

MASONRY: Level One

28101-04 Introduction to Masonry (20 Hours)

Introduces the trainee to the historic and current methods and processes used in the masonry trade and covers safety concerns specific to the trade. Explains the uses of brick and concrete block, along with basic techniques for mixing mortar and laying masonry units. Covers opportunities in the trade. Allows the trainee to mix mortar and perform basic bricklaying.

28102-04 Masonry Tools and Equipment (12.5 Hours)

Describes the hand and power tools and equipment used in mixing mortar and in cutting, laying, and finishing masonry units. Explains the safe operation of masonry saws and mortar mixing machines.

28103-04 Measurements, Drawings, and Specifications (10 Hours)

Guides the trainee in using mathematics to calculate distances, areas, and volumes common in masonry work. Describes the information typically found on residential construction drawings and specifications. Includes blueprints.

28104-04 Mortar (10 Hours)

Explains the types and properties of mortar and the materials used in the mixture, including admixtures. Includes instructions for mixing mortar by hand and by machine and describes how to properly store mortar.

28105-04 Masonry Units and Installation Techniques (60 Hours)

Covers all types of concrete and clay masonry units and their applications. Explains the use of ties and reinforcing materials. Covers the processes used in placing masonry units, including layout and setup, spreading mortar, cutting brick and block, laying to the line, making corners, tooling joints, patching, and cleanup.

MASONRY: Level Two

28201-05 Residential Plans and Drawing Interpretation (12.5 Hours)

Covers the information the mason will need to work with residential plans and construction drawings and be able to convert that information into action on the job. Includes understanding the organization and format of plans, dimensioning and scaling, and estimating materials quantities from information on the plans.

28202-05 Residential Masonry (25 Hours)

Covers the construction techniques for residential and small structure foundations, steps, patios, decks, chimneys, and fireplaces. Describes work activities that the mason must perform, as well as those that tie into the masonry.

28203-05 Grout and Other Reinforcement (15 Hours)

Focuses on the use of grout and other types of reinforcement, such as reinforcing steel to strengthen and support masonry structures. Describes the locations where grout can be used and the techniques for placement. Discusses the use and application of various types of reinforcing steel bars.

28204-05 Metal Work in Masonry (15 Hours)

Acquaints the mason with the various types of metal components, including metal rods, joint reinforcements, plates, anchors, fasteners, and hollow metal frames for doors and windows, and how they are installed.

28205-05 Advanced Laying Techniques (50 Hours)

Contains detailed information that directs the mason in accomplishing the actual construction of walls, arches, and other useful structures. Explains construction techniques, safety requirements, and interaction with structure components.

28206-05 Construction Techniques and Moisture Control (20 Hours)

Describes techniques used to construct openings in masonry walls, the application of insulation, and methods of moisture control as they relate to the mason's trade. Explains properties and uses of materials used in moisture control. Describes various methods of insulating structures.

28207-05 Construction Inspection and Quality Control (15 Hours)

Introduces the trainee to the quality control requirements for masonry construction. Presents procedures for inspection and testing of masonry materials and finished masonry construction.

MASONRY: Level Three

28301-05 Masonry in High-Rise Construction (17.5 Hours)

Describes the activities involved in organizing and implementing the construction of high-rise buildings. Focuses on the masonry construction techniques used in high-rise construction. Safety and logistics are emphasized.

28302-05 Specialized Materials and Techniques (60 Hours)

Describes the many specialized materials and techniques used in the masonry trade. Covers properties and work requirements for such materials as natural and cultured stone, acid brick, refractory brick, structured tile, and glass block. Presents techniques for working under cold- and hot-weather conditions and explains construction of various types of masonry sound barriers.

28303-05 Repair and Restoration (15 Hours)

Explains the most common problems that appear in masonry structures and describes various techniques that can be used to repair them, including tuckpointing, brick replacement, crack sealing, waterproofing, and stain removal.

28304-05 Commercial Drawings (12.5 Hours)

Provides information about the format and content of commercial drawings and their use in conveying specific construction requirements. Describes the standard format for specifications.

28305-05 Estimating (25 Hours)

Covers the basic procedures for doing take-offs and estimating quantities of masonry material and accessories. Several different methods are described, including coursing, square foot, rule of thumb, and table methods. Describes computer-based estimating aids.

28306-05 Site Layout - Distance Measurement and Leveling (22.5 Hours)

Covers the principles, equipment, and methods used to perform the site layout task of distance measurement and differential leveling. Also covers information about the layout responsibilities of surveyors, field engineers, and masons; understanding and using site/plot plan drawings; and methods used for on-site communication.

28307-05 Introductory Skills for the Crew Leader (16 Hours)

Covers basic project planning and scheduling techniques as well as coordination and communication of work assignments to masonry work crews and other trades and crafts. Also describes project setup and materials purchasing requirements.