Masonry

LEVEL 1

MASONRY

Curriculum Notes

• 195 Hours
  • Includes 72.5 hours of Core, which is a prerequisite for Level 1 completion and must be purchased separately.
• Revised: 2013, Fourth Edition
• Downloadable instructor resources that include module tests, PowerPoints®, and performance profile sheets are available at www.nccer.org/irc.
• A Spanish translation of the third edition is available. Please see NCCER's online catalog for more information.

MODULES

The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

Introduction to Masonry (12.5 Hours)
(Module ID 28101-13) Covers basic masonry materials, tools, techniques, and safety precautions. Explains how to mix mortar by hand and lay masonry units. Also describes the skills, attitudes, and abilities of successful masons.

Masonry Safety (15 Hours)
(Module ID 28106-13) Describes how to identify the common causes of accidents and the hazards associated with masonry tools, equipment, mortar, and concrete. Focuses on using personal protective equipment, working safely from elevated surfaces, properly using masonry tools and equipment, and handling masonry materials safely.

Masonry Tools & Equipment (15 Hours)
(Module ID 28102-13) Describes a variety of hand tools, measuring tools, mortar equipment, power tools and equipment, and lifting equipment that masons use on the job, and explains how to use these tools correctly and safely. Provides instructions for assembling and disassembling scaffolds.

Residential Masonry (25 Hours)
(Module ID 28202-14) Covers the construction techniques for residential and small structure foundations, steps, pavers, decks, chimneys, and fireplaces. Describes work activities that the mason must perform, as well as those that tie into the masonry work.

Reinforced Masonry (20 Hours)
(Module ID 28203-14) 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 reinforced masonry elements, such as rebar and bond beam lintels.

Masonry Openings and Metalwork (20 Hours)
(Module ID 28204-14) Introduces types of metal components, including metal rods, joint reinforcements, plates, anchors, fasteners, and hollow metal frames for doors and windows, and explains how they are installed.

Advanced Laying Techniques (40 Hours)
(Module ID 28205-14) Describes the construction of masonry wall systems, weeps, vents, and joints. Includes safety requirements and interaction with structural components.

Effects of Climate on Masonry (20 Hours)
(Module ID 28206-14) Describes materials and techniques used to apply insulations and methods of moisture control as they relate to the mason’s trade. Includes hot- and cold-weather considerations.

Construction Inspection and Quality Control (10 Hours)
(Module ID 28207-14) Introduces the quality control requirements for masonry construction. Presents procedures for inspection and testing of masonry materials and finished masonry construction.

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Masonry Level 3

**Curriculum Notes**

- 200 Hours
- Downloadable instructor resources that include module tests, PowerPoints®️, and performance profile sheets are available at www.nccer.org/irc.

**PAPERBACK ISBN**

Trainee Guide: $99.99  
Individual Modules: $24.99

**MODULES**

The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

**Elevated Masonry (15 Hours)**  
(Module ID 28301-14) Describes how to work safely and efficiently on elevated structures. Explains how to maintain a safe work environment, ensure protection from falls, how to brace walls from outside forces, and how to identify common types of elevated walls. Stresses safety around equipment such as cranes and hoists.

**Specialized Materials and Techniques (60 Hours)**  
(Module ID 28302-14) Introduces unique types of masonry situations that won’t be encountered on every job, including sound-barrier walls, arches, and the use of acid brick, refractory brick, and glass block. Describes the handling and construction of these materials, and introduces the intricacies of each.

**Repair and Restoration (20 Hours)**  
(Module ID 28303-14) Details techniques for identifying and repairing common masonry problems of weathering, settling, stain, etc. Explains tuckpointing, the removal of efflorescence and stains, and crack repair. Includes sections on how to repair foundation walls, water intrusion, and localized problems, as well as fireplace and chimney repair.

**Commercial Drawings (25 Hours)**  
(Module ID 28304-14) Explains how to read and identify drawings for commercial structures using previous experience from structural drawings as a baseline. Describes requirements for these drawings, as well as how to interpret and create plans for architectural, structural, and shop drawings.

**Estimating (25 Hours)**  
(Module ID 28305-14) Describes how to estimate building materials, such as brick, block, grout, mortar, joint reinforcement, and masonry ties. Details multiple methods for estimating, as well as how to estimate for masonry elements such as openings and lintels.

**Site Layout — Distance Measurement and Leveling (20 Hours)**  
(Module ID 28306-14) Covers the techniques needed to produce and read site plans and topographic maps. Describes the use of measuring devices such as tapes, range poles, plumb bobs, total stations, leveling instruments, and field notes. Also discusses the construction of batter boards and how to ensure correct measurements.

**Stone Masonry (15 Hours)**  
(Module ID 28308-14) Focuses on the application of natural stone in masonry construction. Describes types of stone and how stone is cut, finished, and stored. Discusses equipment and tools for handling stone. Details how to estimate and install stone using anchors and mortars and explains how to install stone veneers.

**Fundamentals of Crew Leadership (20 Hours)**  
(Module ID 46101-11, Second Edition) Covers basic leadership skills and explains different leadership styles, communication, delegating, and problem solving. Job site safety and the crew leader’s role in safety are discussed, as well as project planning, scheduling, and estimating. Includes performance tasks to assist the learning process.