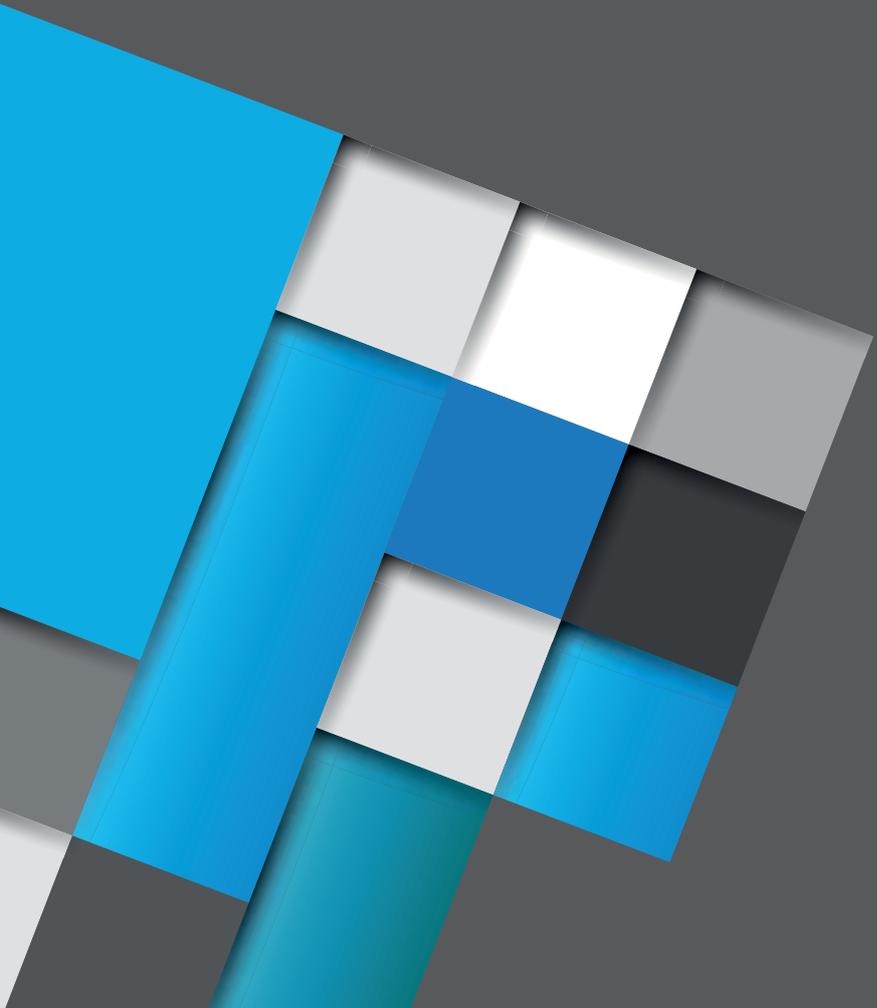


electrical

engineering 2014/15



always the

right course

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Electrical Engineering

Welcome to Electrical Engineering at Edinburgh College

At Edinburgh College, we have a wide variety of electrical engineering courses to support you in your specialist training. These course will prepare you for a rewarding career in areas such as microelectronics, communications, signal processing, control systems, computers, and robotics. Electrical engineering is a dynamic, growing field which encompasses a large number of disciplines and wealth of interesting roles waiting for you.

