



Level One

MODULE 02101-05 – INTRODUCTION TO THE PLUMBING PROFESSION

Transparencies
Markers/chalk
Blank acetate sheets
Transparency pens
Pencils and scratch paper
Overhead projector and screen
Whiteboard/chalkboard
Appropriate personal protective equipment
Copies of your local code
International Plumbing Code (IPC)
Uniform Plumbing Code (UPC)
National Standard Plumbing Code (NSPC)
Module Examinations

MODULE 02102-05 – PLUMBING SAFETY

- Transparencies
- Markers/chalk
- Blank acetate sheets
- Transparency pens
- Pencils and scratch paper
- Overhead projector and screen
- Whiteboard/chalkboard
- Appropriate personal protective equipment
- Copies of your local code
- Copies of your company's safety program
- Examples of personal protective equipment:
 - Gloves
 - Hard hat
 - Eye protection
 - Hearing protection
 - Safety shoes
 - Respiratory protection
 - Fall protection (body harness)
- Rubber gloves to conduct an air test
- Respirators
- Ladders
 - 29 CFR 1904, 1910, 1926, and 1929*
- Lockout/tagout kit
- Materials to clean a respirator
- Several sample MSDSs, including:
 - PVC adhesive MSDS
 - Concrete dust MSDS
- Sample safety plan
- Sample safety signs
- Hand and power tools:
 - Bladed
 - Impact
 - Power
 - Electrically powered
 - Liquid fuel
 - Demolition saw
 - Skill saw
 - Reciprocating saw
 - Power drill
- Gas detection meter
- Sample of intrinsically safe/explosion-proof equipment
- Copies of Figure 36
- Sample emergency action plans
- Module Examinations
- Performance Profile Sheets

MODULE 02103-05 – PLUMBING TOOLS

- Transparencies
- Markers/chalk
- Blank acetate sheets
- Transparency pens
- Pencils and scratch paper
- Overhead projector and screen
- Whiteboard/chalkboard
- Appropriate personal protective equipment
- Copies of your local code
- Plumber's toolbox
- Damaged and unsafe tools
- Measuring and layout tools
- Variety of squares, including:
 - Speed
 - Combination
 - Framing
- Levels and precision measuring tools
- Sections of iron pipe
- Torpedo levels
- Plumb bobs
- Sections of vertical pipe
- Chalk lines
- Tooth-edged cutting tools, including:
 - Hacksaws
 - Reciprocating saws
 - Portable band saws
 - Abrasive saws
- Saw blades: 18, 14, and 32 teeth per inch
- Damaged saws
- Wood and cold chisels
- Chisel with mushroomed head
- Variety of smooth-edged cutting tools
- Keel crayon
- Soapstone
- Variety of drills, including:
 - Portable electric
 - Offset
 - Cordless
- Drill bits
- Die tool sets
- Soldering tools
- Variety of wrenches, including:
 - Pipe
 - Pipe tongs
 - Strap
 - Spud

Open-end
Adjustable
Basin
Monkey
Torque

Pliers

Damaged hammers

Maul

Wood-splitting wedge

Sections of wood

Hollow-shank screwdriver

Bits

Vises

Module Examinations

Performance Profile Sheets

MODULE 02104-05 – INTRODUCTION TO PLUMBING MATH

Transparencies

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Overhead projector and screen

Whiteboard/chalkboard

Appropriate personal protective equipment

Copies of your local code

Piece of wood

Handsaw

Calculators

Sections of pipe

Measuring tools

Module Examinations

Performance Profile Sheets

MODULE 02105-05 – INTRODUCTION TO PLUMBING DRAWINGS

Transparencies

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Overhead projector and screen

Whiteboard/chalkboard

Appropriate personal protective equipment

Copies of your local code

Complete set of construction drawings

Sample specifications and their corresponding drawings

A variety of scales, including:

