

# PHCC Academy™

## Plumbing 401 Syllabus

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

State Chapter Partner

Refer to <http://foundation.phccweb.org> and search for PHCC Academy page for listing

### Course Contact for Technical Problems in Absorb LMS

PHCC Academy™ Staff

academy@naphcc.org

### Prerequisites

Plumbing 101, 201 and 301 or equivalent

Welcome to the PHCC Academy™ Online Apprenticeship-Related Instruction Program!

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

### Student Responsibilities

- Complete work in a timely manner.
- Read all information and assignments within the learning management system before starting the course.
- Complete all tests in this course as closed-book. Students are on the honor system.
- Complete all assignments with a passing grade of 70 percent or higher.
- Complete the course in 1 year (12 months) or request a 6-month extension before the course expiration date.
- Maintain records of on-the-job training completed.

### Employer Responsibilities

- Ensure that all students enrolled are proficient in reading and writing in English at a high school level and possess the self-motivation to complete internet-based coursework.
- Register apprentices with the U.S. Department of Labor, either through your own apprenticeship program or through your PHCC State Chapter Partner's registered apprenticeship program.

- Track the apprentice's on-the-job training hours and document such hours. Documentation records must be maintained by the employer for the duration of the apprentice's employment and must be retained as required by the U.S. Department of Labor.
- Ensure that apprentices are paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journey worker wage rate as specified in the Standards of Apprenticeship for the program under which the apprentice is participating.

#### **State Chapter Partner Responsibilities**

- Register and enroll students in the appropriate courses on the learning management system.
- Assist students with ordering textbooks for their courses.
- Act as the primary point of contact for students and employers who register for courses in their state.
- Serve as the liaison between the PHCC Academy and employers of apprentices enrolled in the program in their state.

#### **PHCC Academy Responsibilities**

- Ensure that the federal Department of Labor approval for the apprenticeship program is kept current and is updated as needed.
- Administer the learning management system and course offerings for the eLearning program. This includes developing course content and placing it into the learning management system.
- Provide students with learning management system usernames and passwords.
- Provide all administrative functions on the learning management system.
- Coordinate any Advanced Placement Testing with PHCC State Chapter Partners.
- Provide a completion letter and certificate to students upon successful completion of each course.

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

PHCC Educational Foundation Plumbing Apprentice & Journeyman Training Committee (2009). *Plumbing 401*, 1st ed. Clifton Park, NY: Delmar, Cengage Learning.

#### **Assignments**

##### Unit 1 – Service and Repair

Read Chapter 1 in the Plumbing 401 textbook.

Chapter 1 Review PowerPoint

Read Chapter 2 in the Plumbing 401 textbook

Chapter 2 Review PowerPoint

Read Chapter 3 in the Plumbing 401 textbook.

Chapter 3 Review PowerPoint

Read Chapter 4 in the Plumbing 401 textbook.

Video – Excavation Safety

Chapter 4 Review PowerPoint

Read Chapter 5 in the Plumbing 401 textbook.

Chapter 5 Review PowerPoint

Read Chapter 6 in the Plumbing 401 textbook.

Chapter 6 Review PowerPoint

Unit 1 Exam

### Unit 2 – Service and Repair

Read Chapter 7 in the Plumbing 401 textbook.  
Chapter 7 Review PowerPoint  
Read Chapter 8 in the Plumbing 401 textbook.  
Video – How to Read Floor Plans  
Chapter 8 Review PowerPoint  
Read Chapter 9 in the Plumbing 401 textbook.  
Chapter 9 Review PowerPoint  
Read Chapter 10 in the Plumbing 401 textbook.  
Unit 2 Exam

