# Electrician

## Introduction


Electricians install and maintain electrical services such as lighting, power and heating. They work in a wide range of buildings, including houses, offices, factories, hospitals and power stations. Some electricians repair electrical faults in domestic and business premises. Others service and repair electrical equipment in the manufacturing and engineering industries.

## Work Activities

As an Electrician, you will work in a wide range of buildings, installing and maintaining electrical services.

If you become an Installation Electrician, you will put in all the cables, wiring, meters, switchgear, conduit (metal channel for cable), fitments and equipment needed in new buildings and conversions of old buildings.

You'll use technical drawings and plans that show which areas of the building need electricity. You will interpret the instructions, deciding how to run cabling and where to place switches, sockets, lights and other devices. On smaller projects, you may plan your own work.

The work involves measuring, cutting, joining and fitting cabling, using a variety of hand and power tools, like pliers, screwdrivers, hacksaws and drills. In conversions of old buildings, you must first remove the old system and its wiring.

Some of the work is non-electrical and involves physical activity, such as lifting floorboards and drilling holes. You'll also need to make sure you order the relevant materials and equipment before you begin your work.

One of your most important roles as an Electrician, is to 'earth' the system and then test it very thoroughly to make sure you have correctly and safely installed all the circuits.

As a Service Electrician, you will repair faults in domestic and office appliances. This involves travelling to the customer's home or business premises, locating and diagnosing the fault, isolating the circuit and then making the repair.

Some faults can only be found when the supply is on, for example, faults within electronic circuits, so you will use insulated tools and equipment to find the fault.

If you become a Maintenance Electrician, you will work in manufacturing and engineering companies, servicing and repairing electrical machines and equipment. You'll diagnose faults, repair electrical plant and equipment, and install new equipment. You might deal with a range of machines or specialise in one type.

Electricians often travel to work on different installations, occasionally involving being away from home. You may work alongside other skilled workers, such as Plumbers, Bricklayers and Carpenters.

Work can take place both indoors and outdoors, such as on a building site.

Being able to read, write and speak Welsh may be an advantage when you’re looking for work in Wales.

## Personal Qualities and Skills

To become an Electrician, you need:

- good practical skills, to use a variety of tools and equipment
- the ability to read and interpret technical drawings
- to follow safety procedures very carefully
- strong problem-solving skills
- to pay close attention to detail
- to keep up to date with industry developments

- to be well organised, thorough and methodical
- to enjoy seeing a job through from start to finish
- good communication and interpersonal skills
- to work well on your own and with others
- the ability to explain your work clearly to customers and reassure them with your knowledge
- a calm, professional manner
- to be physically fit because the job usually involves kneeling, bending, and lifting heavy equipment. You might also have to work at heights

You'll be required to pass a colour vision test. You may be required to have a current driving licence.

## Pay and Opportunities

**Pay**

The pay rates given below are approximate.

- Starting: £23,500 - £26,000
- With experience: £28,500 - £33,500
- Senior Electricians earn £36,500 - £39,500

**Hours of work**

Electricians usually work 39 hours a week, Monday to Friday.

**Where could I work?**

Employers range from small, family electrical businesses to large national electrical contracting firms.

Opportunities for Electricians occur with employers in towns and cities throughout the UK.

**Self-employment**

Opportunities occur for qualified and experienced Electricians to become self-employed.

**Where are vacancies advertised?**

Vacancies are advertised in local/national newspapers, on recruitment and employers' websites, and on Find a Job ( www.gov.uk/jobsearch).

Social media websites, such as LinkedIn, Twitter or Facebook, are a great way to network, find vacancies and get in contact with possible employers. Make sure that your profile presents you in a professional manner that will appeal to potential employers.

Take a look at our General Information Article 'Finding Work Online'.

GreenJobs is a job board aimed at people interested in green careers:

www.greenjobs.co.uk/browse-jobs/electrician/

## Entry Routes and Training

**Entry routes**

An Intermediate or Advanced Level Apprenticeship is a great place to start. You might be able to study for a NVQ as part of your apprenticeship.

Various vocational BTEC and City & Guilds qualifications are available and could help you to get into this career.

Another route to the job is from a college course in electrical installation. This will help you to develop some of the skills and knowledge needed, but you will still need experience in the workplace after this to become qualified.

If you would like some training, then City & Guilds offer a level 3 qualification in electrotechnical technology. The units you could be studying include:

- understanding health and safety legislation, practices and procedures
- understanding the practices and procedures for the preparation and installation of wiring systems and electrotechnical equipment in building, structures and the environment
- maintaining electrotechnical systems and equipment

Other courses could be available in your area.

Once you're qualified, there are additional short courses for inspection and testing; wiring regulations and portable appliance testing. You will need some of these additional qualifications to be able to do certain jobs.

There are also courses available if you want to branch out into renewable energy, like fitting solar panels, for example.

**Electrotechnical Certification Scheme**

You need an ECS (Electrotechnical Certification Scheme) card to work on site. These cards show that you are qualified to do the work you have been employed for.

ESC cards cost £48 and you will need to also pass the ECS Health and Safety Assessment. This also costs £48. You will need to then complete your application form by uploading all your relevant qualifications and proof of identity. This could be a driving licence or passport for example.

In order to pass the ECS Health and Safety Assessment, you will need to show that you understand a range of topics. The topics you will be tested on include:

- general health and safety
- manual handling operations
- reporting accidents
- personal protective equipment at work
- health and hygiene
- fire and emergency
- working at heights
- work equipment
- special site hazards
- electrotechnical aspects, such as the effects of an electrical current on the body and safe isolation procedures when working on electrical systems and equipment
- environmental aspects, such as the identification of hazardous/special waste and actions for recycling and to minimise waste

Check the ECS website for more details.