- Architect's scale

- 1/4 scale

- Engineer's scale

- Metric scale

Drafting paper to sketch isometric drawings

Module Examinations

Performance Profile Sheets

MODULE 02106-05 – PLASTIC PIPE AND FITTINGS

Transparencies

Markers/chalk

Blank acetate sheets

Transparency pens

Pencils and scratch paper

Overhead projector and screen

Whiteboard/chalkboard

Appropriate personal protective equipment

Copies of your local code

Flexible pipe

Pipe labels

Sections of plastic pipe, including:

ABS (acrylonitrile-butadiene-styrene)

PVC (polyvinyl chloride)

CPVC (chlorinated polyvinyl chloride)

PE (polyethylene)

PEX (cross-linked polyethylene)

PB (polybutylene)

Sample material safety data sheets (MSDS) for plastic pipe

Tools for measuring

Tools for cutting pipe

Deburring tools

Miter box

Plastic saw for cutting PVC pipe

CPVC or PVC cement or all-purpose cement conforming to ASTM F-493 standards

PVC bell-and-spigot pipe

Lubricant

Tools used to join PEX tubing, including:

Insert and crimp-ring system

Tubing cutter

Hand-crimping tool

Go-no-go gauge

Cutter designed for plastic tubing

PEX ring

Expander tool

Mechanical joints and clamps

Compression collars

Tools for the butt-fusion method, including:

Temperature indicator stick

Heating tool

Fusion timer

Socket face

Cold ring

Manufacturers Standardization Society's MSS40 hanger standard

National Fire Protection Association (NFPA) Chapter 13

Module Examinations

Performance Profile Sheets

Copies of Quick Quiz

MODULE 02107-05 – COPPER PIPE AND FITTINGS

Transparencies
Markers/chalk
Blank acetate sheets
Transparency pens
Pencils and scratch paper
Overhead projector and screen
Whiteboard/chalkboard
Appropriate personal protective equipment
Copies of your local code
Access to a fire extinguisher
Sections of copper pipe
Tee-pulling tool
Fittings and valves, including:
 Water supply fittings
 Water supply valves
 DWV fittings
 Alternative fittings
Tools for measuring copper pipe
Copper cutter
Handheld tube cutter
Internal tube cutter
Sizing tool
Tools to form sweat joints, compression joints, and flare joints
Variety of soldering tools, including an acetylene torch
Tools to roll groove and cut groove copper pipe
Pipe attachments for wood-frame construction
National Fire Protection Association (NFPA) Chapter 13
Manufacturers Standardization Society MSS40 hanger standards
Pressure gauge
Test plug
Module Examinations
Performance Profile Sheets

MODULE 02108-05 – CAST-IRON PIPE AND FITTINGS

Transparencies
Markers/chalk
Blank acetate sheets
Transparency pens
Pencils and scratch paper
Overhead projector and screen
Whiteboard/chalkboard
Appropriate personal protective equipment
Cast-Iron Soil Pipe Institute (CISPI) handbook
Sections of hub-and-spigot pipe (single and double hub) in a variety of sizes
Sections of no-hub pipe in a variety of sizes
A variety of fittings with manufacturer labels
A variety of bends, including:
 Long bends
 Sweeps
 Heel inlets
 Closet bends
 Closet flanges
A variety of branches, including:
 Wyes
 Double wyes
 Sanitary tees
 Double sanitary tees
 Sanitary crosses
Increasesers
Traps
Folding rule
Tape measure
Soil pipe cutter
Neoprene gasket
Chain puller, lead hammer, or pushing bar
Rubber lubricant
Oakum fiber (white and brown)
Yarning iron
Running rope
Spring clamp
Lead pot and ladle
Packing iron
A variety of caulking irons
Pickout iron
Ball-peen hammer
Couplings
Torque wrench
Sway braces
2003 International Building Code