### Unit 3 – Blueprint Reading

Read Chapter 11 in the Plumbing 401 textbook.  
Video – Isometric Drawing  
Chapter 11 Review PowerPoint  
Read Chapter 12 in the Plumbing 401 textbook.  
Chapter 12 Review PowerPoint  
Read Chapter 13 in the Plumbing 401 textbook.  
Chapter 13 Review PowerPoint  
Read Chapter 14 in the Plumbing 401 textbook.  
Chapter 14 Review PowerPoint  
Unit 3 Exam

### Unit 4 – Installation Practices

Read Chapter 15 in the Plumbing 401 textbook.  
Chapter 15 Review PowerPoint  
Read Chapter 16 in the Plumbing 401 textbook.  
Chapter 16 Review PowerPoint  
Read Chapter 17 in the Plumbing 401 textbook.  
Video – Cross-Connection Control  
Chapter 17 Review PowerPoint  
Unit 4 Exam

### Unit 5 – Heating Systems

Read Chapter 18 in the Plumbing 401 textbook.  
Video – Guidelines for Steam System Efficiency  
Chapter 18 Review PowerPoint  
Read Chapter 19 in the Plumbing 401 textbook.  
Chapter 19 Review PowerPoint  
Read Chapter 20 in the Plumbing 401 textbook.  
Video – Hydronics Step by Step  
Chapter 20 Review PowerPoint  
Read Chapter 21 in the Plumbing 401 textbook.  
Chapter 21 Review PowerPoint  
Read Chapter 22 in the Plumbing 401 textbook.  
Chapter 22 Review PowerPoint  
Read Chapter 23 in the Plumbing 401 textbook.  
Chapter 23 Review PowerPoint

Read Chapter 24 in the Plumbing 401 textbook.  
Chapter 24 Review PowerPoint  
Heating Systems Review Game  
Unit 5 Exam

#### Unit 6 – Related Science

Read Chapter 25 in the Plumbing 401 textbook.  
Chapter 25 Review PowerPoint  
Read Chapter 26 in the Plumbing 401 textbook.  
Chapter 26 Review PowerPoint  
Read Chapter 27 in the Plumbing 401 textbook.  
Video – How to Read a Pump Curve  
Chapter 27 Review PowerPoint  
Pumps Review Game  
Unit 6 Exam

#### Unit 7 – Blueprint Reading

Read Chapter 28 in the Plumbing 401 textbook.  
Chapter 28 Review PowerPoint  
Read Chapter 29 in the Plumbing 401 textbook.  
Chapter 29 Review PowerPoint  
Read Chapter 30 in the Plumbing 401 textbook.  
Chapter 30 Review PowerPoint  
Read Chapter 31 in the Plumbing 401 textbook.  
Chapter 31 Review PowerPoint  
Quiz – Drawing Assignment Material Take-Off  
Unit 7 Exam

#### Unit 8 – Plumbing Code

Read Chapter 32 in the Plumbing 401 textbook.  
Chapter 32 Review PowerPoint  
Read Chapter 33 in the Plumbing 401 textbook.  
Chapter 33 Review PowerPoint  
Read Chapter 34 in the Plumbing 401 textbook.  
Chapter 34 Review PowerPoint  
Read Chapter 35 in the Plumbing 401 textbook.  
Chapter 35 Review PowerPoint  
Read Chapter 36 in the Plumbing 401 textbook.  
Chapter 36 Review PowerPoint  
Read Chapter 37 in the Plumbing 401 textbook.  
Chapter 37 Review PowerPoint  
Read Chapter 38 in the Plumbing 401 textbook.  
Chapter 38 Review PowerPoint  
Read Chapter 39 in the Plumbing 401 textbook.  
Chapter 39 Review PowerPoint  
Read Chapter 40 in the Plumbing 401 textbook.  
Chapter 40 Review PowerPoint  
Read Chapter 41 in the Plumbing 401 textbook.

Chapter 41 Review PowerPoint  
Read Chapter 42 in the Plumbing 401 textbook.  
Chapter 42 Review PowerPoint  
Unit 8 Exam

Final Exam

Course Evaluation