

Course Name: Plumbing Level III (NCCER)

Contact Hours: 144

Number of Sessions: 48

Number of Hrs./Session: 3

Mode of Instruction: Classroom

**Course Description:**

Course is designed based on the NCCER curriculum. Students must take all four levels of plumbing in order to receive a diploma/certificate from New Horizons.

Text: Plumbing Level 3 Trainee Guide 5th ed., ISBN: 9780138215262

**Course Outline and Modules:**

1. Applied Math (*17.5 Hours*) (Module ID 02301-14) Reviews math concepts, including weights and measures, area and volume, temperature, pressure, and force. Also describes the six simple machines: inclined planes, levers, pulleys, wedges, screws, and wheels and axles.
2. Sizing and Protecting the Water Supply System (*30 Hours*) (Module ID 02312-14) Teaches techniques for sizing water supply systems, including calculating system requirements and demand, developed lengths, and pressure drops. Reviews the factors that can reduce efficiency of water supply piping. Introduces different backflow prevention devices and explains how they work, where they are used, and how they are installed in water supply systems.
3. Potable Water Supply Treatment (*15 Hours*) (Module ID 02303-14) Explains how to disinfect, filter, and soften water supply systems. Discusses how to troubleshoot water supply problems, flush out visible contaminants from a plumbing system, and disinfect a potable water plumbing system.
4. Types of Venting (*20 Hours*) (Module ID 02305-14) Reviews the different types of vents that can be installed in a DWV system and explains how they work. Also teaches design and installation techniques.
5. Sizing DWV and Storm Systems (*20 Hours*) (Module ID 02306-14) Explains how to calculate drainage fixture units for waste systems. Reviews how to size drain, waste, and vent (DWV) systems; storm drainage systems; and roof storage and drainage systems.
6. Sewage Pumps and Sump Pumps (*12.5 Hours*) (Module ID 02307-14) Discusses the installation, diagnosis, and repair of pumps, controls, and sumps in sewage and storm water removal systems.
7. Corrosive-Resistant Waste Piping (*7.5 Hours*) (Module ID 02308-14) Discusses corrosive wastes and reviews related safety issues and hazard communications. Discusses how to determine when

corrosive-resistant waste piping needs to be installed, as well as how to correctly select and properly connect different types of piping.

8. Compressed Air (*10 Hours*) (Module ID 02309-14) Explains the principles of compressed air systems and describes their components and accessories. Reviews installation and periodic servicing of air compressor systems.
9. Service Plumbing (*27.5 Hours*) (Module ID 02311-14) Covers the troubleshooting and repair of fixtures, valves, and faucets in accordance with code and safety guidelines. Explains how to diagnose and repair water supply and drainage piping, water heaters, and other appliances and fixtures. Describes the effects of corrosion, freezing, and hard water on plumbing systems.