



## PHCC Academy® Plumbing 101 6<sup>th</sup> Edition Syllabus

### Course Contact for Registration and Non-LMS Questions

State Chapter Partner

Refer to <https://www.phccfoundation.org/foundation/phcc-academy-partners/>

### Course Contact for Technical Problems in Absorb LMS

PHCC Academy® Staff

[AcademySupport@naphcc.org](mailto:AcademySupport@naphcc.org)

### Prerequisites

None

Welcome to the PHCC Academy® Online Apprenticeship-Related Technical Instruction program for Plumbing 101!

This program is designed to provide students who cannot attend classes in a traditional apprentice program with the same opportunity to learn the textbook fundamentals of the trade. This training course must be supplemented by your employer, through both technical assistance and on-the-job training in each area of instruction in the book.

### Course Goals

- To provide a practical introduction to the plumbing trade
- To familiarize entry-level students with a broad overview of fundamental topics in the plumbing industry
- To provide students with an understanding of basic mathematical concepts necessary for plumbing work
- To provide students with an introduction to interpreting basic construction drawings

### Required Textbook (Purchased Separately)

PHCC Educational Foundation Plumbing Apprentice & Journeyman Training Committee (2012). *Plumbing 101*, 6th ed. Clifton Park, NY: Delmar, Cengage Learning.

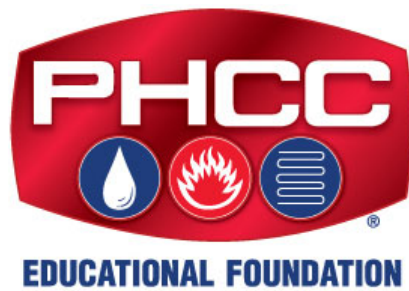
### Assignments

In each module you will be required to do the following:

- Read Chapter
- Review PowerPoint
- Watch Lesson
- Take Exam

**The Modules are titled as follows:**

- Module 1 - Plumbing History, Codes, and Principals
- Module 2 - Tools of the Plumbing Trade
- Module 3 - First Aid and Safety
- Module 4 - Basic Math for Plumbing
- Module 5 - Water Supply, Water Sources, Waste Disposal, and Sewage Disposal
- Module 6 - Mechanical Properties and Protection of Building Materials and Structures
- Module 7 - Piping Materials Used in Plumbing Work
- Module 8 - Joining Methods for DWV and Pressure Piping
- Module 9 - Squares, Square Roots, and Basic Geometry
- Module 10 - Plumbing Fixtures
- Module 11 - Faucets and Related Devices
- Module 12 - Valves
- Module 13 - Water Heaters
- Module 14 - Building Plans, Drawings, and Scale Rulers
- Module 15 - Sketching
- Comprehensive Final Exam



## PHCC Academy® Plumbing 201 6<sup>th</sup> Edition Syllabus

### Course Contact for Registration and Non-LMS Questions

State Chapter Partner

Refer to <https://www.phccfoundation.org/foundation/phcc-academy-partners/>

### Course Contact for Technical Problems in Absorb LMS

PHCC Academy® Staff

[AcademySupport@naphcc.org](mailto:AcademySupport@naphcc.org)

### Prerequisites

Plumbing 101 or equivalent

Welcome to the PHCC Academy® Online Apprenticeship-Related Technical Instruction program for Plumbing 201!

This program is designed to provide students who cannot attend classes in a traditional apprentice program with the same opportunity to learn the textbook fundamentals of the trade. This training course must be supplemented by your employer, through both technical assistance and on-the-job training in each area of instruction in the book.

### Course Goals

- To familiarize students with water distribution systems
- To familiarize students with sizing of water distribution and DWV systems
- To provide students with an understanding of mathematical concepts necessary for plumbing work
- To provide students with an understanding of interpreting trade drawings and sketches
- To introduce students to venting systems
- To introduce students to safety concepts for typical plumbing work

### Required Textbook (Purchased Separately)

PHCC Educational Foundation Plumbing Apprentice & Journeyman Training Committee (2015). *Plumbing 201*, 6th ed. Clifton Park, NY: Delmar, Cengage Learning.