Screws, lag screws, or large nails for wooden structures
Beam clamps or C-clamps for metal structures
Expansion anchors or threaded masonry fasteners
Rotary hammer drill
Module Examinations
Performance Profile Sheets
Copies of Quick Quiz

MODULE 02109-05 – CARBON STEEL PIPE AND FITTINGS

Transparencies
Markers/chalk
Blank acetate sheets
Transparency pens
Pencils and scratch paper
Overhead projector and screen
Whiteboard/chalkboard
Appropriate personal protective equipment
Copies of your local code
Sections of ASTM-approved pipe
Steel pipe in different sizes
Steel pipe fittings
Steel pipe cutter
Ground joint union
A variety of couplings and fittings
Globe, gate, ball, and stop-and-waste valves
Threaded pipe
Threading die and stock
Cutting oil
Tape measure
Marking tool
Two pipe wrenches of appropriate size
Hand and power threaders
Straight, offset, and compound-leverage pipe wrenches
Hand die and stock
Pipe joint compound and sealant tape
NFPA Chapter 13
MSS40 hanger standards
Pipe attachments, including supports, channels, and clamps
Connectors
Structural attachments
Module Examinations
Performance Profile Sheets

MODULE 02110-05 – CORRUGATED STAINLESS STEEL TUBING

Transparencies
Markers/chalk
Blank acetate sheets
Transparency pens
Pencils and scratch paper
Overhead projector and screen
Whiteboard/chalkboard
Appropriate personal protective equipment
Copies of your local code
Sections of corrugated stainless steel tubing by a variety of manufacturers
Tube cutters
Tee fittings
Appliance regulator
Examples of fuel gas codes and standards
Straight fittings
Coupling fittings
Bushings
Tools to install and assemble fittings
Module Examinations
Performance Profile Sheets

MODULE 02111-05 – FIXTURES AND FAUCETS

Transparencies
Markers/chalk
Blank acetate sheets
Transparency pens
Pencils and scratch paper
Overhead projector and screen
Whiteboard/chalkboard
Appropriate personal protective equipment
Copies of your local code
A variety of porcelain, cast iron, sheet steel, stainless steel, and plastic fixtures
Faucet for wheelchair-accessible lavatory
Electric eye
A variety of flushing devices
Directional tee with an internal baffle
Americans with Disabilities Act of 1990 (ADA) Standards for Accessible Design
A variety of photos of fixtures
Module Examinations
Performance Profile Sheets
Copies of Quick Quiz

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

- Transparencies
- Markers/chalk
- Blank acetate sheets
- Transparency pens
- Pencils and scratch paper
- Overhead projector and screen
- Whiteboard/chalkboard
- Appropriate personal protective equipment
- Copies of your local code
- DWV system design drawings
- P-traps
- Copies of *Figure 8* with the callouts covered
- Drainage fittings made from a variety of materials
- DWV fittings, including:
 - Bends
 - Adapters
 - Cleanouts
 - Tees
 - Wyes
 - Increasers
 - Offsets
- Torpedo level
- Plans for a municipal waste treatment plant
- Plans for a private waste disposal system
- Module Examinations
- Performance Profile Sheets

MODULE 02113-05 – INTRODUCTION TO WATER DISTRIBUTION SYSTEMS

- Transparencies
- Markers/chalk
- Blank acetate sheets
- Transparency pens
- Pencils and scratch paper
- Overhead projector and screen
- Whiteboard/chalkboard
- Appropriate personal protective equipment
- Copies of your local code
- Copies of *Figure 4* with the callouts covered
- Sample water distribution piping diagram
- Attachments, including:
 - Stems
 - Discs
 - Seat rings
 - Disc holders or guides
 - Wedges
 - Bushings
- A variety of valves, including:
 - Gate valves
 - Globe valves
 - Angle valves
 - Ball valves
 - Check valves
 - Pressure regulator valves
 - Supply stop valves
 - Temperature and pressure relief valves
- Drafting paper
- Module Examinations
- Performance Profile Sheets