**Work Experience**

Previous experience working in construction would be really useful for this career.

**Progression**

Electricians can progress to specialist posts or to Team Leader positions after further training and experience. Some qualified and experienced Electricians become self-employed.

If you wanted to move into higher-level jobs, a HNC, HND, foundation degree or degree in electrical and electronic engineering or building services engineering might help.

## Qualifications

To get onto an Intermediate or Advanced Level Apprenticeship, you'll usually need five GCSEs at grade C/4 or above, possibly including English and maths.

For a level 2 college course in electrical installation you'd usually need 4 GCSEs, often including maths, English and sometimes a science subject. Once you successfully complete the level 2 course, you could then apply to join level 3.

The following vocational qualifications will help you to stand out from the crowd:

- BTEC level 1 or level 2 - construction and the built environment
- BTEC level 3 - electrical/electronic engineering
- City & Guilds level 3 - electrotechnical technology
- City & Guilds level 2 and 3 - electrical installations

## Adult Opportunities

**Age limits**

It is illegal for any organisation to set age limits for entry to employment, education or training, unless they can show there is a real need to have these limits.

**Courses**

Most colleges will consider applications from older candidates who don't have the usual entry requirements. You should check the admissions policy of individual colleges.

Numerous local colleges or training providers offer evening or weekend courses in relevant subjects.

**Distance learning**

International Correspondence Schools offer the BTEC level 3 Advanced Diploma in Electrical Installation, by distance learning.

**Training**

An increasing number of employers take on adults and train them because of a shortage of school leavers entering training.

There is a Crediting Electrotechnical Competence scheme, which assesses adult electricians and leads to NVQ level 3. This meets the requirements of the Electrotechnical Certification Scheme (ECS Card), developed by JIB.

## Further Information

**Contacts**

- **Apprenticeships: Get In. Go Far**
  National Apprenticeship Service (NAS)
  Tel: 0800 015 0400
  Email: nationalhelpdesk@findapprenticeship.service.gov.uk
  Website: www.apprenticeships.org.uk

- **LGjobs**
  Local government vacancies
  Website: www.lgjobs.com

- **Skills Development Scotland - Modern Apprenticeships**
  Tel: 0800 9178000
  Email: info@skillsdevelopmentscotland.co.uk
  Website: www.myworldofwork.co.uk/modernapprenticeships

- **myjobscotland: Scottish local government vacancies**

Scottish enquiries
Email: myjobscotland@cosla.gov.uk
Website: www.myjobscotland.gov.uk

- **Semta**
  Skills for science, engineering and manufacturing technologies
  Address: 14 Upton Road, Watford, Hertfordshire WD18 0JT
  Tel: 0845 6439001
  Email: customerservices@semta.org.uk
  Website: www.semta.org.uk

- **Construction Skills Certification Scheme (CSCS)**
  Address: Bircham Newton, Kings Lynn, Norfolk PE31 6RH
  Tel: 0844 5768777
  Website: www.cscs.uk.com

- **International Correspondence Schools (ICS Learn)**
  Distance learning
  Tel: 0800 0563983
  Email: icscourseadvisors@ics-uk.co.uk
  Website: www.icslearn.co.uk

- **Engineering Training Council Northern Ireland (ETC NI)**
  Northern Ireland Enquiries
  Address: Sketrick House, Ards Business Park, Jubilee Road, Newtownards BT23 4YH
  Tel: 028 9182 2377
  Email: info@etcni.org.uk
  Website: www.etcni.org.uk

- **JTL Training**
  Address: National Administration Centre, Unit 3H1, Third Floor, Redwither Tower, Redwither Business Park, Wrexham L13 9XT
  Tel: 0800 0852308
  Website: www.jtltraining.com

- **Electrical Training Trust (ETT)**
  Irish enquiries
  Address: Units 57-59, Ballymena Business Centre, 62 Fenaghy Road, Ballymena, Co Antrim BT42 1FL
  Tel: 028 2565 0750
  Email: info@ett-ni.org
  Website: www.ett-ni.org

- **Scottish Electrical Charitable Training Trust (SECTT)**
  Scottish enquiries
  Address: The Walled Garden, Bush Estate, Midlothian EH26 0SE
  Tel: 0131 4455659
  Email: admin@sectt.org.uk
  Website: www.sectt.org.uk

- **Scottish Joint Industry Board for the Electrical Contracting Industry (SJIB)**
  Scottish enquiries
  Address: The Walled Garden, Bush Estate, Midlothian EH26 0SB
  Tel: 0131 4459216
  Email: admin@sjib.org.uk
  Website: www.sjib.org.uk

- **Utility Week**
  Publisher: Faversham House
  Website: www.utilityweek.co.uk

- **Careers Wales - Welsh Apprenticeships**

Tel: 0800 028 4844
Website: ams.careerswales.com/

- **Electrical Careers - The Electrotechnical Skills Partnership**
  Website: www.electricalcareers.co.uk/

- **Electrotechnical Certification Scheme (ECS)**
  Address: PO Box 127, Swanley, BR8 9BH
  Tel: 01322 661622
  Email: administration@ecscard.org.uk
  Website: www.ecscard.org.uk

## Related Careers

- Engineering Draughtsperson
- Solderer
- Electrical Engineer
- Electrical Engineering Technician
- Gas Service Engineer
- Computer Assembly Technician
- Television Aerial Installation Engineer
- Television Service Engineer
- Telecommunications Technician
- Broadcast Engineer
- Computer Hardware Engineer
- Technical Support Engineer
- Control Systems Engineer
- Gas Engineer
- Nuclear Engineer
- Telecommunications Engineer
- Electricity Distribution Worker
- Audio Engineer
- Gas Network Engineer
- Commissioning Engineer
- Installation Engineer
- Production Engineer