Appendix A

Work Process Schedule
Residential Carpenter (Sample)
O*NET-SOC CODE: 47-2031.01
RAPIDS CODE: 0564HY

This schedule is attached to and a part of these Standards for the above identified occupation.

1. **TERM OF APPRENTICESHIP**

   The term of the occupation shall be 24 months with an OJL attainment of 4,000 hours supplemented by the required hours of related instruction.

2. **RATIO OF APPRENTICES TO JOURNEYWORKERS**

   One (1) apprentice may be employed in each shop department, and/or jobsite employing a qualified journeyman.

3. **APPRENTICE WAGE SCHEDULE**

   Apprentices shall be paid a progressively increasing schedule of wages based on a percentage of the current journeyworker wage rate.

   2 Year Term Example:

<table>
<thead>
<tr>
<th>Term</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>6 months +</td>
<td>60%</td>
</tr>
<tr>
<td>2nd</td>
<td>6 months +</td>
<td>70%</td>
</tr>
<tr>
<td>3rd</td>
<td>6 months +</td>
<td>80%</td>
</tr>
<tr>
<td>4th</td>
<td>6 months +</td>
<td>90%</td>
</tr>
</tbody>
</table>

4. **SCHEDULE OF WORK EXPERIENCE** (See attached Work Process Schedule)

   The Sponsor may modify to the work processes to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

5. **SCHEDULE OF RELATED INSTRUCTION** (See attached Related Instruction Outline)
# Work Process Schedule

Residential Carpenter (Sample)

O*NET-SOC CODE: 47-2031.01  
RAPIDS CODE: 0564HY

<table>
<thead>
<tr>
<th>Approximate Hours</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TOOLS AND MATERIALS</td>
<td>220 - 250</td>
</tr>
<tr>
<td>2. SAFETY</td>
<td>125 - 150</td>
</tr>
<tr>
<td>3. ROUGH CARPENTRY</td>
<td>1,500 - 1,600</td>
</tr>
<tr>
<td>4. EXTERIOR FINISH</td>
<td>900 - 1,000</td>
</tr>
<tr>
<td>5. INTERIOR FINISH</td>
<td>900 - 1,000</td>
</tr>
</tbody>
</table>

**TOTAL MINIMUM HOURS**  

3645 - 4000

Note: Competency Model and Interim Credentials may allow for reduced Work Process time to 3645 hours
Related Instruction Outline
Residential Carpenter (Sample)
O*NET-SOC CODE: 47-2031.01
RAPIDS CODE: 0564HY

1. TOOLS AND MATERIALS
   a. Tools – Selection, Use and Care
   b. Wood and Wood Products
   c. Fasteners
   d. Other/Regional Needs
   
   HOURS: 20-32

2. SAFETY
   a. Job Site Safety
   b. Safety with Ladders, Scaffolds and Machines
   c. Local and National Codes
   d. Other/Regional Needs
   
   HOURS: 20-32

3. ROUGH CARPENTRY
   a. Blueprints and Layout
   b. Concrete Form Construction
   c. Framing
   d. Scaffolds
   e. Roof Framing
   f. Other/Regional Needs
   
   HOURS: 60-80

4. EXTERIOR FINISH
   a. Windows and Doors
   b. Roofing
   c. Siding and Decks
   d. Other/Regional Needs
   
   HOURS: 50-72

5. INTERIOR FINISH
   a. Insulation and Wall Finish
   b. Interior Finish
   c. Stair Framing and Finish
   d. Cabinets and Countertops
   e. Other/Regional Needs
   
   HOURS: 50-72

TOTAL MINIMUM HOURS 200-288

Note: Competency model and Interim Credentials may allow for reduced Related Instruction time to 200 hours
This schedule is attached to and a part of these Standards for the above identified occupation.

1. **TERM OF APPRENTICESHIP**

   The term of the occupation shall be 27 months with an OJL attainment of 4,422 hours supplemented by the required hours of related instruction.

2. **RATIO OF APPRENTICES TO JOURNEYWORKERS**

   One (1) apprentice may be employed in each shop department, and/or jobsite employing a qualified journeyworker.

3. **APPRENTICE WAGE SCHEDULE**

   Apprentices shall be paid a progressively increasing schedule of wages based on a percentage of the current journeyworker wage rate.

