:

a. floors	g. sills	m. walls
b. joists	h. roofs	n. roof decking
c. stairs	i. headers	o. rafter
d. girders	j. decks	p. truss roofs
e. posts	k. patios	q. beams
f. window frames	l. door frames/jambs	
- other specialty work (optional*)

F. Exterior Finish

850

1. Applying roof covering (if in keeping with area practices).
2. Applying roof finishes (if in keeping with area practices).
3. Installing gutters (if in keeping with area practices).
4. Constructing and applying all types of cornice and soffit.
5. Finishing gable ends.
6. Constructing verge or bargeboards.
7. Constructing and setting columns, newels, railings, balusters.
8. Constructing porches and canopies.
9. Applying insulation board, house wrap, outside wall coverings (if in keeping practices).
10. Applying siding.
11. Installing exterior doors, windows, trim and hardware.
12. Applying adhesives, sealants, caulking, coatings.
13. Installing garage doors (optional*).

G. Interior Finish

850

1. Installing drywall.
2. Installing interior doors and hardware.
3. Applying trim.
4. Installing stair work.
5. Installing cabinets, cupboards, shelving and miscellaneous fixtures.
6. Installing countertops.
7. Installing paneling, bead board and wainscoting (if applicable).

Carpenter (Residential) continued.

Approximate Hours

8. Installing subflooring.
9. Laying wood flooring; other flooring (if in keeping with area practices).
10. Installing acoustical ceilings (if applicable).

H. Weatherization

550

1. Accurately assessing potential work area safety hazards including but not limited to: asbestos, lead, mold, mildew, biological (bird, bat, rodent droppings), tripping hazards, fire hazards.
2. Identifying and using “green” materials for a healthful indoor environment (if applicable).
3. Understanding, knowledge of, installation, and repair of all types of insulation; R and U values; sound control products; air sealing techniques and materials.
4. Possessing a working knowledge of potential hazards of insulating around knob and tube wiring.
5. Safely operating and properly maintaining insulation blowing machines and generators.
6. Selecting appropriate materials and amounts based on building characteristics.
7. Properly applying caulk.
8. Installation of replacement windows and doors.
9. Installing weather-stripping on doors, windows, attic hatches.
10. Minor window repairs.
11. Making repairs to sheetrock (drywall) and minor repairs to plaster.
12. Applying water and vapor barriers to seal the building envelope.
13. Performing siding repairs.
14. Making roofing repairs to seal the building envelope (if in keeping with area practice).

Total Hours 5200

* If optional components are not selected, the time should be devoted to further mastery of the 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 <http://www.labor.state.ny.us/workerprotection/publicwork/PDFs/Article8FAQS.pdf>

APPENDIX B

CARPENTER (RESIDENTIAL)

RELATED INSTRUCTION

Safety

General Safety

OSHA 10- Hour Construction Course (if required for Public Work)

Basic Rigging, Hardware and Hand Signals

Scaffolding Safety and Scaffolding Regulations

Aerial Lift Safety (if applicable)

Fall Protection

Ergonomics for Carpenters

Forklift Safety (if apprentice will operate forklift on-the-job)

Welding Safety (if Work Process A-11 is selected)

Proper Lifting Techniques

Asbestos Safety:

If apprentice will do any handling of asbestos:

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

If apprentice will do no handling of asbestos:

Asbestos Awareness – minimum 4 hours (see attachment)

Lead Abatement (if Work Process A-15 is selected)

E.P.A. Lead Renovator Course

Right to Know/ Material Safety Data Sheets (MSDS)

Drug and Alcohol Awareness

Proper Use of Personal Protective Equipment (PPE)

First Aid and CPR – minimum 6.5 hours every 3 years

Fire Prevention

Mold and Mildew Hazards in the Workplace

Biological Hazards in the Workplace

CARPENTER (RESIDENTIAL) RELATED INSTRUCTION continued

Math

- Review and Application of Basic Mathematics
- Accurate Measurement
- Basic Geometry
- Trade Math Applications
- Materials and Cost Estimating (at option of sponsor)

Blueprints

- Blueprint Reading
- Reading Building and Plot Plans, Specifications, Codes
- Freehand Sketching and Layouts

Trade Theory and Science

- Fundamentals of Carpentry and Woodworking
- Fundamentals of Building Construction
- Trade Related Terminology
- Materials and Fasteners
- Trade Related Machines/ Machinery
- Tools of the Trades
- Scaffolding
- Rigging Hardware and Procedures
- Project Layout
- Concrete Formwork
- Foundations (if work process D-2-m is selected)
- Framing: Wood, Metal
- Exterior Finishing
- Windows and Doors
- Roof Framing
- Siding
- Interior Finishing
- Drywall
- Stair Building
- Cutting and Welding Theory for the Trade
- Builder's Transit Level
- Laser Level

CARPENTER (RESIDENTIAL) RELATED INSTRUCTION continued

Local, State and Federal Codes Related to the Trade

Forklift; Operation and Certification (if apprentice will operate forklift on-the-job)

Weatherization

Basic Steps of Weatherization Process: Audit/Testing, Installation, Monitoring/Inspection

Familiarization with Building Performance Institute's Building Analyst and Envelope

Professional Certifications

Relevant Trade Knowledge of the Department of Energy Weatherization

Program Regulations

Understanding Weatherization Audit Results and Proposed Work Orders for Energy

Efficiency Improvements

The Whole Home Approach

Healthful Indoor Environment

Familiarization with Green Materials of the Trade

Building Envelope and Building Framing Types

Insulation Types, R and U Values, Applications

Air Sealing

Caulking

Weather-stripping

Water and Vapor Barriers

Minimum Ventilation Rate/ Building Tightness

Replacement Windows and Doors

Other Workplace Skills

Computer Basics

Written and Oral Communication

Time Management (at option of sponsor)

Sexual Harassment Prevention Training – Minimum 3 hours

Other Related Courses as Necessary

A Minimum of 144 Hours of Related Instruction is Required for Each Apprentice for Each Year.

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:
 - Asbestos-related diseases
 - Risks to families
 - Cigarette smoking
 - 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.