

CONSTRUCTION TECHNOLOGY



Curriculum Notes

- This curriculum is ideal for programs formatted as Construction Cluster or Building Trades. It consists of modules compiled from five existing NCCER programs.
- 427.5 Hours (includes Core)
- Revised: 2016, Fourth Edition
- Downloadable instructor resources are available.

HARDCOVER	ISBN
Trainee Guide: \$144.99	978-0-13-413039-2
DIGITAL	ISBN
NCCERconnect Access Card: \$144.99	978-0-13-481687-6
NCCERconnect + Hardcover Trainee Guide: \$169.99	978-0-13-516939-1

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)

ISBN 978-0-13-377930-1

(Module ID 28101-13; from *Masonry Level One*) 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 Units and Installation Techniques

(60 Hours)

ISBN 978-0-13-377935-6

(Module ID 28105-13; from *Masonry Level One*) Covers characteristics of block and brick; how to set up, lay out, and bond block and brick; how to cut block and brick; how to lay and tool block and brick; and how to clean block and brick once they have been laid. Describes masonry reinforcements and accessories used to lay block and brick professionally and safely.

Floor Systems (27.5 Hours)

ISBN 978-0-13-340303-9

(Module ID 27105-13; from *Carpentry Level One*) Covers framing basics and the procedures for laying out and constructing a wood floor using common lumber, as well as engineered building materials.

Ceiling Joist and Roof Framing (40 Hours)

ISBN 978-0-13-340305-3

(Module ID 27112-13; from *Carpentry Level One*) Describes types of roofs and provides instructions for laying out rafters for gable roofs, hip roofs, and valley intersections. Covers stick-built and truss-built roofs. Includes the basics of roof sheathing installation.

Roofing Applications (25 Hours)

ISBN 978-0-13-377902-8

(Module ID 27202-13; from *Carpentry Level Two*) Describes how to properly prepare the roof deck and install roofing for residential and commercial buildings.

Wall Systems (20 Hours)

ISBN 978-0-13-340304-6

(Module ID 27111-13; from *Carpentry Level One*) Describes procedures for laying out and framing walls, including roughing-in door and window openings, constructing corners, partition Ts, and bracing walls. Includes the procedure to estimate the materials required to frame walls.

Exterior Finishing (35 Hours)

ISBN 978-0-13-377909-7

(Module ID 27204-13; from *Carpentry Level Two*) Covers the various types of exterior finish materials and their installation procedures, including wood, metal, vinyl, and fiber-cement siding.

Basic Stair Layout (12.5 Hours)

ISBN 978-0-13-340306-0

(Module ID 27110-13; from *Carpentry Level One*) Introduces types of stairs and common building code requirements related to stairs. Focuses on techniques for measuring and calculating rise, run, and stairwell openings, laying out stringers, and fabricating basic stairways.

Electrical Safety (10 Hours)

ISBN 978-0-13-378775-7

(Module ID 26102-14; from *Electrical Level One*) Covers safety rules and regulations for electricians, including precautions for electrical hazards found on the job. Also covers the OSHA-mandated lockout/tagout procedure.

Residential Electrical Services (15 Hours)

ISBN 978-0-13-384190-9

(Module ID 26111-14; from *Electrical Level One*) Covers the electrical devices and wiring techniques common to residential construction and maintenance. Allows trainees to practice making service calculations. Stresses the applicable NEC® requirements.

Introduction to HVAC (7.5 Hours)

ISBN 978-0-13-340339-8

(Module ID 03101-13; from *HVAC Level One*) Covers the basic principles of heating, ventilating, and air conditioning, career opportunities in HVAC, and how apprenticeship programs are constructed. Basic safety principles, as well as trade licensure and EPA guidelines, are also introduced.

Introduction to Drain, Waste, and Vent (DWV) Systems (10 Hours)

ISBN 978-0-13-292331-6

(Module ID 02111-12; from *Plumbing Level One*) Explains how DWV systems remove waste safely and effectively. Discusses how system components, such as pipe, drains, traps, and vents work. Reviews drain and vent sizing, grade, and waste treatment. Discusses how building sewers and sewer drains connect the DWV system to the public sewer system.

Plastic Pipe and Fittings (12.5 Hours)

ISBN 978-0-13-292325-5

(Module ID 02106-12; from *Plumbing Level One*) Introduces different types of plastic pipe and fittings used in plumbing applications, including ABS, PVC, CPVC, PE, PEX, and PB. Describes how to measure, cut, join, and support plastic pipe according to the manufacturer's instructions and applicable codes. Discusses pressure testing of plastic pipe once installed.

Copper Pipe and Fittings (12.5 Hours)

ISBN 978-0-13-292327-9

(Module ID 02107-12; from *Plumbing Level One*) Discusses sizing, labeling, and applications of copper pipe and fittings, and reviews the types of valves that can be used on copper pipe systems. Explains proper methods for cutting, joining, and installing copper pipe. Addresses insulation, pressure testing, seismic codes, and handling and storage requirements.

Cabinetmaking (35 Hours)

ISBN 978-0-13-428854-3

(Module ID 27501-15) This module expands on the knowledge and skills gained through the Carpentry Curriculum and provides the basic information needed to construct and apply finishes to custom cabinetry. It identifies and discusses various types of wood products, wood-joining techniques, power tools, cabinet doors, shelves, and hardware. Specific guidance is also provided for the installation of laminated countertops.

Cabinet Installation (10 Hours)

ISBN 978-0-13-377917-2

(Module ID 27211-13; from *Carpentry Level Two*) Provides detailed instructions for the selection and installation of base and wall cabinets and countertops.

Introduction to Construction Equipment

(7.5 Hours)

ISBN 978-0-13-378706-1

(Module ID 27406-14; from *Carpentry Level Four*) Introduces construction equipment, including the aerial lift, skid steer loader, electric power generator, compressor, compactor, and forklift. An overview of general safety, operation, and maintenance procedures is provided.