



## **12-Hour Utah Plumber Renewal Online CE**

### **Course Outline**

### **Code Hours (8)**

#### **Hour 1: Administration, Scope, and Definitions (1 Hour)**

Subtopic 1 — Code Adoption & Authority: How Utah adopts the plumbing code and enforces statewide amendments. (IPC 2021 Ch. 1; Utah Code 15A-2 & 15A-3)

Subtopic 2 — Scope & Application: What work the plumbing code covers and when other codes govern. (IPC 2021 §101–§102)

Subtopic 3 — Permits & Inspections: When permits are required and how inspections are scheduled and approved. (IPC 2021 §106–§107)

Subtopic 4 — Duties of Permit Holders & Installers: Responsibilities for compliance, listings, and instructions. (IPC 2021 §108; §303)

Subtopic 5 — Key Definitions: Terms that drive compliance throughout the code. (IPC 2021 §202)

Subtopic 6 — Referenced Standards & Conflicts: How referenced standards are invoked and conflicts resolved. (IPC 2021 §102.3; Ch. 15)

#### **Hour 2: General Regulations—Materials, Workmanship, Protection (1 Hour)**

Subtopic 1 — Approved Materials & Identification: Listing/labeling, third-party certification, and markings. (IPC 2021 §303–§307)

Subtopic 2 — Structural Protection & Corrosion Control: Sleeves, wrapping, and separation from hazards. (IPC 2021 §305)

Subtopic 3 — Support & Anchorage: Spacing, hangers, and protection against movement. (IPC 2021 §308)

Subtopic 4 — Pressure Testing & Leaks: Tests, inspections, and acceptance criteria. (IPC 2021 §312)

Subtopic 5 — Prohibited Fittings & Connections: Arrangements the code does not permit. (IPC 2021 §706; §1002)

Subtopic 6 — Alternative Materials & Methods: Getting approval for innovative products or systems. (IPC 2021 §105)

### **Hour 3: Plumbing Fixtures, Faucets, and Clearances (1 Hour)**

Subtopic 1 — Minimum Plumbing Facilities: Determining required fixture counts. (IPC 2021 §403)

Subtopic 2 — Installation, Spacing, and Accessibility: Mounting, clearances, and usability. (IPC 2021 §405)

Subtopic 3 — Fixture Fittings: Performance, flow rates, and valves. (IPC 2021 §424)

Subtopic 4 — Special Fixtures & Appliances: Food waste disposers, dishwashers, and similar. (IPC 2021 §413–§422)

Subtopic 5 — Public vs. Private Facilities: When public access fixtures are required. (IPC 2021 §403.1–§403.6)

Subtopic 6 — Protection of Surfaces & Sanitation: Smooth, nonabsorbent, and cleanable requirements. (IPC 2021 §405.4; §305.4)

### **Hour 4: Water Heaters—Safety, Installation, and Discharge (1 Hour)**

Subtopic 1 — Equipment Types & Location: Tank-type, tankless, and placement constraints. (IPC 2021 §501–§502)

Subtopic 2 — Combustion Air & Venting Interfaces: Coordination with fuel-gas and mechanical requirements. (IPC 2021 §501.8; IFGC 2021 Ch. 3 & 5 referenced)

Subtopic 3 — T&P Relief Valves: Ratings, installation, and required discharge piping. (IPC 2021 §504.6–§504.7)

Subtopic 4 — Pan, Drains, and Protection: Preventing water damage from leaks and overflows. (IPC 2021 §504.7; §307)

Subtopic 5 — Circulation & Recirculation Controls: Return piping, pumps, and scald protection. (IPC 2021 §607)

Subtopic 6 — Commissioning & Maintenance Notes: Start-up checks and service documentation. (IPC 2021 §501.6; §613)

### **Hour 5: Water Supply & Distribution—Design and Sizing (1 Hour)**

Subtopic 1 — Potable Water Quality & Separation: Keeping potable systems free from contamination. (IPC 2021 §601–§603)

Subtopic 2 — Pipe Sizing Fundamentals: Demand, velocity, pressure, and developed length. (IPC 2021 §604; App. E when adopted)

Subtopic 3 — Valves & Shutoffs: Required control locations and accessibility. (IPC 2021 §606)

Subtopic 4 — Thermal Expansion & Pressure Control: Expansion tanks and regulators. (IPC 2021 §607)

Subtopic 5 — Insulation, Protection, and Freeze Safeguards: Temperature maintenance and freeze protection. (IPC 2021 §305; §607.5)

Subtopic 6 — Materials & Joints: Approved materials and joining methods for water distribution. (IPC 2021 §605)

**Hour 6: Cross-Connection Control & Backflow Prevention (1 Hour)**

Subtopic 1 — Air Gaps & Backflow Devices: Selecting the correct method for the hazard. (IPC 2021 §608.1–§608.6)

Subtopic 2 — Assemblies, Devices, and Methods: RPZ, DCVA, PVB, and application limits. (IPC 2021 §608.14)

Subtopic 3 — Location, Access, and Drainage: Placement for testing, protection, and discharge. (IPC 2021 §608.14.1–§608.14.2)

Subtopic 4 — Thermal Expansion Interaction: Ensuring backflow protection does not create overpressure. (IPC 2021 §607.3; §608.3)

Subtopic 5 — Inspection, Testing, and Maintenance: Initial and periodic verification of protection. (IPC 2021 §312; §608.16)

Subtopic 6 — Special Hazards & Isolation: Process equipment, boilers, and auxiliary water sources. (IPC 2021 §608.16–§608.17)

**Hour 7: Sanitary Drainage—Layout, Slopes, and Cleanouts (1 Hour)**

Subtopic 1 — Piping Fundamentals & Materials: Approved piping and sizing for sanitary drainage. (IPC 2021 §701–§703)

