



Level One

MODULE 02101-05 – INTRODUCTION TO THE PLUMBING PROFESSION

This is a knowledge-based module; there is no performance testing.

MODULE 02102-05 – PLUMBING SAFETY

Task Number	Item	Date(s)	Recorded By
1	Inspect the following personal protective equipment:		
	• Gloves		
	• Body harness		
	• Hard hat		
	• Safety glasses		
	• Safety shoes		
	• Hearing protection		
2	Put on the following personal protective equipment:		
	• Hard hat		
	• Body harness		
	• Respiratory protection		
	• Eye protection		
3	Demonstrate proper use of ladders.		
4	Inspect the following power tools to ensure they are safe to use:		
	• Demolition saw		
	• Skill saw		
	• Reciprocating saw		
	• Power drill		
5	Demonstrate/simulate the proper method of lockout/tagout.		

MODULE 02103-05 – PLUMBING TOOLS

Task Number	Item	Date(s)	Recorded By
1	Identify basic measuring, layout, and cutting tools.		
2	Identify basic drilling, boring, and reaming tools.		
3	Identify hammers, screwdrivers, and vises introduced in this module.		
4	Explain some of the basic care and maintenance procedures identified in this module.		

MODULE 02104-05 – INTRODUCTION TO PLUMBING MATH

Task Number	Item	Date(s)	Recorded By
1	Measure pipe using the following methods: <ul style="list-style-type: none">• End-to-end• End-to-center• Center-to-center• End-to-face• Face-to-face• Face-to-throat		
2	Determine end-to-end dimensions by figuring fitting allowances and thread makeup.		

MODULE 02105-05 – INTRODUCTION TO PLUMBING DRAWINGS

Task Number	Item	Date(s)	Recorded By
1	Interpret and explain information from given drawings.		
2	Obtain information about piping systems from the set of drawings provided with this module.		
3	Make isometric sketches from other drawings		
4	Explain the relationship among drawings, specifications, and the local plumbing code.		

MODULE 02106-05 – PLASTIC PIPE AND FITTINGS

Task Number	Item	Date(s)	Recorded By
1	Select correct types of materials for plastic piping systems.		
2	Identify types of fittings and valves and their uses.		
3	Select the appropriate personal protective equipment for working with plastic piping.		
4	Properly measure, cut, and join plastic piping.		
5	Select the correct hanger or support for the application.		

MODULE 02107-05 – COPPER PIPE AND FITTINGS

Task Number	Item	Date(s)	Recorded By
1	Select correct types of materials for copper piping systems.		
2	Identify types of fittings and valves and their uses.		
3	Select the appropriate personal protective equipment for working with copper piping.		
4	Correctly measure, cut, ream, join, and groove copper piping.		
5	Select the correct hanger or support for the application.		

MODULE 02108-05 – CAST-IRON PIPE AND FITTINGS

Task Number	Item	Date(s)	Recorded By
1	Select correct materials for cast-iron piping systems.		
2	Identify types of fittings and their uses.		
3	Select the appropriate personal protective equipment for cast-iron piping.		
4	Correctly measure, cut, and join cast-iron pipe.		
5	Select the correct hanger or support and spacing for the application.		

MODULE 02109-05 – CARBON STEEL PIPE AND FITTINGS

Task Number	Item	Date(s)	Recorded By
1	Identify the common types of materials, schedules, sizes, and labels used for carbon steel piping.		
2	Identify the common fittings and valves used with carbon steel piping.		
3	Properly measure, cut, groove, and join carbon steel piping.		
4	Identify the hazards and safety precautions associated with carbon steel piping.		
5	Identify the various techniques used in hanging and supporting carbon steel piping.		

MODULE 02110-05 – CORRUGATED STAINLESS STEEL TUBING

Task Number	Item	Date(s)	Recorded By
1	Simulate and/or demonstrate how to join corrugated stainless steel tubing.		

MODULE 02111-05 – FIXTURES AND FAUCETS

Task Number	Item	Date(s)	Recorded By
1	Identify the most commonly installed lavatories, tubs, sinks, and toilets.		

MODULE 02112-05 – INTRODUCTION TO DRAIN, WASTE, AND VENT (DWV) SYSTEMS

Task Number	Item	Date(s)	Recorded By
1	Sketch a simple DWV system, label its components, and size the pipe.		

MODULE 02113-05 – INTRODUCTION TO WATER DISTRIBUTION SYSTEMS

Task Number	Item	Date(s)	Recorded By
1	Identify the major components of a water distribution system, and describe the function of each component.		