Level Two

MODULE 02201-05 – PLUMBING MATH TWO

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Scientific (trigonometric) calculator
Framing square
Tape measure
Folding rule
Wooden rule
Chalk
Several 2×4 s
Module Examinations
Performance Profile Sheets

MODULE 02202-05 – READING COMMERCIAL DRAWINGS

Overhead projector and screen

Transparencies

Blank acetate sheets

Transparency pens

Whiteboard/chalkboard

Markers/chalk

Pencils and scratch paper

Appropriate personal protective equipment

Copies of your local code

Commercial drawings:

- Civil drawings (site plans)

- Architectural drawings

- Structural drawings

- Mechanical drawings

- Plumbing drawings

- Electrical drawings

Sample contractual documents:

- Addenda

- Change orders

- RFIs

- Clarifications

Blank RFI forms

Sample worksheet drawings:

- Floor plans and corresponding schedules

- Isometric drawing of a supply and DWV system

- Plumbing plans and corresponding schedules and isometric drawings

- Plumbing plans and corresponding approved submittal data and cut sheets

- Coordination drawings

- As-built drawings

Drawing paper

Module Examinations

Performance Profile Sheets

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

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Calculators
A variety of pipe attachments
Notched steel clamps and standard channels
A variety of connectors
Reducing rod coupling
Two threaded support rods of different sizes
Powder-actuated fastening tool
Published guidelines for powder-actuated fastening tool
Concrete inserts, support rods, and appropriate nuts
Engineer's specifications for hanger installation
Sections of floor joists
Sections of pipe
Tools and materials for drilling
Tools and materials for notching
Approved and unapproved fire-stopping materials and sealants
Steel collar lined with an intumescent block
Tools and materials to box floor joists
Tools and materials to add furring strips
Tools and materials to build a chase
A news article highlighting the importance of fire-stopping materials
Module Examinations
Performance Profile Sheets

MODULE 02204-05 – INSTALLING AND TESTING DWV PIPING

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Plans and fixture rough-in sheets
Rough-in book
Sample material takeoff forms
Floor plans
Manufacturers' rough-in sheets
Variety of carrier fittings
Variety of carriers used to support urinals and other fixtures
Variety of lavatory and sink carriers
Blocking materials
Job/project specifications
Sample plot plans
General-purpose level
Builder's level
Stadia rod
Plumb bob
Basic framing
DWV stack
Fixture drains
Variety of fittings
Tools to complete a DWV installation
Sample architectural plans without the fixture locations marked
Drawing paper
Daily log
Testing tools and equipment
Module Examinations
Performance Profile Sheets

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

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Roof, floor, and area drains
Copies of plans and specifications
Surveyor's level
Straight board
String line
Copies of *Figure 18* with the callouts covered
Tools used to cut roof openings
Sections of roof deck
Flashing or a waterproof membrane
Tools to install drains
Copies of Quick Quiz
Module Examinations
Performance Profile Sheets

MODULE 02206-05 – TYPES OF VALVES

Overhead projector and screen

Transparencies

Blank acetate sheets

Transparency pens

Whiteboard/chalkboard

Markers/chalk

Pencils and scratch paper

Appropriate personal protective equipment

Copies of your local code

Copies of the valve cross section in *Figure 3* with the callouts covered

Copies of the valve drawing in *Figure 5* with the callouts covered

Copies of *Figure 12* with the callouts covered

Float valve assembly

Variety of packing materials

Variety of valves, including the following:

- Gate

- Globe

- Angle

- Ball

- Butterfly

- Check

- Flushometer

- Flush

- Plug

- Temperature and pressure (T/P)

- Pressure regulator

- Supply stop

- Float-controlled

- Backwater

Flushometer and float-controlled valve repair kits and faulty flushometer and float-controlled valves

