Module 01: Introduction to Gas Engineering

Introduction to the Module

Gas engineers do far more than install and repair boilers; with the proper training, they can work with a wide range of gas appliances in both household and commercial settings, opening the door to a rich and rewarding profession in which no two days are alike.

Introduction to the Module

This module explains the functions and responsibilities of a gas engineer, as well as what makes this a successful career. You will also learn about the abilities necessary to be a successful gas engineer. So, let's get started!

Learning Objectives

After completing this module, you will be able to:

- Understand what a gas engineer does
- Identify the different appliances that a gas engineer works on
- Harness the skills needed to be a successful gas engineer
- Learn about the qualifications and time needed to become one

What does a Gas Engineer do?

Among most people, a gas engineer is a knowledgeable professional who ensures that household gas systems are properly installed and working well. In more turbulent times, they're even the hero who arrives at inconvenient times, ready to replace a broken furnace in the dead of winter.

A gas engineer, however, accomplishes much more than that. This is a career that will require you to wear many different hats – and one in which you will never be bored with routine, as each job and each day will present fresh difficulties.

Your role as a gas engineer is to handle gas-related problems in residential and commercial settings, typically under time restrictions.

It's also a profession that's ideal for folks who enjoy interacting with and assisting others. You will spend a significant amount of time in other people's homes and businesses, generally installing, servicing, and repairing various gas appliances and central heating systems.

Being a gas engineer is often seen to be a difficult career. It can surely be difficult. Considering this, seeking out solutions to difficult gas and heating challenges can be extremely fulfilling, and the great compensation and opportunities for growth make this a desirable vocation for ambitious individuals.

Appliances that Gas Engineers Work On

The majority of people associate gas with their boilers. **Many gas engineers will spend a significant amount of time working on boilers, either installing, repairing, or replacing them.** Aside from boilers, gas engineers can work with a wide range of gas appliances in both residential and commercial settings.

These appliances could include:

- Gas fires,
- Gas boilers,
- Gas cookers,
- Central heating systems,
- Hot water storage cylinders,
- And wall heaters, to name a few.

However, before you can work on any gas appliance, you are legally required to be on the Gas Safe register, which qualifies you to work on the types of gas appliance you have trained for.

You will be unable to legally operate on devices for which you do not have the necessary training and certifications. If you want to work on particular types of gas appliances, you should focus on gaining the necessary training and certification.

Gas engineers maintain their education throughout their careers and can either work on the same equipment or train for different types of appliances. Through your training as a gas engineer, you will be able to pick which route your career takes – and which devices you want to operate on.

A Typical Day of a Gas Engineer

There is no one 'typical day' as a gas engineer, which makes this a good career choice for people who don't want to be trapped in a mundane routine. Usually, you can expect to work between 9am to 5pm, Monday to Friday.

You may also be on 24-hour emergency calls; while getting up to fix a gas leak at 3am might not be pleasant, employed gas engineers can enjoy the overtime pay from such jobs, while self-employed can charge their own emergency fees for call out.

While fitting boilers will likely be a part of your job, you'll also be repairing gas appliances, fixing gas leaks, and troubleshooting gas and energy issues. Your typical day is largely defined by your training and which appliances you are qualified and registered to work on, which means that another gas engineer's typical day may not be yours.

The ability to maintain good customer service is a part of the job of a gas engineer. All gas engineers will be working with customers, which means that people and communication skills are useful. You might need to explain a problem, offer advice on how to use an appliance, or recommend a replacement appliance.

Thus, as a gas engineer, you will:

- install gas appliances and heating systems
- carry out planned maintenance checks on systems and equipment
- test controls and safety devices to make sure they work properly
- respond to emergencies
- find and repair gas leaks, using computerised fault-finding equipment
- replace or repair faulty or old parts
- complete work records
- advise customers on gas safety and energy efficiency

Required Skills

The gas sector is a growing one in this country and is also the UK's main source of energy. Despite this, there is a shortage of skilled gas engineers in the country – **which means that this is a career path that is very much in demand,** not just from gas business employers, but also domestic and commercial customers.

