



**Course:** **Certificate in Plumbing Technology**

**Guided Learning Hours: 24**

**Pre-requisite: None**

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### **Abstract**

This unit encourages interested persons to appreciate and understand the importance and advantages of good plumbing to householders, the community and country by extension. It offers the opportunity for participants to install and maintain simple systems of hot and cold water supply; drain, waste and ventilation systems through a combination of lectures and laboratory workshop sessions.

### **Target Audience**

Persons willing to learn how to install and maintain plumbing systems, tradesmen including persons involved in the field of construction.

### **Learning outcomes**

On completion of this course, learners will be able to:

1. Understand the history of plumbing and the health and safety practices involved
2. Identify and use various equipment and materials used in plumbing
3. Install water supply, drain, waste and vent systems
4. Test and maintain installed systems

## Course Content

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### 1. Understand the history of plumbing and the health and safety practices involved

*History of Plumbing:* Origin of plumbing: Where and how it started; The benefits of organized plumbing; Definition and categorization of plumbing; Materials used in plumbing; Technical terms used in plumbing.

*Health and safety practices:* Introduction to the OSH Act; Introduction to health and safety gear/apparatus; Handling tools/equipment safely; Identification of hazards: Use of warning signs; Working with others; Applying good housekeeping principles

### 2. Identify and use various equipment and materials used in plumbing

Various tools groups; Maintenance and cleaning of tools; Materials used in the manufacture of pipes, fixtures and fittings; Classification of fixtures and fittings; Methods of measuring, cutting, joining and assembling pipes and fittings; Roughing-in techniques; Types of taps and valves.

### 3. Install water supply, drain, waste and vent systems

Plan/sketch system to be installed; Identify pipes, valves and fittings to be used in installation; Identify the tools/materials to be used when installing the system; State all safety precautions to be observed; Apply good housekeeping practices

### 4. Test and maintain installed systems

*Testing installed systems:* Ensuring proper jointing materials used on connections; Installation and positioning of taps and valves; Checking installation support and protection; Applying tests as prescribed by the National Plumbing Code of Trinidad and Tobago; Ensuring all special equipment is installed with access for maintenance.

*Maintenance of installed systems:* Explain the difference between preventative and curative maintenance; Common problems encountered during installation; Changes to existing older designs to bring system up to code.

## Assessment Criteria

| In order to achieve Learning Outcome...                                            | The Learner must...                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Understand the history of plumbing and the health and safety practices involved | <ul style="list-style-type: none"><li>1.1 Define what is plumbing</li><li>1.2 Explain the benefits of having an organized plumbing system</li><li>1.3 Describe the health and safety requirements for a particular job</li><li>1.4 Explain how to handle tools and equipment safely.</li></ul>                                                          |
| 2. Identify and use various equipment and materials used in plumbing               | <ul style="list-style-type: none"><li>2.1 Identify methods of measuring, cutting, joining and assembling pipes and fittings</li><li>2.2 Identify material from which pipes, fixtures and fittings are manufactured</li><li>2.3 Explain the selection of taps and valves used in piping systems for particular applications.</li></ul>                   |
| 3. Install water supply, drain, waste and vent systems                             | <ul style="list-style-type: none"><li>3.1 Demonstrate the ability to install the following:<ul style="list-style-type: none"><li>1. Vanity sink</li><li>2. Face basin</li><li>3. Shower head and control fittings</li><li>4. Various types of taps and valves</li><li>5. Kitchen sink and faucet</li><li>6. Water Closet and syphon</li></ul></li></ul> |
| 4. Test and maintain installed system                                              | <ul style="list-style-type: none"><li>4.1 Be able to check plumbing installations for support and protection</li><li>4.2 Carry out tests as prescribed by the National Plumbing Code of Trinidad and Tobago to ensure compliance of installations.</li></ul>                                                                                            |

**Essential Learning Resources:**

Learners will need access to a wide range of publications relating to Plumbing technology and a suitably equipped laboratory for practical training.

**Textbooks and Manuals**

1. Practical Plumbing (Motivate) – Main Text
2. The National Plumbing Code of Trinidad & Tobago –WASA
3. Practical Plumbing by C.J. Smith/ B. Curry
4. The Householders Guide to Plumbing by James M. Haig

**Websites**

[www.centuryeslon.com](http://www.centuryeslon.com)

[www.wasa.gov.tt](http://www.wasa.gov.tt)