A variety of other faulty valves

Tools to repair valves

Module Examinations

Performance Profile Sheets

MODULE 02207-05 – INSTALLING AND TESTING WATER SUPPLY PIPING

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Construction plans
Takeoff drawings
Approved submittal data
Fixture rough-in sheets
Job specifications
Copies of an inspector's test record
Variety of meters larger than 1½ inches in diameter
Tools to plumb and set the meters
Sizing tables
Pipe sleeves
Sections of pipe
Backing boards
Ells
Module Examinations
Performance Profile Sheets

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

Overhead projector and screen

Transparencies

Blank acetate sheets

Transparency pens

Whiteboard/chalkboard

Markers/chalk

Pencils and scratch paper

Appropriate personal protective equipment

Copies of your local code

Variety of fixtures

Cardboard cartons to protect fixtures

Bathtub

Blocking

Variety of valves, including threaded valves, soldered valves, solvent-welded valves, flanged valves, compression connection valves

Valves for water closets, including float-controlled valves and manual flush valves

Variety of threaded valves

Teflon® tape or pipe dope

Pipe-reaming tool

Copper-cleaning tool

CPVC primer and solvent

Stubout

Copies of *Figures 11, 12, and 13* with callouts covered

Flushometer control stop

Manufacturer's instructions for a variety of valves

Uncut countertop

Rim-mounted sink

Fixture sealant

Lift rod assembly

Manufacturer's instructions for lavatories, sinks, and pop-up drains

New water closets and urinals

Tools to install fixtures, valves, and faucets

Copies of the Quick Quiz

Module Examinations

Performance Profile Sheets

MODULE 02209-05 – INTRODUCTION TO ELECTRICITY

- Overhead projector and screen
- Transparencies
- Blank acetate sheets
- Transparency pens
- Whiteboard/chalkboard
- Markers/chalk
- Pencils and scratch paper
- Appropriate personal protective equipment
- Copies of your local code
- Current edition of the *National Electrical Code*[®] (NEC[®])
- Copy of *NFPA 70*
- Voltmeter
- Variety of insulated tools
- Variety of magnets and magnetic objects
- In-line and clamp-on ammeters
- Voltage meters
- Ohmmeters
- Variety of wiring diagrams, including the following:
 - Wiring diagrams
 - Simplified schematic diagrams
 - Ladder diagrams
 - Manufacturer's component location diagrams
 - Circuit diagrams
- Variety of switches
- Variety of fuses
- Variety of relays
- Variety of overload protection devices
- Circuit board
- Digital readout
- Immersion element
- Anode
- Manufacturer's instructions for an electric water heater
- Module Examinations
- Performance Profile Sheets

MODULE 02210-05 – INSTALLING WATER HEATERS

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Manufacturers' instructions for installing water heaters
Copies of *Figure 6* with the callouts covered
Water heater specifications
Dip tube
Anti-siphon tube
Copies of *Figure 17* with the callouts covered
Drip lines
A variety of safety pans
Module Examinations
Performance Profile Sheets

MODULE 02211-05 – FUEL GAS SYSTEMS

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
National Fire Prevention Association (NFPA) standards that apply to fuel gas and fuel oil
Manufacturer's instructions and product warranties
Manufacturer's installation procedures for a variety of appliances
Manometer
Variety of appliance labels
Anode and cleaning materials
Float gauge
Plumbing drawings
Gas supplier installation information
Pump manufacturer's specifications
Approved fire-stopping materials
Module Examinations
Performance Profile Sheets

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

Overhead projector and screen

Transparencies

Blank acetate sheets

Transparency pens

Whiteboard/chalkboard

Markers/chalk

Pencils and scratch paper

Appropriate personal protective equipment

Copies of your local code

Globe valve

Wrench

Screw extractor

Valves with broken screws

Variety of sizes and shapes of preformed packing

Tools to repair globe and angle valves and compression faucets

Flushometer repair kit

Float-controlled valve repair kit

Balancing valve

T&P valve

Worn spout O-ring

Old water filter

Water filter cartridges and accompanying manufacturer's instructions

Electronic controls, batteries, and accompanying manufacturer's instructions

Variety of faulty globe, gate, flushometer, and float-controlled valves,
as well as repair kits and accompanying manufacturer's instructions

