

## **TRADE SCHEDULE FOR: PLUMBER**

This trade schedule is attached to and a part of the Apprenticeship Standards for the above identified occupation. This sequence of Related Classroom Instruction is competency based and will be offered as traditional classroom training or independent study, which may include: Internet-learning, video telecast and CD-ROM.

### **1. TERM OF APPRENTICESHIP**

The term of the occupation shall be 4.5 years with an OJT attainment of 9000 hours supplemented by the required hours of related technical instruction.

### **2. RATIO OF APPRENTICES TO JOURNEYPERSONS**

The Ratio of Apprentices to Journeypersons will be 1:1 for the first 3 apprentices and 1:3 thereafter.

### **3. APPRENTICE WAGE SCHEDULE**

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

#### **Term: 9000 Hours - 4.5 years**

- 1000 hours - 50% of Journeyperson's rate
- 1000 hours - 55% of Journeyperson's rate
- 1000 hours - 60% of Journeyperson's rate
- 1000 hours - 70% of Journeyperson's rate
- 1000 hours - 75% of Journeyperson's rate
- 1000 hours - 80% of Journeyperson's rate
- 1000 hours - 85% of Journeyperson's rate
- 1000 hours - 90% of Journeyperson's rate
- 1000 hours - 95% of Journeyperson's rate

**The Journeyworker wage rate on \_\_\_\_\_ \$ \_\_\_\_\_**

**4.SCHEDULE OF WORK EXPERIENCE** (See attached Work Processes/Work Experience Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Agency for approval.

**5. SCHEDULE OF RELATED INSTRUCTION** (See attached Related Classroom Instruction Outline)

Curriculum is based on Industry Standardized applications of current construction practices in the referenced craft and is skill-based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests. Curriculum is designed to be completed in levels of instruction as indicated in the outline. The levels of instruction are designed to reflect a commonly accepted progression of instruction consistent with a continuous growth and understanding of the craft and attainment of the related craft skills. Levels comprise successive tiers of instruction and meet the minimum Apprenticeship, Training, Employer, and Labor Services requirement for classroom-related training.

**A4.1- WORK PROCESSES/WORK EXPERIENCE SCHEDULE** **HOURS**

This instruction and experience shall include the following operations but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

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|---|------|
| 1. Care and use of tools and material and safety  | 650  |
| a. Identifying materials, fitting, grades and types of pipe.  |      |
| b. Use and operation of trade tools.  |      |
| c. Maintaining tools and equipment.   |      |
| 2. Preparation of tools, equipment, and material for plumbing and heating   | 465  |
| a. Selecting metal, PVC, and other types of piping for roughing in and finish work.   |      |
| b. Loading required material and equipment.   |      |
| c. Unloading at jobsite, using safety precautions and care not damaging equipment and material.   |      |
| 3. Drainage piping and fittings   | 1000 |
| a. Determining kinds of pipes used underground, within a building above grade.  |      |
| b. Installing cast iron, steel, plastic, or terra cotta piping.   |      |
| c. Pitching pipe for proper drainage, using recessed drainage fittings as required by codes and determining number of fixtures permissible on certain size waste lines. |      |
| 4. Venting  | 615  |
| a. Learning the application and importance of venting.  |      |
| b. Installing main and branch venting, back venting, and reventing in accordance with State and City codes.   |      |
| 5. Pipe cutting, reaming, threading, and flanging   | 600  |
| a. Setting up and operating threading machine.  |      |
| b. Using hand cutters.  |      |
| c. Using taps and reamers.  |      |

- d. Operating power drills.
- 6. Installation and maintenance of steam, hot water heating and chilled water cooling systems 1100
  - a. Installing main components.
  - b. Fabrication of piping.
  - c. Cutting and patching walls.
  - d. Operating and testing for leaks.
  - e. Repairing and replacing components.
- 7. Power and industrial process piping 815
  - a. Fabricating and installing of high pressure and special alloy piping.
  - b. Welding pipe.
  - c. Detail testing prior to operation of systems.
- 8. High-and-low pressure boilers 815
  - a. Installing boilers.
  - b. Fabricating and installing piping.
  - c. Testing and placing in operation.
  - d. Instructing operating personnel.
- 9. Hot and cold water systems for domestic purposes 915
  - a. Measuring and cutting pipes to specifications.
  - b. Sweating copper joints.
  - c. Measuring, cutting, and threading galvanized pipe.
  - d. Selecting, fitting, and installing valves.
  - e. Installing in accordance with accepted code standards.
- 10. Gas system appliances 615
  - a. Selecting proper piping.
  - b. Measuring, cutting, and threading pipe.
  - c. Application of union and joints.
  - d. Testing for leaks.
  - e. Venting in accordance with accepted code standards.
- 11. Single fixture installation (commodes, bathtubs, etc.) 595
  - a. Preparing position rests.
  - b. Hanging, fastening, connecting, and testing.
- 12. Water heater installation 815
  - a. Checking for proper size and type of heater in accordance with job order.
  - b. Disconnecting old heater on replacement job.
  - c. Installing and connecting new heater in conformance with accepted code standards.

d. Venting unit.

**TOTAL HOURS**

**9000**

**A5.1- PLUMBER RELATED CLASSROOM INSTRUCTION**

<b>Modules</b>	<b>Hours</b>
Safety	225
Introduction to Construction Math	5
Introduction to Hand Tools	5
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	15
Introduction to the Plumbing Trade	5
Plumbing Tools	7.5
Introduction to Plumbing Math	7.5
Introduction to Plumbing Drawings	10
Plastic Pipe and Fittings	5
Copper Pipe and Fittings	10
Cast Iron Pipe and Fittings	7.5
Carbon Steel Pipe and Fittings	7.5
Fixtures and Faucets	7.5
Introduction to Drain, Waste, and Vent (DWV) Systems	7.5
Introduction to Water Distribution Systems	10
Intermediate Math	10
Reading Commercial Drawings	10
Installing and Testing DWV Piping	15
Installing Roof, Floor, and Area Drains	5
Types of Valves	5
Installing and Testing Water Supply Piping	10
Installing Fixtures, Valves, and Faucets	10
Installing Water Heaters	5
Fuel Gas Systems	15
Servicing Fixtures, Valves, and Faucets	5
Applied Math	12.5
Codes	7.5
Types of Venting	10
Indirect and Special Waste	10
Sewage and Sump Pumps	10
Sizing Water Supply Piping	15
Backflow Preventers	15
Water Pressure Boosters and Recirculation Systems	10
Servicing Piping Systems, Fixtures, and Appliances	15
Business Math for Plumbers	10
Sizing DWV and Storm Systems	15

Private Water Supply Systems	12.5
Private Waste Disposal Systems	7.5
Locating Buried Water and Sewer Lines	12.5
Hydronic and Solar Heating Systems	10
Water Supply Treatment	15
Swimming Pools and Hot Tubs	10
Compressed Air	7.5
Corrosive-Resistant Waste Piping	7.5
Plumbing for Mobile Homes & Mobile Home Parks	10
<b>TOTAL HOURS</b>	<b>660</b>