We understand that it's important to provide a range of training levels to suit your individual learning needs. So, whether it's Entry to NC Electrical Engineering, NC Higher Electrical Engineering, HND Electrical Engineering, or Pre-Apprentice Electrical Installation, there's a course for you. What's more, our Associate Student Programme means you can progress from

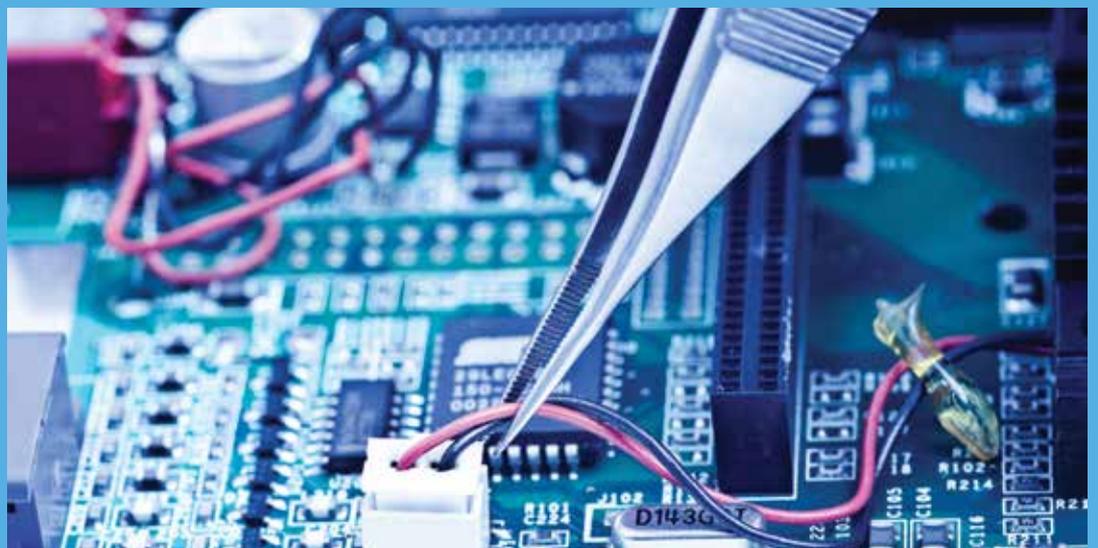
HND studies at the College, accessing the third year at university to complete your degree. This is a great way to fast-track your development. We even offer a range of both full and part-time study options, to make sure learning is flexible to your needs.

In order to prepare you for your future employment, you'll be taught by staff with a wealth of experience in the electrical engineering industry. They will provide support and guidance to make sure you work towards your career. Whichever programme you choose, you'll use up-to-date technology and equipment in industry-standard workshops. This will ensure your training is relevant to the electrical engineering industry of today.

To make sure you develop the skills that employers are looking for, we work closely with the industry. Thanks to these connections, our current

students have been able to find part-time work, develop their practical skills, and seek jobs after graduation. We encourage and support you in seeking relevant work experience to truly enhance your employability upon completion of your chosen course.

Whether you're looking to become an electrician, an electrical technician or engineer, or an electronic engineer, the following guide will help you choose the right course for your training interests and needs.



Pre Apprentice Electrical Installation

Campus: Sighthill

Mode of Attendance: Short Full-Time

What is this course about?

This course is ideal if you're interested in entering electrical contracting, and would also be beneficial if you're looking to develop your knowledge in other aspects of construction or engineering.

You'll study a selection of SQA National Units at Level 2 - these are mainly electrical with some electronics. There are also units in Maths and Communication to support you on the course and to help prepare you for employment.

Upon completion of this course you'll be able to apply for electrical apprenticeships. You'll also be well prepared for employment in engineering or construction. The course is therefore the a fantastic platform to develop your career.

How do I get a place?

- Minimum 2 passes at SCQF Level 4

What will I learn?

SQA National Units at Level 2, including:

- Electrical and electronics
- Maths
- Communication

What can I do next ?

- Employment as an engineer in the electrical engineering field, particularly generation, distribution, research, manufacture, renewable energy and other emerging technologies
- Year 3 & 4 of degree-level studies in electrical engineering, such as at Edinburgh Napier, Heriot-Watt or University of Aberdeen

NC (Higher) Electrical Engineering

Campus: Midlothian

Mode of Attendance: Full-Time

What is this course about?

