

Training

- **General Information**

Apprenticeship is both an ancient tradition and a highly effective modern training method, proving to still be the best system for trades training. This is a highly rewarding career path for an individual who is motivated to learn the piping trade and become an active member of a proud and noble trade union. The rewards of Union Apprenticeship Training are the good wages and benefits you receive as a skilled craftsman. You'll be working under the protection of a union contract with insurance, pension and health and welfare benefits. In the long run, it pays to become a United Association Member, trained through Union Apprenticeship!

To join the UA without any prior experience, individuals enter a United Association five-year apprenticeship program and are part of a select group of men and women motivated to learn a complex and challenging trade while upholding the ideals of trade unionism.

Applicants are evaluated on the same fair basis, without regard to race, sex, national origin or religious affiliation. UA apprentices learn through both classroom and on the job training in what is considered by many to be the best construction industry apprentice program in the world. The five-year apprenticeship period is divided into one-year segments, each of which includes 1,700 to 2,000 hours of on the job training and a minimum of 246 hours of related classroom instruction. All UA apprentices receive a strong general education in the trade, with core courses in basics such as mathematics, science, drafting, welding and other pipe trades related courses. At a certain point, apprentices can choose a specific path to follow, to be trained as a journeyman plumber, pipefitter, sprinkler fitter, and HVACR Technician.

UA Apprentices earn while they learn

Apprentices get paid while they train on the job and attend day and/or night classes. This can be a highly rewarding career path for an individual who is motivated to learn the piping trade and become an active member of a proud and noble trade union.

<http://youtu.be/DPbwz29n6Ro>

Plumbing

Plumbers design, install, repair and maintain piping systems such as soil, waste, vent, potable water, wastewater treatment, gas systems (medical, propane, and natural) in residential, commercial, industrial buildings and at utility sites. Plumbing tasks require the ability to assemble, install, maintain and repair pipes, fittings, fixtures, appurtenances, appliances of heating, water, storm and sanitary drainage systems according to specifications and plumbing codes.

Work done on the job:

- Install interior and exterior underground sanitary, storm sewer and water and private sewage systems.
- Prepare, install, test, maintain and remove vertical and horizontal waste systems, stacks and branches, including soil, waste vent, and conductors.
- Install water supply systems, including underground and above-ground domestic potable hot and cold water systems, cross-connection control, and water treatment, multi-purpose pipes, and backflow prevention.
- Set and connect all types of plumbing and gas fixtures and appliances, including those connected with the water supply, gas, and waste water and water treatment systems.
- Review blueprints and building codes and specifications to determine work details, layout, and procedures.
- Study building plans and inspect structures to assess material and equipment needs, to establish the sequence of pipe installations, and to plan installation around obstructions such as electrical wiring.
- Locate and mark the position of pipe installations, connections, passage holes, and fixtures in structures, using measuring instruments such as rulers and levels.
- Measure, cut, thread, weld, braze, solder, and bend pipe to required angle, using hand and power tools or machines; such as: pipe cutters, pipe-threading machines, and pipe-bending machines.
- Install pipe assemblies, fittings, valves, appliances such as dishwashers, water heaters, and fixtures; such as sinks and toilets, using hand and power tools and water treatment equipment.

<http://youtu.be/jtUEFrw7w7s>

- **Pipefitting/Steamfitting**

Steamfitters lay out, assemble, fabricate, install, troubleshoot, maintain and repair mechanical piping systems. These piping systems carry water, steam, chemicals, compressed air, liquids, gases or fuel. The systems are under extreme pressure, which requires precise cutting, threading, grooving, bending, and welding. Fitters install medical gas lines in hospitals, and high purity process piping for semiconductor, biotechnology and pharmaceutical manufacturing. This is the only trade to specialize in planning, design, and installation of low and high pressure steam systems.

The work is performed at various jobsites, including new construction, hospitals, industrial, chemical, power and waste water treatment plants, and most other commercial or institutional buildings, as well as residential sites. Work is accomplished in buildings, trenches, on roofs or inside tunnels or confined spaces. Steamfitters operate various hand and power tools, heavy equipment, welding machines, cutting torches and other industry related equipment.

Work done on the job:

- Blueprint reading, drawings, specifications, detailed isometric sketches and layout of pipe and equipment fabrication and installation.
- Rigging, setting, supporting and piping of related equipment, valves, fittings, etc.
- Measure, cut, bend, prepare and join all types of pipe, including threading, welding, brazing, soldering, cementing, fusion and mechanical joining.
- Preparation of construction site for installation of equipment and piping, including walls, floors, ceilings, rooftops, shafts, etc.
- Pressure test systems to detect leaks prior to setup.
- Test systems to detect problems in electronic, pneumatic, digital, electrical, software or programmable logic controls.
- Works independently on proper piping practices in the industry and confirms proper function of installed/repaired piping systems and related equipment.

http://youtu.be/wwa_32k5038

- **Welding**

A welder works in every area of the construction industry where metals and alloys are joined. They will work with plumbers, pipefitters, sprinkler fitters, and HVACR techs. Work will include installation, maintenance, and repair of all types of piping systems as well as join structural steel brackets and supports for such systems. A welder has to work in many different environments and in all types of positions. Welders will study blueprints, drawing, and specifications for the job and must measure, cut and weld using various welding methods and tools.

<http://youtu.be/00EL2VKM45g>

- **HVAC/R**

Heating, ventilation, air conditioning, and refrigeration (HVAC/R) are based on the principals of thermodynamics, fluid mechanics, and heat transfer. Application of these principals provides the technology we use to heat our homes, cool our offices and preserve our food. Nearly half of the energy consumed in the United States is from HVAC/R equipment. Professionals in the HVACR industry understand that excellence is achieved through knowledge, experience, and a strong work ethic. Excellence creates value because a job done well prevents costly downtime for customers and saves their reputation. Inferior HVACR service and installation can also threaten public safety.

Work done on the job:

- Installation and maintenance of all sizes of heating and cooling systems
- Emergency service and repair of operational HVAC/R systems
- Start-up and commissioning of new systems
- Preventative maintenance on existing systems
- Retrofit or remodel older systems

<http://youtu.be/v2U-yxliUbE>