Subtopic 2 — Fittings, Direction Changes, and Junctions: Flow-friendly arrangements and exceptions. (IPC 2021 §704–§706)

Subtopic 3 — Slope & Velocity: Minimum slopes to maintain self-scouring velocities. (IPC 2021 §704.1; §710)

Subtopic 4 — Cleanouts & Access: Required locations and clearances. (IPC 2021 §708)

Subtopic 5 — Building Sewer Connections: Transition to public or private sewage systems. (IPC 2021 §718–§722)

Subtopic 6 — Testing & Leakage: Water/air tests and acceptance criteria. (IPC 2021 §312.2–§312.4)

**Hour 8: Venting, Traps, and Utah Amendments (1 Hour)**

Subtopic 1 — Vent System Purpose & Types: Individual, common, wet, circuit, and relief vents. (IPC 2021 §901–§915)

Subtopic 2 — AAVs & Limitations: Where air admittance valves are permitted and restricted. (IPC 2021 §918)

Subtopic 3 — Trap Seal Protection: Design, trap arms, and trap seal maintenance. (IPC 2021 §1002)

Subtopic 4 — Interceptors & Separators: When grease, oil, and other interceptors are required. (IPC 2021 §1003)

Subtopic 5 — Vent Termination & Clearances: Heights, distances, and protection at the roof. (IPC 2021 §903)

Subtopic 6 — Utah Statewide Amendments Overview: Key state amendments affecting IPC application. (Utah Code 15A-3 Part 3; Utah Admin. Code R156-55c)

## **Professional Hours (4)**

### **Hour 9: Jobsite Safety for Plumbers (1 Hour)**

Subtopic 1 — Trenching & Excavation Basics: Prevent cave-ins and water intrusion with protective systems.

Subtopic 2 — Ladder, Scaffold, and Fall Protection: Use access equipment correctly to reduce fall risks.

Subtopic 3 — Confined Spaces & Atmospheric Testing: Recognize hazards and follow entry procedures.

Subtopic 4 — PPE, Cutting, and Hot Work: Select and use protection during soldering, brazing, and cutting.

Subtopic 5 — Electrical & LOTO Awareness: De-energize and lockout equipment before service.

Subtopic 6 — Heat/Cold Stress & Hydration: Manage Utah's seasonal extremes and maintain readiness.

### **Hour 10: Business Practices, Contracts, and Lien Law (1 Hour)**

Subtopic 1 — Estimating & Bidding: Build accurate scopes with materials, labor, and contingencies.

Subtopic 2 — Contracts & Change Orders: Use clear terms and document every change.

Subtopic 3 — Utah Construction Registry & Liens: Protect payment rights through proper filings.

Subtopic 4 — Scheduling & Subcontractor Coordination: Sequence trades and manage dependencies.

Subtopic 5 — Recordkeeping & Audit Readiness: Keep defensible project files and CE documentation.

Subtopic 6 — Ethics & Customer Communication: Align recommendations with client needs and code.

### **Hour 11: Water Efficiency, Sustainability, and Legionella Awareness (1 Hour)**

Subtopic 1 — Efficient Fixtures & Appliances: Select WaterSense-type options to cut consumption.

Subtopic 2 — Leak Detection & Monitoring: Apply tools and testing to curb hidden losses.

Subtopic 3 — Hot-Water Recirculation & Insulation: Shorten wait times and reduce waste.

Subtopic 4 — Nonpotable Uses & Graywater Basics: Understand opportunities and limits under code.

Subtopic 5 — Legionella Risk Factors: Control temperatures and stagnation in premise plumbing.

Subtopic 6 — Client Education: Provide maintenance tips that sustain savings and safety.

### **Hour 12: Customer Service, Documentation, and Warranty Practices (1 Hour)**

Subtopic 1 — Professional Conduct On-Site: Protect property, communicate clearly, and leave clean work areas.

Subtopic 2 — Explaining Scope & Options: Present alternatives, costs, and timelines transparently.

Subtopic 3 — Handling Complaints & Callbacks: Resolve issues quickly with documented steps.

Subtopic 4 — Photos, As-Builts, and Labels: Create records that help owners and future service.

Subtopic 5 — Warranty Terms & Preventive Plans: Set expectations and offer maintenance agreements.

Subtopic 6 — Reputation & Reviews: Encourage feedback and respond constructively to build trust.

## Course Objectives

1. By the end of this 12-hour course, licensees will interpret and apply the Utah-adopted 2021 International Plumbing Code and statewide amendments to permitting, materials, workmanship, inspections, and definitions across residential and commercial installations.
2. Correctly size, install, and protect potable water distribution and water heating systems, including valve placement, thermal-expansion control, insulation/freeze protection, T&P relief discharge, and manufacturer listing/labeling compliance.
3. Design compliant sanitary drainage and vent systems by selecting code-approved fittings, slopes, cleanout locations, trap and interceptor configurations, and vent types/terminations, and by diagnosing and correcting common field violations.
4. Select, locate, and verify backflow prevention and cross-connection control (air gaps and assemblies) appropriate to hazard level; coordinate testing/maintenance and resolve interactions with pressure/thermal-expansion control.
5. Integrate jobsite safety and professional practice requirements—including trenching/excavation, PPE, confined spaces, LOTO, hot-work precautions, ethical contracting, Utah Construction Registry/lien basics, documentation, and recordkeeping—to reduce risk and ensure compliance.
6. Implement water-efficiency and health-protection strategies (WaterSense fixture selection, leak detection, hot-water recirculation/insulation, graywater basics, and Legionella control) and clearly communicate options, scope, and warranties to clients with accurate as-builts and service plans.