

# PHCC

Los Angeles

## Career Training Course Catalog

# PLUMBING

# HVAC

# BACKFLOW



**NCCER**  
National Center for Construction  
Education and Research

# CURRICULUM INFORMATION

Students in the plumbing and HVAC programs attend class one evening a week, from 6:00 p.m. to 9:30 p.m..\*

As part of the curriculum, industry experts demonstrate current products and technologies, along with the latest production techniques.

The curriculum combines classroom, exams and hands-on studies under the supervision of certified industry experienced instructors. For optimal learning, class size is limited according to course type:

\* Changes in Curriculum and Scheduling  
PHCC-GLAA Training program reserves the right to cancel, reschedule or combine classes; to change instructors; to adjust tuition, fees or class size; and to alter the curriculum. PHCC Training Program also reserves the right to deny any student permission to enter or continue a course of study

## CORE CURRICULUM

### Required for All Plumbing Students

- Basic Safety and Construction Site Safety
- Introduction to Construction Math
- Introduction to Hand Tools
- Introduction to Power Tools
- Introduction to Construction Drawings
- Basic Communication Skills
- Basic Employment Skills
- Introduction to Material Handling

# PLUMBING CURRICULUM

## 1st Year Program

Introduction to the Plumbing Profession  
Plumbing Safety  
Tools of the Plumbing Trade  
Intro to Plumbing Math  
Intro to Plumbing Drawings  
Plastic Pipe and Fittings  
Copper Tube and Fittings  
Cast Iron-Pipe and Fittings  
Steel Pipe and Fittings  
Intro to Plumbing Fixtures  
Intro to Drain, Waste, and Vent (DWV) Systems  
Intro to Water Distribution Systems

## 2nd Year Program

Mathematics  
Reading Commercial Drawings  
Structural Penetrations, Insulation & Fire-Stopping  
Installing and Testing DWV Piping  
Installing Roof, Floor, and Area Drains  
Installing and Testing Water Supply Piping  
Types of Valves  
Installing Fixtures and Valves  
Installing Water Heaters  
Basic Electricity  
Fuel Gas and Fuel Oil Systems



# PLUMBING CURRICULUM

## 3rd Year Program

Mathematics

Sizing and Protecting the Water Supply System

Potable Water Supply Treatment

Types of Venting

Sizing DWV and Storm Systems

Sewage Pumps and Sump Pumps

Corrosive - Resistant Waste Piping

Compressed Air

Service Plumbing

## 4th Year Program

Business Principles for Plumber

Fundamentals of Crew Leadership

Water Pressure Booster and Recirculation Systems

Hydronic and Solar Heating Systems

Codes

Private Water Supply Well Systems

Private Waste -Disposal Systems

Introduction to Medical Gas and Vacuum Systems



# HVAC CURRICULUM

## 1st Year Program

Introduction to HVACR

Trade Math

Basic Electricity for HVAC

Introduction to Heating

Introduction to Cooling

Air Distribution Systems

Basic Copper & Plastic Piping

Soldering & Brazing

Introduction to VRF

NATE Core

Program includes two core exams:

50-question NATE Core Exam

100-question Specialty Exam

## 2nd Year Program

Alternating Current (AC) and

System Controls Compressors

Refrigerants & Oils

Leak Detection, Evacuation,

Recovery & Charging

Metering Devices

Heat Pumps

Basic System Maintenance

Troubleshooting Heat Pumps

Troubleshooting Gas Heating

Troubleshooting Oil Heating

Zoning Ductless and Variable

Refrigerant Flow (VRF) Systems

Universal EPA 608 Certification Prep

NATE Certified HVAC Professional (CHP)

(consists of five exams):

- HVAC Fundamentals
- Electrical and Controls
- Airflow and Comfort
- Installation
- Service

# BACKFLOW CURRICULUM

## 14 Week Program

Backflow classes meet from 6:30pm to 9:30pm one evening a week.

**Class size limited to 12 students**

Introduction & Goals of Class

Theory of Backflow Protection

Law, Rules and Regulations Governing Cross-Connection in Los Angeles

Theory of Operation

Methods of Testing

Reduced Pressure

Double Check Valve Assembly

Pressure Vacuum Breakers

Spill Vacuum Breakers

Double Check Type Vacuum Breaker

Troubleshooting Procedures & Repair Techniques

General Practice Sessions for Testing All Types of Assemblies.

**Students must complete the full session to receive certificate to meet licensing requirements.**

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### Notice of Non Discrimination

PHCC-GLAA Training Program does not discriminate on the basis of race, color, national origin, religion, sex, age, handicap, language, ancestry, or marital status in their educational programs and activities, or employment practices. PHCC-GLAA Training Program encourages gender equality in students selection of courses and/or programs, career choices, and personal decisions.

All of these categories are protected by the following legislation: Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendment of 1972, Section 504 of the Rehabilitation Act of 1973, and the Education Code of the State of California

Classes are held during evening hours, allowing students to work in the field, gaining on-the-job experience putting their training into practice.

The program is administered by PHCC-GLAA through its training committee, which is comprised of contractors with a deep abiding interest in the training and education of the industry.

Our Training Program is dedicated to providing the training necessary to meet the demands of today's job market



For Registration Information or Questions Concerning PHCC GLAA Training Programs Please Visit our Website at

**PHCCGLAA.ORG**

or

Contact Us Via Email or Phone at:

**training@phccglaa.org**

323-913-7344

Plumbing, Heating, Cooling Contractors (PHCC) was established in 1883 and provides legislative advocacy, education and training to approximately 3,300 plumbing and HVACR open shop and union businesses and 65,000 technicians. Our members work in the residential, commercial, new construction, industrial and service and repair segments of the construction industry.

PHCC of the Greater Los Angeles Area was founded in 1906 and since 1968 has provided training programs to provide skilled personnel to meet the needs of the industry.

PHCC Los Angeles Training Program is a NCCER Accredited Training Sponsor, utilizing the NCCER curriculums for our Plumbing and HVAC Programs.

The **National Center for Construction Education and Research (NCCER)** is an independent nonprofit education foundation and the leading provider of construction education for industry and career and technical education programs.

**North American Technician Excellence (NATE)** is the nation's largest non-profit certification organization for heating, ventilation, air conditioning and refrigeration technicians. NATE is the certification organization that was developed by, and has been supported by the entire HVACR industry for over 25 years.

**PHCC-GLAA's Backflow Program** follows the *USC Foundation for Cross-Connection Control and Hydraulic Research* curriculum.