

CARPENTER (HEAVY/HIGHWAY)

APPENDIX A

O*NET CODE 47-2031.02

This training outline is a minimum standard for Work Processes and Related Instruction. Changes in technology and regulations may result in the need for additional on-the-job or classroom training.

WORK PROCESSES

	Approximate Hours
A. Safety & Health Procedures and Policies	150
1. Wearing all recommended Personal Protective Equipment (PPE)	
2. Working safely on a construction site and around heavy equipment	
3. Properly wearing/using safety harness	
4. Properly using ladders, scaffolding, personnel lifts	
5. Following traffic safety procedures and policies	
6. Using proper signaling techniques	
7. Demonstrating awareness of lead and asbestos hazards that may be encountered on-the-job (no handling or abatement)	
8. Properly storing, handling, and disposing of other trade-related hazardous materials such as form oil	
9. Following all other health and safety procedures and policies	
B. Care and Safe Use of Hand and Power Tools Used in the Trade	300
1. Identifying tools and their functions	
2. Caring for, and cleaning, tools	
3. Safely and properly using all trade tools	
4. Correctly using measuring, layout, and leveling devices	
C. Materials and Material Handling	150
1. Demonstrating knowledge of all trade materials and their uses, including:	

a.	lumber types: softwoods, hardwoods, grading, defects	
b.	plywood: different types, grading	
2.	Using safe and appropriate methods for handling/moving materials of the trade	
D.	Introduction to Basic Heavy/Highway Construction Techniques	450
1.	Employing basic carpentry construction techniques	
2.	Observation of, and familiarization with, work of related heavy/highway trades	
E.	Welding and Burning	400
1.	Welding and burning (cutting) in connection with the trade	
F.	Footing Formwork	825
1.	Studying blueprints/diagrams, or understanding oral instructions, to determine type and dimensions of form	
2.	Measuring and layout	
3.	Constructing built-in-place forms or assembling prefabricated wooden forms on site	
4.	Inserting walers and ties	
5.	Anchoring and bracing forms	
6.	Plumbing and leveling forms	
7.	Stripping and cleaning forms for reuse	
G.	Pier, Pile and Cap Formwork	825
1.	All tasks in "F" above	
2.	Working with custom forms	
3.	Shoring	
4.	Installing armored angles	
H.	Abutment Formwork	825
1.	All tasks in "F" above	
2.	Installing chamfer strips	
3.	Installing raised keyways	
4.	Forming and installing armored joint systems	

I. Deck Formwork	825
1. All tasks in “F” above	
2. Installing overhang brackets	
3. Setting edge forms	
4. Installing scuppers (drip edges)	
5. Building and installing bulkheads	
6. Setting bridge rail anchor bolts	
7. Working with bridge accessories	
8. Installing form fillers	
9. Setting barrier forms	
J. Additional Formwork	75
1. Building and erecting foundation forms (single and double)	
2. Building and erecting wall forms	
3. Building and erecting girder forms	
4. Using steel forms	
5. Installing and removing adjustable overhang jacks	
K. Miscellaneous (optional*)	500
1. Rough framing such as: temporary weather protection structures, bridge railings, falseworks	
2. Building wooden walkways	
3. Rigging crane; signaling crane operator	
4. Erecting scaffolds and associated rigging	
5. Installing box culverts and catch basins	
Approximate Total Hours	6,000

*If optional Work Processes are not selected, the hours should be devoted to further mastery of the Work Processes that are required.

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>

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APPENDIX B

RELATED INSTRUCTION

Safety and Health

1. Personal Protective Equipment (PPE)
2. General Construction Site Safety (including working safely around heavy equipment)
3. OSHA 10-Hour Construction Course – if required for Public Work
4. Drug and Alcohol Awareness
5. Protecting Skin and Eyes from Sun Damage
6. Ladder, Scaffolding and Personnel Lift Safety
7. Wearing/Using Safety Harness
8. Material Safety Data Sheets (MSDS) (for all hazardous materials likely to be encountered on-the-job)
9. Lead Safety
10. Asbestos Awareness – minimum 4 hours (see attachment)
11. Confined Space Safety
12. First Aid – minimum 6.5 hours every 3 years
13. Sexual Harassment Prevention Training – must comply with Section 201-g of the Labor Law

Blueprint Reading and Sketching

1. Blueprint Reading for the Building Trades
2. Sketching and Layouts
3. CAD Software (if used on-the-job)

Mathematics

1. Basic Mathematics
2. Applications to the Trade
3. The Steel Square
4. Estimating

Trade Theory and Science

1. Tools of the Trade
2. Materials of the Trade
3. Form Construction
4. Welding and Burning for the Trade
5. Shoring
6. State and Local Building Codes
7. Rough Framing (if Work Process "K-1" on Appendix A is selected)
8. Use of Lasers in Construction (if used on-the-job)

Additional Workplace Skills

1. Introduction to the Computer (if used on-the-job)

Other Related Courses as Necessary

A minimum of 144 hours of Related Instruction is 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.