Plumbing and Domestic Heating Technician

Generic job titles recognised across the industry
Plumber
Domestic Heating Engineer
Domestic Heating Installer
Plumbing and Domestic Heating Installer
Plumbing and Domestic Heating Engineer

Occupational profile
Plumbing and Domestic Heating Technicians plan, select, install, service, commission and maintain all aspects of plumbing and heating systems. Plumbing and domestic heating technicians can find themselves working inside or outside a property. Customer service skills and being tidy and respectful are important qualities as they can often find themselves working in customers' homes as well as on building sites.

As a competent Plumbing and Heating Technician, the installation of plumbing and heating systems includes accurate measuring, marking, cutting, bending and jointing metallic and non-metallic pipework. Appliances and equipment can include gas, oil and solid fuel boilers as well as pumps, heat emitters, bathroom furniture or controls as part of a cold water, hot water, and central heating or above ground drainage and rainwater systems. Plumbing and Domestic Heating Technicians are at the forefront of installing new and exciting environmental technologies like heat pumps, solar thermal systems, biomass boilers and water recycling systems. It is important for a plumbing and heating technician to be able to work independently or as a team and use their knowledge and skills to ensure that both the system and appliances are appropriately selected and correctly installed, often without any supervision, and done so in a safe, efficient and economical manner to minimise waste.

Core Knowledge and Skills Requirements

Knowledge	**What is required**
Health and safety	Understand health and safety legislation, codes of practice and safe working practices
Core plumbing systems	Understand selection, planning, installation, testing, commissioning and de-commissioning, service, maintenance, fault diagnosis and repair techniques on cold water, hot water, central heating, above ground drainage and rainwater systems
Electrical components and control systems	Understand installation and testing techniques for electrical components and control systems on plumbing and domestic heating systems
Plumbing science and processes	Understand scientific plumbing, domestic heating and mechanical principles
Principles of environmental technology systems	Understand the principles of domestic mechanical environmental technology systems
Principles of fossil fuels	Understand the principles of fuel combustion, ventilation and fluing arrangements within a domestic environment
Customer service	Understand the principles of high quality customer service and establishing the needs of others (colleagues, customers and other stakeholders). Respect the working environment including customer's properties
Communication	Understand different communication methods, how to communicate in a clear, articulate and appropriate manner and how to adapt communication style to suit different situations

Skills	**What is required**
Safe working	Operate in a safe working manner by adhering to health and safety legislation, codes of practice and applying safe working practices
Core plumbing system techniques	Apply selection, planning, installation, testing, commissioning and de-commissioning, service, maintenance, fault diagnosis and repair techniques on cold water, hot water, central heating, above ground drainage and rainwater systems
Electrical components and control systems techniques	Apply installation and testing techniques for electrical components and control systems on plumbing and domestic heating systems
Supervisory skills	Take responsibility for own work and safety and welfare of others Oversee and organise the programme of work and work environment Carry out work and manage resources in an environmentally friendly manner

Options

In addition to the core skills and knowledge requirements, Plumbing and Domestic Heating Technicians must choose to undertake one of the following specialisms:

Option	Knowledge	Skills
Option 1 (Fossil Fuel – Natural Gas)	Understand the principles of selection, installation, testing, commissioning and service and maintenance techniques on domestic downstream natural gas pipework systems and appliances	Select, install, test, commission, service and maintain domestic downstream natural gas pipework systems and appliances
Option 2 (Fossil Fuel - Oil)	Understand the principles of selection, installation, testing, commissioning and service and maintenance techniques on domestic oil storage, pipework and appliances	Select, install, test, commission, service and maintain domestic oil storage, pipework and appliances
Option 3 (Fossil Fuel – Solid Fuel)	Understand the principles of selection, installation, testing, commissioning and service and maintenance techniques on domestic solid mineral fuel, wood burning and biomass appliances	Select, install, test, commission, service and maintain domestic solid mineral fuel, wood burning and biomass appliances
Option 4 (Environmental Technologies)	Understand the principles of selection, installation, testing, commissioning and service and maintenance techniques on solar thermal, heat pumps and water recycling systems	Select, install, test, commission, service and maintain solar thermal, heat pumps and water recycling systems

Behaviours	What is required
Honesty and Integrity	Develop trust with customers and colleagues by undertaking responsibilities in an ethical and empathetic manner
Dependable and responsible	Show conscientiousness through being punctual, reliable and professional. Take responsibility for own judgements and actions. Aware of the limits of their own competence
Enthusiasm and positive attitude	Demonstrate drive and energy in fulfilling requirements of role
Quality focus	Be quality focussed in work and in personal standards
Willingness to learn	Identify own development needs and take action to meet those needs. Keep up-to-date with best practice. Maintain and enhance competence
Work with others	Work effectively and collaborate with colleagues, other trades, clients, suppliers and the public
Sustainable working	Give consideration to appropriate use of resources and own actions taking into account the impact on environmental, social and economic factors

Duration:

Typical completion time is likely to be 48 months. This may reduce if an apprentice has gained previous relevant knowledge and skills, which is recognised as Accredited Prior Learning.

Entry Requirements and Qualifications:

Entry requirements will be determined by individual employers. Typically apprentices will have English and Mathematics at level 2 on entry, and all will have achieved that level by the end of the apprenticeship.

Link to professional registration:

By the end of this apprenticeship the candidate will have satisfied the requirements for registration as EngTech by the Engineering Council through The Chartered Institute of Plumbing and Heating Engineering (CIPHE).

On completion of the health and safety assessment, as determined, by the assessment plan the candidate will have satisfied the requirements to obtain a Construction Skills Certification Scheme (CSCS) Card through the Joint Industry Board for Plumbing and Mechanical Engineering Services (JIB-PMES) at the appropriate grade.

Level:

This is a level 3 Apprenticeship.

Review date:

This Apprenticeship standard will be reviewed in three years.