



CORE CURRICULUM: Introductory Craft Skills

Competencies / Objectives

MODULE 00101-09 – BASIC SAFETY

1. Explain the idea of a safety culture and its importance in the construction crafts.
2. Identify causes of accidents and the impact of accident costs.
3. Explain the role of OSHA in job-site safety.
4. Explain OSHA's General Duty Clause and 1926 CFR Subpart C.
5. Recognize hazard recognition and risk assessment techniques.
6. Explain fall protection, ladder, stair, and scaffold procedures and requirements.
7. Identify struck-by hazards and demonstrate safe working procedures and requirements.
8. Identify caught-in-between hazards and demonstrate safe working procedures and requirements.
9. Define safe work procedures to use around electrical hazards.
10. Demonstrate the use and care of appropriate personal protective equipment (PPE).
11. Explain the importance of hazard communications (HazCom) and Material Safety Data Sheets (MSDSs).
12. Identify other construction hazards on your job site, including hazardous material exposures, environmental elements, welding and cutting hazards, confined spaces, and fires.

MODULE 00102-09 – INTRODUCTION TO CONSTRUCTION MATH

1. Add, subtract, multiply, and divide whole numbers, with and without a calculator.
2. Use a standard ruler, a metric ruler, and a measuring tape to measure.
3. Add, subtract, multiply, and divide fractions.
4. Add, subtract, multiply, and divide decimals, with and without a calculator.
5. Convert decimals to percentages and percentages to decimals.
6. Convert fractions to decimals and decimals to fractions.
7. Explain what the metric system is and how it is important in the construction trade.
8. Recognize and use metric units of length, weight, volume, and temperature.
9. Recognize some of the basic shapes used in the construction industry and apply basic geometry to measure them.

MODULE 00103-09 – INTRODUCTION TO HAND TOOLS

1. Recognize and identify some of the basic hand tools and their proper uses in the construction trade.
2. Visually inspect hand tools to determine if they are safe to use.
3. Safely use hand tools.

MODULE 00104-09 – INTRODUCTION TO POWER TOOLS

1. Identify power tools commonly used in the construction trades.
2. Use power tools safely.
3. Explain how to maintain power tools properly.

MODULE 00105-09 – INTRODUCTION TO CONSTRUCTION DRAWINGS

1. Recognize and identify basic construction drawing terms, components, and symbols.
2. Relate information on construction drawings to actual locations on the print.
3. Recognize different classifications of construction drawings.
4. Interpret and use drawing dimensions.

MODULE 00106-09 – BASIC RIGGING

1. Identify and describe the use of slings and common rigging hardware.
2. Describe basic inspection techniques and rejection criteria used for slings and hardware.
3. Describe basic hitch configurations and their proper connections.
4. Describe basic load-handling safety practices.
5. Demonstrate proper use of American National Standards Institute (ANSI) hand signals.

MODULE 00107-09 – BASIC COMMUNICATION SKILLS

1. Interpret information and instructions presented in both verbal and written form.
2. Communicate effectively in on-the-job situations using verbal and written skills.
3. Communicate effectively on the job using electronic communication devices.

MODULE 00108-09 – BASIC EMPLOYABILITY SKILLS

1. Explain the role of an employee in the construction industry.
2. Demonstrate critical thinking skills and the ability to solve problems using those skills.
3. Demonstrate knowledge of computer systems and explain common uses for computers in the construction industry.
4. Define effective relationship skills.
5. Recognize workplace issues such as sexual harassment, stress, and substance abuse.

MODULE 00109-09 – INTRODUCTION TO MATERIALS HANDLING

1. Define a load.
2. Establish a pre-task plan prior to moving a load.
3. Use proper materials-handling techniques.
4. Choose appropriate materials-handling equipment for the task.
5. Recognize hazards and follow safety procedures required for materials handling.



Level One

MODULE 04101-08 – INTRODUCTION TO THE SHEET METAL TRADE

1. Describe what is meant by pride of craftsmanship in the sheet metal trade.
2. Name the general applications of sheet metal construction.
3. List the basic tools and equipment used in the sheet metal trade.
4. Summarize the history and development of the sheet metal trade.
5. Identify shop and field safety considerations specific to the sheet metal trade.
6. Identify types of metal.
7. Identify common fittings.
8. Describe what is involved in being part of a sheet metal training program.
9. Describe how to use a sheet metal gauge.

MODULE 04102-08 – TOOLS OF THE TRADE

1. Identify and describe the proper use of tools commonly used in the sheet metal trade.
2. State general rules for safety when using tools.
3. Describe proper maintenance procedures for tools.
4. Demonstrate how to properly use sheet metal tools.

MODULE 04103-08 – INTRODUCTION TO SHEET METAL LAYOUT AND PROCESSES

1. Define basic layout terminology.
2. Explain how to select and use layout and marking tools.
3. Identify and explain the three development methods for laying out sheet metal patterns.
4. Demonstrate how to select and use hand snips, hacksaws, and squaring shears for cutting out sheet metal parts and patterns.
5. Demonstrate how to select and use forming tools.
6. Demonstrate how to construct seams, edges, and duct connectors.

MODULE 04104-08 – TRADE MATH ONE

1. Convert denominate numbers and solve problems using them.
2. Calculate using rules.
3. Calculate using linear, square, volume, and weight measures.
4. Calculate the stretchouts for selected fittings.
5. Construct simple geometric figures.
6. Calculate the offset using field mitering and the OWL methods.

MODULE 04105-08 – FABRICATION ONE — PARALLEL LINE DEVELOPMENT

1. Explain procedures for parallel line development.
2. Lay out and fabricate selected ductrun fittings.

MODULE 04106-08 – INSTALLATION OF DUCTWORK

1. Identify and describe fasteners used in the sheet metal trade.
2. Select and use the right fastener for the task.
3. Describe some of the more common methods of supporting air system components.
4. Install duct fasteners, hangers, and supports.
5. Describe how to connect rectangular, round, and spiral ductwork.
6. Explain how to properly seal ductwork.

MODULE 04107-08 – INSTALLATION OF AIR DISTRIBUTION ACCESSORIES

1. Identify and explain the purpose of selected air distribution accessories.
2. Correctly install selected air distribution accessories.

MODULE 04108-08 – INSULATION (ELECTIVE)

1. Explain the principles of thermal insulation.
2. Explain the principles of acoustic insulation.
3. Install liner materials on selected duct sections.
4. Install duct wrap on selected duct sections.

MODULE 04109-08 – ARCHITECTURAL SHEET METAL (ELECTIVE)

1. Describe the parts of a roof drainage system.
2. Describe how flashing is used.
3. Describe how gutters and downspouts are used.
4. Lay out and fabricate selected drainage components.
5. Fabricate selected flashing components.