If you are looking for a 'job for life' that offers job security, an excellent salary, and plenty of options for promotion and career progression, a career in gas management is a good choice. **This is especially true of those with a talent for maths and science.**

It's also a career choice that gives you a lot of independence: as a highly-skilled worker, your experience is invaluable. You may choose to start working with a company, but later decide that you want to become self-employed; some even decide to become more specialised in a specific type of appliance.

You will also need some 'soft' skills to succeed: an ability to manage your time effectively while solving sometimes complex issues, and an ability to work well with people and offer good customer service.

No matter what path you choose, all you need to be successful is the right training, the right mindset, and a dedicated sense of commitment to doing a good job.

Thus, you will need:

- practical skills for repairing and maintaining equipment
- to be thorough and pay attention to detail
- customer service skills
- the ability to use your initiative
- practical skills for installing equipment
- problem-solving skills
- patience and the ability to remain calm in stressful situations
- persistence and determination
- to be able to carry out basic tasks on a computer or hand-held device

Qualifications Needed

To work as a gas engineer, you will need two industry qualifications, both of which are required by law:

- **ACS in Gas** is evidence of your training. This assesses your competence as a gas engineer; the registration is valid for 5 years and must be renewed to allow you to remain on the Gas Safe Register.

- **Gas Safe registered** is an industry database for the UK which shows that you are qualified to work as a gas engineer, and which appliances you are trained and qualified to work on

Before you can get these industry qualifications, you will need to train – for many people, an apprenticeship offering an NVQ or a Gas Managed Learning Programme in a gas-related field is the best route.

Working without these qualifications is illegal. When training to become a gas engineer, you should focus on courses that cover the training for the appliances you want to work with, such as CENWAT (central heating boilers), HTR1 (gas fires) and CKR1 (gas cookers).

An adult apprenticeship will cover all the areas you need to know to pass your ACS test. Passing this test will allow you to join the Gas Safe register and start working on the gas appliances you are trained and qualified to work with. At this point, you will be able to either start your own gas business and work as a self-employed gas engineer or seek employment at one of the UK's many gas firms.

Both paths are valid, and you should choose the one which suits you best – while you can make more money as a self-employed gas engineer, it's worth remembering that becoming an employee offers more stability and security. Many people start out in employment before starting their own business, or vice-versa, so this isn't a decision that is set in stone.

You will need to be committed to passing each stage successfully, which requires hard work and motivation; **new entrants with this level of dedication are mostly qualified within a year of starting.**

Career and Growth

In the United Kingdom, there is a shortage of workers in the skilled trades industries, of which gas is one. While this job may lack the glamour of more popular career paths, it offers an excellent salary, even for freshly trained and qualified workers.

The combination of a nationwide gas engineer shortage and the highly-trained nature of this job means that newly qualified engineers can expect an average starting salary of £32,000 – that's £6,000 higher than the national average!

As your career progresses, you can expect to make even more money. **An experienced gas engineer makes around £37,500 a year, while those with even more experience and skill make as much as £60,000.**

This average does vary around the country. As you might expect, gas engineers in London and the South-East generally enjoy higher salaries. Outside of this area, salaries can also be pushed up by factors such as a local shortage of gas engineers, or a town being a regional hub for commerce and industry.

Wherever you are located, a career as a gas engineer offers an attractive salary with an interesting and varied job. Gas remains the first choice of Britain when it comes to heating, which means you will always have a steady stream of customers, employed or self-employed.

As for progression, you could move into supervisory and management roles, with responsibility for a team of engineers. You might also set up your own gas fitting business, if you have a lot of experience.

You could use your transferable engineering skills to switch to working on systems powered by alternative energy sources, like hydrogen.

Highlights from This Module

- The appliance must be examined after work has been done and any defect notified to the owner/user
- An emergency control is required to be provided when gas is first supplied to the premises
- While installing a gas fitting, you must ensure that it is properly placed and supported and there is no undue risk of damage to the fitting
- You shall not install any installation pipework in a way that would impair the structure of the building or impair the fire resistance
- It is the duty of the landlord to ensure the gas safety checks regularly of any gas appliances (permanent or portable) and gas flues that he owns and provides for use by his tenants

Thank You! You have reached the end of this module. See you in the next one.