Variety of faulty tank flush, balancing, and temperature and pressure (T&P) valves,
as well as repair kits and accompanying manufacturer's instructions

Variety of faulty faucets

Module Examinations

Performance Profile Sheets

Level Three

MODULE 02301-06 – APPLIED MATH

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Sketch paper
English ruler, yardstick, gallon jug, measuring cup, and hand weights
Water
Calculators
String and ruler
Liquid, bimetallic, and electrical thermometers
Examples of an inclined plane, lever, pulley, wedge, screw, and wheel and axle
Wrench
Doorstop
Drill bit
Valve with a wheel handle
Section of pipe, friction caps, water, hairdryer or blowtorch (optional)
TV/VCR (optional)
Explosion Danger Lurks videotape (optional)
Two 4-inch pipes of different diameters, caps for the bottom end of each (optional)
Assorted blocks, levers, wheels, and twine (optional)
Module Examinations

MODULE 02302-06 – SIZING WATER SUPPLY PIPING

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Calculators
Bucket of water
Basin
Copies of blueprints that include plumbing drawings
Copies of *Table 1* (optional)
Copies of two of the standards cited in your local code (optional)
Isometric drawings of a water supply piping system (optional)
Copies of Quick Quiz (optional)
Module Examinations
Performance Profile Sheet

MODULE 02303-06 – POTABLE WATER TREATMENT

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Microscope
Assorted slides prepared with drops of water
Samples of liquid and solid chlorine
Diaphragm pump chlorinator
Injector chlorinator
Tablet chlorinator
Mechanical filter
Neutralizing filter
Oxidizing filter
Oxidizing agent
Alum
Test kit for iron contamination with appropriate water samples
Test kit for acidity with appropriate water samples
Copies of Quick Quiz (optional)
Module Examinations
Performance Profile Sheets

MODULE 02304-06 – BACKFLOW PREVENTERS

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Appropriate tools for assembling and disassembling various types of backflow preventers
Various types of backflow preventers with manufacturer's instructions, including:

- Atmospheric vacuum breaker (AVB)
- Pressure-type vacuum breaker (PVB)
- Double-check valve assembly (DCV)
- Dual-check valve backflow preventer (DC)
- Reduced-pressure zone principle backflow preventer (RPZ)

Copies of Quick Quiz (optional)
Module Examinations
Performance Profile Sheets

MODULE 02305-06 – TYPES OF VENTING

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Straw, glass, and container for water
Selections from a model code other than the one on which your local code is based
Access to several computers with Internet connections (optional)
Copies of Quick Quiz (optional)
Module Examinations
Performance Profile Sheets

MODULE 02306-06 – SIZING DWV AND STORM SYSTEMS

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Calculators
Module Examinations
Performance Profile Sheets

MODULE 02307-06 – SEWAGE PUMPS AND SUMP PUMPS

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Calculators
Small sewage or storm water pump
Copies of Quick Quiz
Module Examinations
Performance Profile Sheets

MODULE 02308-06 – CORROSIVE-RESISTANT WASTE PIPING

Overhead projector and screen

Transparencies

Blank acetate sheets

Transparency pens

Whiteboard/chalkboard

Markers/chalk

Pencils and scratch paper

Appropriate personal protective equipment

Copies of your local code

Glass pipe cutter

Manufacturers' catalogs for plastic pipe

Sections of pipe materials used for corrosive waste, including:

- Borosilicate glass pipe, both beaded and plain end

- Plastic pipe

- Stainless steel pipe

- Silicon cast-iron pipe, both hub-and-spigot and no-hub styles

Appropriate materials and tools to join the various types of piping, such as:

- Couplings for borosilicate glass pipe

- Several clean cloths

- Water

- Adhesives specific to the types of plastic pipe

- Ratchet wrenches

- Fusion fittings and equipment

- Mechanical joints

Color version of the NFPA diamond

Copies of *NFPA Standard 704*

Several sample MSDSs

Module Examinations

Performance Profile Sheets

MODULE 02309-06 – COMPRESSED AIR

Overhead projector and screen

Transparencies

Blank acetate sheets

Transparency pens

Whiteboard/chalkboard

Markers/chalk

Pencils and scratch paper

Appropriate personal protective equipment

Copies of your local code

Calculators

Examples of equipment that use compressed air

A variety of devices that reduce noise and vibration, including:

- Intake silencers

- Flexible metal hoses

- Shock absorbing mounts

Air throttle valve, air pressure regulator, and lubricator

Copies of Quick Quiz

Module Examinations

Performance Profile Sheets

Level Four

MODULE 02401-06 – BUSINESS PRINCIPLES FOR PLUMBERS

- Overhead projector and screen
- Transparencies
- Blank acetate sheets
- Transparency pens
- Whiteboard/chalkboard
- Markers/chalk
- Pencils and scratch paper
- Appropriate personal protective equipment
- Copies of your local code
- Calculators
- Copies of well written and poorly written estimates
- Sample invoices from various suppliers
- Sample inventory forms showing data from previous inventories
- Copies of *Figure 9*
- Sample critical path management (CPM) diagram covering a large job or a substantial part of a large job
- Copies of the handout “Pipe Specifications of the Government” (optional)
- Project drawings and specifications, and copies of *Figures 1* through *3* (optional)
- Copies of *Figure 12* (optional)
- Module Examinations
- Performance Profile Sheets

MODULE 02402-06 – INTRODUCTORY SKILLS FOR THE CREW LEADER

- Transparencies
- Markers/chalk
- Calculator
- Pencils/scratch paper
- Example of OSHA Log Books
- Examples of MSDS Sheets
- Copies of Module Examinations
- Overhead projector
- Screen (or large blank wall)
- Whiteboard/chalkboard

MODULE 02403-06 – WATER PRESSURE BOOSTER AND RECIRCULATION SYSTEMS

Overhead projector and screen

Transparencies

Blank acetate sheets

Transparency pens

Whiteboard/chalkboard

Markers/chalk

Pencils and scratch paper

Appropriate personal protective equipment

Copies of your local code

Copies of *Figures 4 and 7*

Small plastic bottle with two holes punched in the throat, on opposite sides, and a third hole punched in the bottom. The bottle should have string tied through the pair of holes at the top, with the knot over the center of the bottle. Leave about 3 feet of string attached.

Various components of a water booster system with manufacturer's instructions, including the following:

- Small storage tank

- Centrifugal water booster pump

- Vertical turbine pump

- Vibration isolators

- Temperature and flow sensors

- Water hammer arresters

Appropriate tools for assembling and disassembling various types of water booster and recirculation systems

Pressure gauge

Copies of engineering plans for one or more types of water booster pressure systems (optional)

Copies of Quick Quiz (optional)

Module Examinations

Performance Profile Sheets

MODULE 02404-06 – INDIRECT AND SPECIAL WASTE

Overhead projector and screen

Transparencies

Blank acetate sheets

Transparency pens

Whiteboard/chalkboard

Markers/chalk

Pencils and scratch paper

Appropriate personal protective equipment

Copies of your local code

Automatic trap primer

Small grease interceptor

Copies of site plans that illustrate the location of a large interceptor (optional)

Module Examinations

Performance Profile Sheets

MODULE 02405-06 – HYDRONIC AND SOLAR HEATING SYSTEMS

- Overhead projector and screen
- Transparencies
- Blank acetate sheets
- Transparency pens
- Whiteboard/chalkboard
- Markers/chalk
- Pencils and scratch paper
- Appropriate personal protective equipment
- Copies of your local code
- Copies of *Figure 1* with the callouts covered
- Copies of *Figures 11* through *15* with the callouts covered (optional)
- Module Examinations
- Performance Profile Sheets