   2 Year Term Example:

   1\textsuperscript{st} 6 months + hours = 60%
   2\textsuperscript{nd} 6 months + hours = 70%
   3\textsuperscript{rd} 6 months + hours = 80%
   4\textsuperscript{th} 6 months + hours = 90%

4. **SCHEDULE OF WORK EXPERIENCE** (See attached Work Process Schedule)

   The Sponsor may modify to the work processes to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

5. **SCHEDULE OF RELATED INSTRUCTION** (See attached Related Instruction Outline)
## Appendix A

### Work Process Schedule

**Building Maintenance Repairer (Sample)**

O*NET-SOC CODE: 49-9042.00  
RAPIDS CODE: 0310HY

<table>
<thead>
<tr>
<th><strong>Approximate Hours</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SAFETY</td>
<td>50-75</td>
</tr>
<tr>
<td>2. TOOLS AND EQUIPMENT</td>
<td>75-95</td>
</tr>
<tr>
<td>3. PEST PREVENTION</td>
<td>90-100</td>
</tr>
<tr>
<td>4. HVAC</td>
<td>1,500-1,600</td>
</tr>
<tr>
<td>5. TRASH COMPACTORS</td>
<td>78-98</td>
</tr>
<tr>
<td>6. ELECTRICAL WIRING</td>
<td>800-900</td>
</tr>
<tr>
<td>7. ELEVATORS</td>
<td>78-98</td>
</tr>
<tr>
<td>8. PAINTING</td>
<td>100-120</td>
</tr>
<tr>
<td>9. PLUMBING</td>
<td>350-400</td>
</tr>
<tr>
<td>10. APPLIANCE REPAIR AND REPLACEMENT</td>
<td>100-120</td>
</tr>
<tr>
<td>11. CARPENTRY</td>
<td>300-320</td>
</tr>
<tr>
<td>12. GROUNDSKEEPING</td>
<td>80-96</td>
</tr>
<tr>
<td>13. WEATHERIZATION</td>
<td>300-400</td>
</tr>
</tbody>
</table>

**Total Minimum Hours** 3,901 - 4,422

*Note: Competency Model and Interim Credentials may allow for reduced Work Process time to 3,901 hours*
Related Instruction Outline
Building Maintenance Repairer (Sample)
O*NET-SOC CODE: 49-9042.00
RAPIDS CODE: 0310HY

1. SAFETY 10-14
   a. Job Site Safety
   b. OSHA Regulations
   c. Local and National Codes
   d. Other/Regional Needs

2. TOOLS AND EQUIPMENT 28-34
   a. Anchors and Fasteners
   b. Hand Tools
   c. Portable Power Tools
   d. Stationary Tools
   e. Blueprints and Building Codes
   f. Caulking and Foam Guns
   g. Specialized Weatherization Equipment
   h. Other/Regional Needs

3. PEST PREVENTION 12-18
   a. Techniques
   b. Chemicals and materials
   c. Other/Regional Needs

4. HVAC 40-52
   a. Tools and Equipment
   b. Maintenance
   c. Weatherization Installation - Ductwork
   d. Other/Regional Needs

5. TRASH COMPACTORS 12-18
   a. General maintenance procedures
   b. Hydraulic devices
   c. Interlock safety device
   d. Other/Regional Needs

6. ELECTRICAL WIRING 28-32
   a. Interpreting Plans
   b. Materials and Supplies
   c. Maintenance
   d. Practical Theory
   e. Other/Regional Needs

7. ELEVATORS 16-18
   a. General Maintenance Procedures
b. Operation Inspection  
c. Other/Regional Needs  

8. PAINTING  
a. Surface  
b. Temporary Work Platforms  
c. Other/Regional Needs  

9. PLUMBING  
a. Materials and Supplies  
b. Maintenance  
c. Other/ Regional Needs  

10. APPLIANCE REPAIR AND REPLACEMENT  
a. Appliance troubleshooting and diagnostics  
b. Appliance parts  
c. General maintenance procedures  
d. Other/Regional Needs  

11. CARPENTRY  
a. Wood and Lumber  
b. Engineered Products, Panels and Sheet Goods  
c. Framing Components  
d. Interior Carpentry Maintenance  
e. Inspection and Repair of Exterior Carpentry  
f. Weatherization – Air Sealing  
g. Other/Regional Needs  

12. GROUNDS KEEPING  
a. General maintenance procedures  
b. Basic small engine repair  
c. Other/Regional Needs  

13. WEATHERIZATION  
a. “House as a System” Concept  
b. Weatherization Measures  
c. Insulation  
d. Repairs and Replacement  

TOTAL MINIMUM HOURS 290-358  

Note: Competency model and Interim Credentials may allow for reduced  
Related Instruction time to 290 hours
This schedule is attached to and a part of these Standards for the above identified occupation.

