

# PPF COURSE STUDENT LEARNING OUTCOMES

## PPF 100 - Plumbers & Pipefitters 1st Year Apprenticeship

Students will be able to apply safety standards including OSHA 10, first aid and CPR.

Students will be able to use math as related to the pipe trades such as calculating temperatures and BTUs, using the Pythagorean Theorem, calculating pressure (PSI), applying geometry, etc.

Students will be able to perform soldering and brazing techniques and the basic identification and installation requirements for various materials using drawings and blue prints.

Students will be able to utilize multiple modes of communication towards enhancing effectiveness in the work environment.

Students will be able to determine pipe length dimensions and formulas to calculate offsets around various objects and in a variety of circumstances as they will encounter in the field.

Students will be able to communicate accumulated technical data effectively with co-workers to apply that information toward completion of work assignments.

## PPF 150 - Plumbers & Pipefitters 2nd Year Apprenticeship

Students will be able to demonstrate proficiency in identifying and installing various plumbing fixtures.

Students will be able to demonstrate their understanding of the installation and service of a number of applications, including a complete sanitary, storm water, hydronic heating and cooling, natural/manufactured gas systems.

Students will be able to demonstrate mastery of chemistry as it applies to the trade.

Students will be able to use algebraic formulas and apply geometric concepts to solve various installation situations they will encounter on job sites.

Students will be able to apply principles of corrosive properties to take preventative measures in the field to protect systems, along with calculating load and stress factors when rigging large pipe or items to be safely lifted by hoisting equipment and cranes. They will also make pipe installations with minimal pressure drop and properly size pipes, pumps, and controls for optimum performing systems.

## PPF 200 - Plumbers & Pipefitters 3rd Year Apprenticeship

Students will be able to lay out piping installations on paper to be transferred to actual installations in the field using trig metric and geometric formulas.

Students will be able to demonstrate knowledge of local, state and national building codes as well as environmental management for their trade.

Students will be able to service a complete potable water system and to properly understand basic electricity as it applies to the trade.

Students will be able to use a shielded metal arc welding and of an acetylene torch.

## PPF 250 - Plumbers & Pipefitters 4th Year Apprenticeship

Students will be able to define LEED environmental rating systems and will obtain certifications as a medical gas installer and a brazer/installer.

Students will be able to demonstrate proficiency in large bore soldering and brazing and basic rigging techniques.

Students will be able to demonstrate their ability to properly work with fuel gas piping and appliances and pump installations.

## PPF 290 - Plumbers & Pipefitters 5th Year Apprenticeship

Students will be able to demonstrate leadership, human relations, sales and planning skills as they apply to the trade.

Students will be able to obtain a State of Nevada plumbing license.

Students will be able to properly execute advanced hydronic heating and cooling techniques.