Level Two

MODULE 02201-05 – PLUMBING MATH TWO

Task Number	Item	Date(s)	Recorded By
1	Demonstrate the steps needed to calculate a 45-degree offset around an obstruction. Create a list of tools/charts needed for this.		
2	Determine the length of pipe with fittings installed after calculating the offset.		
3	Draw a diagram that illustrates the difference between a simple and a rolling offset.		
4	Using appropriate charts, calculate, fabricate, and install a 60-degree simple and parallel offset.		
5	Calculate the rolling offset using a framing square.		

MODULE 02202-05 – READING COMMERCIAL DRAWINGS

Task Number	Item	Date(s)	Recorded By
1	Using a site plan, interpret or explain information as required by the instructor.		
2	Write an RFI.		
3	Using the site plan provided, locate plumbing entry points.		
4	Use cut sheets and floor plans to lay out fixture rough-ins.		
5	Do a material takeoff for DWV and water supply systems. Size pipes according the local code. Create an isometric drawing.		

MODULE 02203-05 – HANGERS, SUPPORTS, STRUCTURAL PENETRATIONS, AND FIRE STOPPING

Task Number	Item	Date(s)	Recorded By
1	Install pipe hangers and supports for DWV and water supply systems according to local applicable codes and manufacturer's specifications.		
2	Modify structural members using the appropriate tools and without weakening the structure.		
3	Install common types of fire-stopping materials in penetrations through fire-rated structural members, walls, floors, and ceilings.		

MODULE 02204-05 – INSTALLING AND TESTING DWV PIPING

Task Number	Item	Date(s)	Recorded By
1	Develop a material takeoff from a given set of plans.		
2	Use plans and fixture rough-in sheets or rough-in book to determine location of fixtures and route of the plumbing.		
3	Locate the stack within the structure.		
4	Demonstrate an ability to install a DWV system using appropriate hangers and correct grade.		
5	Modify structural members using the appropriate tools without weakening the structure following the applicable code.		
6	Demonstrate the ability to correctly size and install a building sewer and a building drain, and final connection.		
7	Test a DWV system according to code.		

MODULE 02205-05 – INSTALLING ROOF, FLOOR, AND AREA DRAINS

Task Number	Item	Date(s)	Recorded By
1	Use a surveyor's level or transit to determine the elevation of a floor or area drain.		
2	Install roof, floor, and area drains.		
3	Install waterproof membranes and flashing.		

MODULE 02206-05 – TYPES OF VALVES

Task Number	Item	Date(s)	Recorded By
1	Identify types of valves.		
2	Identify parts of valves.		
3	Identify applications of valves.		

MODULE 02207-05 – INSTALLING AND TESTING WATER SUPPLY PIPING

Task Number	Item	Date(s)	Recorded By
1	Demonstrate the ability to locate a water meter.		
2	Develop a water supply piping material takeoff from a given set of plans.		
3	Using instructor-provided plans and fixture rough-in sheets, determine location of fixtures and route of the water supply piping.		
4	Describe procedures for modifying a structural member without weakening it, using the appropriate procedures and codes.		
5	Demonstrate the ability to correctly size and install a water service line including backflow preventer.		
6	Describe how to properly test a water supply system.		

MODULE 02208-05 – INSTALLING FIXTURES, VALVES, AND FAUCETS

Task Number	Item	Date(s)	Recorded By
1	Demonstrate how to protect fixtures after delivery and before occupancy.		
2	Demonstrate the ability to install bathtubs, shower stalls, valves, and bath/shower faucets.		
3	Demonstrate the ability to install lavatories, sinks, sink faucets, and pop-up drains.		
4	Demonstrate the ability to install water closets, urinals, and test valves.		

Level Three

MODULE 02209-05 – INTRODUCTION TO ELECTRICITY

Task Number	Item	Date(s)	Recorded By
1	Demonstrate use of an Ohmmeter.		
2	Describe the difference between a series and a parallel circuit.		
3	Demonstrate use of power formulas.		
4	State and demonstrate performance requirements.		

MODULE 02210-05 – INSTALLING WATER HEATERS

Task Number	Item	Date(s)	Recorded By
1	Identify and explain the basic functions of the components of water heaters.		
2	Demonstrate how to install an electric water heater.		
3	Demonstrate how to install a gas water heater.		

MODULE 02211-05 – FUEL GAS SYSTEMS

Task Number	Item	Date(s)	Recorded By
1	Properly connect appliances to the fuel gas system.		
2	Design, size, purge, and test fuel gas systems.		

MODULE 02212-05 – SERVICING OF FIXTURES, VALVES, AND FAUCETS

Task Number	Item	Date(s)	Recorded By
1	Diagnose the cause of problems in fixtures, valves, and faucets requiring repair or maintenance.		
2	Repair fixtures using the proper tools and replacement parts.		
3	Use manufacturer's instructions to disassemble and reassemble a valve.		

