

MASONRY: Level One

28101-04 Introduction to Masonry (5 Hours)

Introduces the trainee to the historic and current methods and procedures used in the masonry trade. Brick and block manufacturing is explained along with the types of brick and block that are currently used in various types of masonry construction. Knowledge, skill, and ability requirements of a mason are also described.

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 properties of mortar and the components that make up the mixture; describes the chemical and physical properties of cement, sand, and various types of admixtures; and discusses procedures for storing materials and mixing 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. This 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. Work activities that the mason must perform as well as those that tie into the masonry work are described.

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. It describes the locations where grout can be used and the techniques for placement. The use and application of various types of reinforcing steel bars is also discussed.

28204-05 Metal Work in Masonry (15 Hours)

Many types of metal accessories and attachments are used in masonry construction. This module acquaints the mason with the various types of metal components and how they are installed. These items include metal rods, joint reinforcements, plates, anchors, fasteners, and hollow metal frames for doors and windows.

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. Construction techniques, safety requirements, and interaction with other structure components are explained. Skill is gained through construction of small projects.

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. Properties and uses of materials used in moisture control are explained. Various methods of insulating structures are described.

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

Introduces the trainee to the quality control requirements for masonry construction. Procedures for inspection and testing of masonry materials and finished masonry construction are presented.

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, glazed 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. Repair activities include 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. A set of commercial drawings is included for reference and practice.

28305-05 Estimating (25 Hours)

Covers the basic procedures for doing take-offs and estimating quantities of masonry material. Several different methods are described.

28306-05 Site Layout Distance Measuring 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.