MODULE 02406-06 – CODES

- Overhead projector and screen
- Transparencies
- Blank acetate sheets
- Transparency pens
- Whiteboard/chalkboard
- Markers/chalk
- Pencils and scratch paper
- Appropriate personal protective equipment
- Copies of your local code
- Copies of *Figure 1* with callouts covered
- Saddle fitting plus additional fittings, piping materials, or other components prohibited by your local code (if any)
- Examples of actual code change proposals submitted to ICC or another model code organization
- Copies of *Figure 2*
- Copy of the model code on which the local code is based (optional)
- Copies of Quick Quiz (optional)
- Module Examinations
- Performance Profile Sheets

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

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Several articles from relevant trade journals that offer practical tips about servicing piping systems
Sections of pipe, couplings, and mini tube cutters
Water hammer arrester and pressure-reducing valve
Schrader valve
Assorted water filters
Hand auger, power auger, various types and sizes of attachments for both, including a root-cutter, and a drain
Sections of corroded pipe
Tank flush valves, including:
 Flush valves with tank balls
 Flush valves with flapper tank balls
 Appropriate tools for assembling and disassembling flush valves
Module Examinations
Performance Profile Sheets

MODULE 02408-06 – PRIVATE WATER SUPPLY WELL SYSTEMS

Overhead projector and screen
Transparencies
Blank acetate sheets
Transparency pens
Whiteboard/chalkboard
Markers/chalk
Pencils and scratch paper
Appropriate personal protective equipment
Copies of your local code
Copies of a drilling log
Copies of *Figure 7* with callouts removed and blank lines substituted
Waterproof mechanical splice kit
Submersible pumps and appropriate assembly tools
Copies of *Figures 2* through *5* with their titles, which identify the wells, blocked out (if possible, enlarge to show greater detail) (optional)
Module Examinations
Performance Profile Sheets

MODULE 02409-06 – PRIVATE WASTE DISPOSAL SYSTEMS

- Overhead projector and screen
- Transparencies
- Blank acetate sheets
- Transparency pens
- Whiteboard/chalkboard
- Markers/chalk
- Pencils and scratch paper
- Appropriate personal protective equipment
- Copies of your local code
- Distribution box
- Calculators
- Section of perforated plastic distribution pipe, nylon screens, and section of flexible, corrugated, perforated pipe
- Copies of a system's design drawings, site plans, and soil quality data (optional)
- Copies of Quick Quiz
- Module Examinations
- Performance Profile Sheets

MODULE 02410-06 – SWIMMING POOLS AND HOT TUBS

- Overhead projector and screen
- Transparencies
- Blank acetate sheets
- Transparency pens
- Whiteboard/chalkboard
- Markers/chalk
- Pencils and scratch paper
- Appropriate personal protective equipment
- Copies of your local code
- Water supply fittings for swimming pools, as follows:
 - Vacuum fitting
 - Sidewall drain
 - Skimmer
 - Water supply fitting
- Floater, chlorine tablets, and basin of water
- Chlorine and pH test kits and samples of swimming pool water
- Copies of *Figure 14* with callouts covered (optional)
- Access to several computers with internet connections (optional)
- Module Examinations
- Performance Profile Sheets

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

Overhead projector and screen

Transparencies

Blank acetate sheets

Transparency pens

Whiteboard/chalkboard

Markers/chalk

Pencils and scratch paper

Appropriate personal protective equipment

Copies of your local code

Section of flexible pipe and quick-disconnect fitting of the same size

Hose connection vacuum breaker and a sill cock

Copies of a plot plan for a mobile home park (optional)

Module Examinations

Performance Profile Sheets