Level Four

MODULE 02301-06 – APPLIED MATH

This is a knowledge-based module; there is no performance testing.

MODULE 02302-06 – SIZING WATER SUPPLY PIPING

Task Number	Item	Date(s)	Recorded By
1	Using design information provided by the instructor, lay out a water supply system.		
2	Using design information provided by the instructor, calculate developed lengths of branches for a given water supply system.		

MODULE 02303-06 – POTABLE WATER TREATMENT

Task Number	Item	Date(s)	Recorded By
1	Flush out visible contaminants from a plumbing system.		
2	Disinfect a potable water plumbing system.		
3	Identify the basic equipment necessary to solve specific water quality problems.		
4	Install water-conditioning equipment.		

MODULE 02304-06 – BACKFLOW PREVENTERS

Task Number	Item	Date(s)	Recorded By
1	Install common types of backflow preventers.		

MODULE 02305-06 – TYPES OF VENTING

Task Number	Item	Date(s)	Recorded By
1	Install different types of vents.		

MODULE 02306-06 – SIZING DWV AND STORM SYSTEMS

Task Number	Item	Date(s)	Recorded By
1	Calculate drainage fixture units for a plumbing system.		
2	Size branch lines for plumbing fixtures.		
3	Size waste stacks.		
4	Size building drains and sewers.		
5	Size vents according to local code.		
6	Determine annual rainfall and 10-, 25-, and 100-year expectations.		
7	Calculate the surface of a roof for storm system sizing.		
8	Size conventional roof drainage systems for storm water removal.		

MODULE 02307-06 – SEWAGE PUMPS AND SUMP PUMPS

Task Number	Item	Date(s)	Recorded By
1	Install and adjust sensors, switches, and alarms in sewage and sump pumps.		
2	Using a detailed drawing provided by the instructor, identify system components.		
3	Install a sump pump.		
4	Troubleshoot and repair sewage and sump pumps.		

MODULE 02308-06 – CORROSIVE-RESISTANT WASTE PIPING

Task Number	Item	Date(s)	Recorded By
1	Determine when corrosive-resistant waste piping needs to be installed.		

- 2 Connect three different types of corrosive-resistant waste piping using proper techniques and materials.
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MODULE 02309-06 – COMPRESSED AIR

Task Number	Item	Date(s)	Recorded By
1	Install a basic compressed air system.		
2	Identify components of compressed air systems.		

MODULE 02401-06 – BUSINESS PRINCIPLES FOR PLUMBERS

Task Number	Item	Date(s)	Recorded By
1	Prepare a material takeoff as part of an estimate.		

MODULE 02402-06 – INTRODUCTORY SKILLS FOR THE CREW LEADER

This is a knowledge-based module; there is no performance testing.

MODULE 02403-06 – WATER PRESSURE BOOSTER AND RECIRCULATION SYSTEMS

Task Number	Item	Date(s)	Recorded By
1	Install the basic components of a recirculation system.		
2	Use the local plumbing code to find and cite requirements for recirculation systems.		

MODULE 02404-06 – INDIRECT AND SPECIAL WASTE

Task Number	Item	Date(s)	Recorded By
1	Identify and install an indirect waste system.		
2	Identify and install an interceptor.		

MODULE 02405-06 – HYDRONIC AND SOLAR HEATING SYSTEMS

Task Number	Item	Date(s)	Recorded By
1	Lay out and build a hydronic or a solar heating system.		

MODULE 02406-06 – CODES

Task Number	Item	Date(s)	Recorded By
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Use the plumbing code recognized in your area to find and cite references.

MODULE 02407-06 – SERVICING PIPING SYSTEMS, FIXTURES, AND APPLIANCES

Task Number	Item	Date(s)	Recorded By
1	Troubleshoot and repair water supply problems.		
2	Troubleshoot and repair water heater problems.		
3	Troubleshoot and repair DWV problems.		

MODULE 02408-06 – PRIVATE WATER SUPPLY WELL SYSTEMS

Task Number	Item	Date(s)	Recorded By
1	Assemble and disassemble given components for private water supply well systems.		

MODULE 02409-06 – PRIVATE WASTE DISPOSAL SYSTEMS

This is a knowledge-based module; there is no performance testing.

MODULE 02410-06 – SWIMMING POOLS AND HOT TUBS

Task Number	Item	Date(s)	Recorded By
1	Calculate volume and turnover rate of a pool using your local code.		
2	Identify components of piping for a spa (match this exercise with <i>Figure 14</i>).		

MODULE 02411-06 – PLUMBING FOR MOBILE HOMES AND TRAVEL TRAILERS

Task Number	Item	Date(s)	Recorded By
1	Lay out a mobile home park for a minimum of 10 units.		