1. **TERM OF APPRENTICESHIP**

   The term of the occupation shall be 30 months with an OJL attainment of 4,800 hours supplemented by the required hours of related instruction.

2. **RATIO OF APPRENTICES TO JOURNEYWORKERS**

   One (1) apprentice may be employed in each shop department, and/or jobsite employing a qualified journeyworker.

3. **APPRENTICE WAGE SCHEDULE**

   Apprentices shall be paid a progressively increasing schedule of wages based on a percentage of the current journeyworker wage rate.

   2 ½ Year Term Example:

<table>
<thead>
<tr>
<th>Term</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>55%</td>
</tr>
<tr>
<td>2nd</td>
<td>65%</td>
</tr>
<tr>
<td>3rd</td>
<td>70%</td>
</tr>
<tr>
<td>4th</td>
<td>80%</td>
</tr>
<tr>
<td>5th</td>
<td>90%</td>
</tr>
</tbody>
</table>

4. **SCHEDULE OF WORK EXPERIENCE** (See attached Work Process Schedule)

   The Sponsor may modify to the work processes to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

5. **SCHEDULE OF RELATED INSTRUCTION** (See attached Related Instruction Outline)
<table>
<thead>
<tr>
<th>Work Process Schedule</th>
<th>APPROPRIATE HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Electrical Wirer (Sample)</td>
<td></td>
</tr>
<tr>
<td>O*NET-SOC CODE: 47-2111.00</td>
<td></td>
</tr>
<tr>
<td>RAPIDS CODE: 1022</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>DESCRIPTION</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAFETY</td>
<td>220</td>
</tr>
<tr>
<td>2</td>
<td>TOOLS, MATERIALS AND INSTRUMENTS</td>
<td>220</td>
</tr>
<tr>
<td>3</td>
<td>RESIDENTIAL BUILDING PLANS</td>
<td>480</td>
</tr>
<tr>
<td>4</td>
<td>RESIDENTIAL SERVICE ENTRANCES</td>
<td>600</td>
</tr>
<tr>
<td>5</td>
<td>RESIDENTIAL ELECTRICAL SYSTEM ROUGH-IN</td>
<td>1,800</td>
</tr>
<tr>
<td>6</td>
<td>RESIDENTIAL ELECTRICAL SYSTEM TRIM-OUT</td>
<td>1,000</td>
</tr>
<tr>
<td>7</td>
<td>MAINTAINING AND TROUBLESHOOTING A RESIDENTIAL ELECTRICAL WIRING SYSTEM</td>
<td>480</td>
</tr>
</tbody>
</table>

**TOTAL MINIMUM HOURS** 4,800
1. SAFETY
   a. Job Site Safety
   b. Local and National Codes
   c. Other/Regional Needs
   Hours: 20

2. TOOLS, MATERIALS AND INSTRUMENTS
   a. Hardware
   b. Materials
   c. Tools
   d. Test and Measurement Instruments
   e. Other/Regional Needs
   Hours: 20

3. RESIDENTIAL BUILDING PLANS
   a. Blueprints, Plans and Electrical specifications
   b. Drawing and electrical symbols
   c. Other/Regional Needs
   Hours: 36

4. RESIDENTIAL SERVICE ENTRANCES
   a. Types and Terms
   b. Calculations
   c. Equipment
   d. Installation
   e. Other/Regional Needs
   Hours: 72

5. RESIDENTIAL ELECTRICAL SYSTEM ROUGH-IN
   a. General Requirements
   b. Electrical Box Installation
   c. Cable Installation
   d. Raceway Installation
   e. Switching Circuit Installation
   f. Branch-Circuit Installation
   g. Video, Voice and Data Wiring Installation
   h. Other/Regional Needs
   Hours: 90

6. RESIDENTIAL ELECTRICAL SYSTEM TRIM-OUT
   a. Lighting Fixture Installation
   b. Device Installation
   c. Service Panel Trim-Out
   d. Other/Regional Needs
   Hours: 72
7. MAINTAINING AND TROUBLESHOOTING A RESIDENTIAL ELECTRICAL WIRING SYSTEM
   a. Checking Out Electrical Wiring Systems
   b. Troubleshooting Electrical Wiring Systems
   c. Other/Regional Needs

   TOTAL MINIMUM HOURS 346
This schedule is attached to and a part of these Standards for the above identified occupation.