### Assignments

In each module you will be required to do the following:

- Read Chapter
- Review PowerPoint
- Watch Lesson
- Take Exam

**The Modules are titled as follows:**

- Module 1 - Communication Skills & Professionalism
- Module 2 - Pipe Joining Techniques
- Module 3 - Special Applications of Plastic Pipe and Fittings
- Module 4 - Introduction to Welding
- Module 5 - Soldering, Brazing, Cutting, & Gas Welding
- Module 6 - Piping Materials, Sources, & Distribution for Potable Water
- Module 7- Water Pipe Sizing: Main-and-Branch & Individual Run Systems
- Module 8 - Water Heaters and Hot Water Distribution
- Module 9 - Cross-Connection Protection and Pipe Identification
- Module 10 - Sewers and Sewage Disposal Methods
- Module 11 - Drainage Fixture Units
- Module 12 - Building Drains
- Module 13 - Stacks
- Module 14 - Applied Plumbing Mathematics
- Module 15 - Applied Geometric Concepts
- Module 16 - Properties of Water & Air
- Module 17 - Venting Plumbing Drainage Systems
- Module 18 - Sump Pumps, Sewage Pumps, & Sewage Ejectors
- Module 19 - Plumbing Traps
- Module 20 - Fixture Supports
- Module 21 - Hoisting and Rigging
- Module 22 - Safety Concepts
- Module 23 - Rough-In Sheets, Single Line Drawings, & Isometric Drawings
- Module 24 - Details, Sections, and Exploded View Drawings
- Comprehensive Final Exam



## **PHCC Academy® Plumbing 301 2<sup>nd</sup> Edition Syllabus**

### **Course Contact for Registration and Non-LMS Questions**

State Chapter Partner

Refer to <https://www.phccfoundation.org/foundation/phcc-academy-partners/>

### **Course Contact for Technical Problems in Absorb LMS**

PHCC Academy® Staff

[AcademySupport@naphcc.org](mailto:AcademySupport@naphcc.org)

### **Prerequisites**

Plumbing 101 and 201 or equivalent

Welcome to the PHCC Academy® Online Apprenticeship-Related Technical Instruction program for Plumbing 301!

This program is designed to provide students who cannot attend classes in a traditional apprentice program with the same opportunity to learn the textbook fundamentals of the trade. This training course must be supplemented by your employer, through both technical assistance and on-the-job training in each area of instruction in the book.

### **Course Goals**

- To familiarize students with fixtures and appliances
- To familiarize students with installation methods for fixtures and appliances
- To provide students with an understanding of blueprints, drawing types, and plumbing plans
- To introduce students to fuel gas piping systems and appliances
- To introduce students to advanced mathematical concepts used in plumbing work
- To provide students with an understanding of electrical concepts related to plumbing work

### **Required Textbook (Purchased Separately)**

PHCC Educational Foundation Plumbing Apprentice & Journeyman Training Committee (2017). *Plumbing 301*, 2nd ed. Clifton Park, NY: Delmar, Cengage Learning.

### **Assignments**

In each module you will be required to do the following:

- Read Chapter
- Review PowerPoint
- Watch Lesson
- Take Exam

**The Modules are titled as follows:**

- Module 1 - Workplace Etiquette & Productivity
- Module 2 - Fixtures and Appliances: Residential
- Module 3 - Fixtures and Appliances: Commercial, Industrial, and Institutional
- Module 4 - Installation Methods
- Module 5 - Fixture Fittings, Trim, and Installation
- Module 6 - Principles of Hydronic Systems
- Module 7 - Blueprints and Specifications
- Module 8 - Drawing Types: Floor and Site Plans
- Module 9 - Plan Types: Structural, Plumbing, Electrical, and HVAC Plans
- Module 10 - Fuel Gas Installations: Gas Code, Materials, and Types
- Module 11 - Fuel Gas Installations: Piping's, Fittings, Connections
- Module 12 - Installations Appliance Regulators, Meters, and Controls
- Module 13 - Plumbing Code: Administration and Licensing
- Module 14 - Plumbing Code: Fixtures and Minimum Fixture Requirements
- Module 15 - Plumbing Tools: Elevation and Grades
- Module 16 - Plumbing Tools: Levels, Transits, and Trench Safety
- Module 17 - Plumbing Calculations: Offsets and Ratios
- Module 18 - Plumbing Calculations
- Module 19 - Storm Drainage and Sizing Storm Drains
- Module 20 - Cross Connections
- Module 21 - Ejector Systems
- Module 22 - Plumbing System Conditions: Temperature and Humidity
- Module 23 - Water Treatment
- Module 24 - Water Heaters: Heat Sources and Ancillary Piping
- Module 25 - Electrical Safety: Electric Current and Motors
- Module 26 - Electrical Safety: Circuitry and Wiring
- Module 27 - Electrical Safety: Troubleshooting Circuits
- Comprehensive Final Exam



## **PHCC Academy® Plumbing 401 2<sup>nd</sup> Edition Syllabus**

### **Course Contact for Registration and Non-LMS Questions**

State Chapter Partner

Refer to <https://www.phccfoundation.org/foundation/phcc-academy-partners/>

### **Course Contact for Technical Problems in Absorb LMS**

PHCC Academy® Staff

[AcademySupport@naphcc.org](mailto:AcademySupport@naphcc.org)

### **Prerequisites**

Plumbing 101, 201 and 301 or equivalent

Welcome to the PHCC Academy® Online Apprenticeship-Related Technical Instruction program for Plumbing 401!

This program is designed to provide students who cannot attend classes in a traditional apprentice program with the same opportunity to learn the textbook fundamentals of the trade. This training course must be supplemented by your employer, through both technical assistance and on-the-job training in each area of instruction in the book.

### **Course Goals**

- To familiarize students with service and repair techniques
- To provide students with an understanding of system sizing using blueprint reading techniques
- To familiarize students with methods for protecting the water supply
- To introduce students to heating systems and techniques
- To provide students with an understanding of pumps
- To familiarize students with the plumbing code and its application in field work

### **Required Textbook (Purchased Separately)**

PHCC Educational Foundation Plumbing Apprentice & Journeyman Training Committee (2020). *Plumbing 401*, 2nd ed. Boston, MA: Cengage Learning

### **Assignments**

In each module you will be required to do the following:

- Read Chapter
- Review PowerPoint
- Watch Lesson
- Take Exam

**The Modules are titled as follows:**

- Module 1: Service and Repair: Fixtures
- Module 2: Service and Repair: Water and Fuel Gas Distribution
- Module 3: Service and Repair: DWV Systems
- Module 4: Sizing DWV and Storm Drainage Systems
- Module 5: Sizing Water Distribution and Fuel Gas Piping Systems
- Module 6: Indirect and Special Wastes
- Module 7: Protection of the Water Supply
- Module 8: Steam Heating
- Module 9: Hydronic Heating and Controls
- Module 10: Forced Air Heating and Alternative Heating Systems
- Module 11: Pumps
- Module 12: Blueprints, Isometrics, and Material Take-Offs
- Module 13: Plumbing Code Administration and Licensing
- Module 14: Plumbing Fixtures and Minimum Fixture Requirements
- Module 15: Plumbing Codes: Water Heaters
- Module 16: Water Supply and Distribution
- Module 17: Plumbing Codes: Sanitary Drainage
- Module 18: Plumbing Codes: Indirect Wastes
- Module 19: Plumbing Codes: Vents
- Module 20: Plumbing Codes: Traps and Interceptors
- Module 21: Plumbing Codes: Storm Drainage
- Module 22: Plumbing Codes: Fuel Gas Piping
- Module 23: Plumbing Codes: Healthcare Facilities, Medical Gas, and Vacuum Systems
- Module 24: Plumbing Codes: Non-potable Water Systems
- Comprehensive Final Exam