

# PRESERVATION CARPENTER WORK PROCESS SCHEDULE

**Description:** Reconstructs, restores, or rehabilitates wood structures by performing work on such elements as structural framing, rafters, doors, windows, floors, staircases, trusses and beams, interior and exterior trim, and roofing where accuracy, spacing and fit are essential and structural soundness is important. Selects appropriate materials and uses instruments and tools such as rulers, try squares, levels, transits, framing hammers and traditional carpentry tools.

**Term:** Time-based (estimated 8,000 hours) it is intended that after a combination of 8,000 hours of on-the-job learning (OJL) including a minimum of 600 hours of related instruction, the apprentice will demonstrate competence in the skills outlined below. Select apprentices will be able to demonstrate competence and receive advanced placement in the program.

**On-The-Job Learning:** Apprentices will receive training in the various work experiences listed below. The order in which this training is given will be determined by the flow of work on-the-job and will not necessarily be in the order listed. The times allotted to these various processes are the estimated times which the average apprentice will require to learn each phase of the occupation. They are intended only as a guide to indicate the quality of the training being provided and the ability of the apprentice to absorb this training in an average amount of time. The suggested related instruction supplements OJL, follows the work processes schedule.

## Competencies

8000 Hours

<b>I. Historic Preservation Fundamentals</b>	<b>500</b>
I.1 Document existing structure with photographs and field measurements.	
I.2 Create field sketches.	
I.3 Research and record the structure's history using primary and secondary documents.	
I.4 Assess the pathology and safety of sites and structures.	
I.5 Adhere to local, state, and federal regulations regarding historic resource management.	
<b>II. Construction Fundamentals</b>	<b>1000</b>
II.1 Perform accurate construction math relevant to the worksite.	
II.2 Draft and sketch field drawings and production plans.	
II.3 Read, understand, and apply architectural plans, specifications, drawings, sketches, and codes.	
<b>III. Safety Rules and Practices</b>	<b>1000</b>
III.1 Demonstrate proper and safe use and maintenance of hands tools, including but not limited to hammers, planes, chisels, screw drivers, hand saws, and punches.	
III.2 Demonstrate proper and safe use and maintenance of field power tools, including but not limited to table saws, miter saws, grinders, sanders, generators, impact drivers, drills, and reciprocating saws.	

- III.3 Demonstrate proper and safe use and maintenance of shop tools, including but not limited to table saws, shapers, planers, drum sanders, column sanders, miter saws, band saws, routers, and dust collectors.
- III.4 Employ safe lifting and carrying practices.
- III.5 Use correct personal protection equipment and procedures, including but not limited to hard hats, goggles, gloves, proper clothing, suits, respirators, hearing protection, and fall protection.
- III.6 Erect, construct and modify staging, ladders, scaffolding and work platforms.
- III.7 Maintain proper Hazardous Communication Program.
- III.8 Apply Material Safety Data information to material use.
- III.9 Recognize hazardous materials and mitigate, following related safety protocols for those materials, including but not limited to lead and asbestos (certification required).
- III.10 Mitigate site hazards through appropriate use of air shields and barriers, filters, ground covers, and erosion control.
- III.11 Maintain orderly, clean, and organized job and work sites.
- III.12 Properly and safely load, stack, and strap materials into truck beds, closed trailers, and/or flatbed trailers according to best practices.
- III.13 Adhere to applicable local, state and federal regulations (EPA [environmental], DOT [moving vehicle] and OSHA [worker safety]).
- III.14 Safely drive pickup trucks.
- III.15 Safely hitch, drive, and reverse trailers for pick-up trucks.
- III.16 Demonstrate first aid for occupational hazards.

#### **IV. Building Systems**

**3000**

- IV.1 Build structural strapping and brace structures.
- IV.2 Maintain, preserve, restore, reconstruct, rehabilitate, and deconstruct historic and modern flooring systems.
- IV.3 Maintain, preserve, restore, reconstruct, rehabilitate, and deconstruct staircases.
- IV.4 Maintain, preserve, restore, reconstruct, rehabilitate, and deconstruct historic and modern framing, including timber frame and log joinery.
- IV.5 Maintain, preserve, restore, reconstruct, rehabilitate, and deconstruct historic and modern exterior cladding systems.
- IV.6 Maintain, preserve, restore, reconstruct, rehabilitate, and deconstruct historic and modern rafters, and decking.
- IV.7 Maintain, preserve, restore, reconstruct, rehabilitate, and deconstruct trusses and beams.
- IV.8 Reproduce historic roofing materials in composition, shape, color, and texture, including wood shingles and shakes, slate, ceramic, or asphalt, and their installation.
- IV.9 Maintain, preserve, restore, reconstruct, rehabilitate, and deconstruct historic doors.
- IV.10 Maintain, preserve, restore, reconstruct, rehabilitate, and deconstruct historic windows.
- IV.11 Maintain, preserve, restore, reconstruct, rehabilitate, and deconstruct historic and modern trim and moldings.

#### **V. Material Skills**

**2000**

- V.1 Draft production plan including but not limited to sketching, dimensions, creating a cut list, and estimating.

- V.2 Use specialized tools to such as rulers, try squares, levels, transits, framing hammers and traditional carpentry tools.
- V.3 Compute curves, arcs, tangents, and possess advanced knowledge of carpentry skills utilizing accepted trade methods and techniques.
- V.4 Cut, shape, sand, and clean historic and wooden workpieces using tools and materials including but not limited to saws, drills, and abrasives.
- V.5 Employ a variety of joinery methods to join lumber cuts, including but not limited to mortises and tenons, dowels, adhesives, nails, screws, and clamps.
- V.6 Maintain, preserve, restore, and reproduce historic and modern decorative finishes.
- V.7 Apply different finishes to wood surfaces following best practices.
- V.8 Mix and cleanly apply different putties, epoxies, and caulking materials.
- V.9 Safely identify and manage hazardous materials on site and in the shop.
- V.10 Use, select, and substitute proper materials to meet the requirements for strength, durability, appearance, and safety.

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**VI. Project and Business Management****500**

- VI.1 Maintain inventories of tools, supplies, and materials.
- VI.2 Estimate project materials and labor.
- VI.3 Create schedules and take-offs.
- VI.4 Create project and business plans.

## Related Instruction

600 hours

<b>I. Historic Preservation Fundamentals</b>		<b>135</b>
I.A	Historical Preservation Fundamentals	30
I.B	Structural Theory and Pathology	30
I.C	Historic Research and Documentation	30
I.D	Architectural History	30
I.E	History	15
<b>II. Construction Fundamentals</b>		<b>90</b>
II.A	Math	30
II.B	Reading and Literacy	30
II.C	Drafting and Blueprint Reading	30
<b>III. Safety Rules and Practices</b>		<b>75</b>
III.A	Professional Tool Use and Safety	15
III.B	OSHA 30	30
III.C	LeadSafe RRP	16
III.D	First Aid	9
<b>IV. Building Systems</b>		<b>150</b>
IV.A	Windows, Doors, and Millwork	30
IV.B	Carpentry of Buildings	30
IV.C	Roofing	30
IV.D	Framing	30
<b>V. Material Skills and Science</b>		<b>120</b>
V.A	Wood	75
V.B	Finishes	45
<b>VI. Project and Business Management</b>		<b>30</b>
VI.A	Project and Small Business Management	15
VI.B	Project Estimating	15