1. **TERM OF APPRENTICESHIP**

   The term of the occupation shall be 36 months with an OJL attainment of 6,000 hours supplemented by the required hours of related instruction.

2. **RATIO OF APPRENTICES TO JOURNEYWORKERS**

   One (1) apprentice may be employed in each shop department, and/or jobsite employing a qualified journeyman.

3. **APPRENTICE WAGE SCHEDULE**

   Apprentices shall be paid a progressively increasing schedule of wages based on a percentage of the current journeyworker wage rate.

   3 Year Term Example:

<table>
<thead>
<tr>
<th>Year</th>
<th>Schedule</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>6 months + hours = 55%</td>
<td>55%</td>
</tr>
<tr>
<td>2nd</td>
<td>6 months + hours = 60%</td>
<td>60%</td>
</tr>
<tr>
<td>3rd</td>
<td>6 months + hours = 65%</td>
<td>65%</td>
</tr>
<tr>
<td>4th</td>
<td>6 months + hours = 70%</td>
<td>70%</td>
</tr>
<tr>
<td>5th</td>
<td>6 months + hours = 80%</td>
<td>80%</td>
</tr>
<tr>
<td>6th</td>
<td>6 months + hours = 90%</td>
<td>90%</td>
</tr>
</tbody>
</table>

4. **SCHEDULE OF WORK EXPERIENCE** (See attached Work Process Schedule)

   The Sponsor may modify to the work processes to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

5. **SCHEDULE OF RELATED INSTRUCTION** (See attached Related Instruction Outline)
<table>
<thead>
<tr>
<th>APPROXIMATE HOURS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SAFETY</td>
<td>300</td>
</tr>
<tr>
<td>2. INSTALLATION</td>
<td>1,400</td>
</tr>
<tr>
<td>3. STARTUP AND SERVICE</td>
<td>2,000</td>
</tr>
<tr>
<td>4. MECHANICAL AND ELECTRICAL TROUBLESHOOTING</td>
<td>800</td>
</tr>
<tr>
<td>5. REFRIGERANT MANAGEMENT</td>
<td>700</td>
</tr>
<tr>
<td>6. HEATING</td>
<td>800</td>
</tr>
</tbody>
</table>

**TOTAL MINIMUM HOURS** 6,000
Related Instruction Outline
Heating, Ventilation and Air Conditioning Technician (Sample)
O*NET-SOC CODE: 49-9021.01
RAPIDS CODE: 0637

1. SAFETY
   a. Job Site Safety
   b. Local and National Codes
   c. Other/Regional Needs

2. INSTALLATION
   a. Heat Basics
   b. Refrigeration Process
   c. Unit Location
   d. Air Distribution Systems
   e. System Connections
   f. Other/Regional Needs

3. STARTUP AND SERVICE
   a. System Evacuation
   b. System Startup
   c. System Charging
   d. Electrical Motors and Starting Components
   e. Automatic Controls and Devices
   f. Other/Regional Needs

4. MECHANICAL AND ELECTRICAL TROUBLESHOOTING
   a. Common Mechanical Problems
   b. Metering Device
   c. Common Control-Circuit Problems
   d. Common Power-Circuit Problems
   e. Other/Regional Needs

5. REFRIGERANT MANAGEMENT
   a. Terms and Types
   b. Oils
   c. Handling and Transporting
   d. Refrigerant Recovery, Recycling and Reclaiming
   e. Other/Regional Needs

6. HEATING
   a. Electric Heating
   b. Gas Furnaces
   c. Oil Furnaces
   d. Hydronic Heat
   e. Heat Pumps
f. Other/Regional Need

TOTAL MINIMUM HOURS  432