You'll gain a broad understanding, including Electrical Principles, Electrical Installation Fundamentals, Mathematics, IT and Electrical Hand Skills. The areas you'll study are designed to support you to advance to further studies in electrical engineering, including apprenticeships in installation or maintenance.

How do I get a place?

- You should have a knowledge and understanding of basic arithmetic and maths
- You must have gained a minimum of Standard Grade Level 2 having studied the subject at credit level
- Standard Grade Physics and English would be an advantage

What will I learn?

- Electrical Principles
- Electrical Installation Fundamentals
- Mathematics
- IT
- Electrical hand skills

We regularly review the course content and a complete list of the SQA units involved is available on request.

What can I do next ?

- You could advance to study HNC and then take up university studies
- Electrical apprenticeship in either installation or maintenance

HNC Electrical Engineering

Campus: Midlothian

Mode of Attendance: Day Release

What is this course about?

If you're looking to work as a technician or technical engineer, this full time or day release course is ideal. You'll develop a valuable foundation of knowledge about the electrical engineering industry which deals with the production, transmission, distribution and application of electricity, and the manufacture, installation and maintenance of electrical equipment.

You'll be well prepared to study electrical engineering courses at degree level too. We have a formal agreement with Heriot-Watt University which means you'll be able to apply for the second year of BEng (Hons) Electrical and Electronic Engineering. The course is therefore a great way to fast-track your development.

How do I get a place?

- NC Electrical Engineering or an appropriate group of National Units
- Direct entry to the full time course is also possible if you have a Higher in Mathematics or Physics

What will I learn?

The knowledge required to prepare you to be a technician or technical engineer in the electrical engineering industry.

What can I do next ?

Degree-level studies in electrical engineering such as Year 2 BEng (Hons) Electrical and Electronic Engineering at Heriot-Watt University.

HND Electrical Engineering

Campus: Midlothian

Mode of Attendance: Full-Time

What is this course about?

If you're looking to build a career as an engineer in the electrical engineering field, this course is the ideal choice.

In Year 1 you'll study HNC Electrical Engineering. This course is designed to make sure you meet the varied needs of industry and commerce, and prepares you to build on your skills further at HND Level.

In Year 2 you'll study HND Electrical Engineering. The aim here is to provide you with a solid foundation and practical skills in advanced electrical concepts and theories. You'll use the latest software and will study technical subjects.

How do I get a place?

- One Higher at Grade C or above in Physics, Maths or Technological Studies.
- A relevant NQ at Level 6 accompanied with a good academic reference recommending articulation to a higher level
- Industrial experience and/or other qualifications will also be considered

What will I learn?

- Graded Unit
- Maths for Engineering
- Analogue & Digital Electronics
- MCU Processing
- Embedded Systems
- Electrical Theory

What can I do next ?

- Employment as an engineer in the electrical engineering field, particularly generation, distribution, research, manufacture, renewable energy and other emerging technologies
- Year 3 & 4 of degree-level studies in electrical engineering, such as at Edinburgh Napier, Heriot-Watt or University of Aberdeen

BEng Electrical and Electronic Engineering (incorporating HND Electrical Engineering)

Campus: Midlothian

Mode of Attendance: Full-Time

What is this course about?

If you're looking to develop your knowledge and skills of electrical and electronic engineering to a high standard, this course is ideal.

In Year 1, you'll follow the HNC Electrical Engineering course. It's designed to make sure you meet the varied needs of industry and commerce, through your Graded Unit and Mathematics for Engineering - just what you need to prepare you for the Year 2 HND.

The aim of the Year 2 HND is to provide you with a solid foundation and practical skills in advanced electrical concepts and theories. You'll use the latest software and study technical subjects to give you a practical understanding of Analogue & Digital Electronics, MCU Processing, Embedded Systems and Electrical Theory.

In Year 3 & 4, you'll study at Edinburgh Napier University, Heriot-Watt, or the University of Aberdeen. In your degree-level studies, you'll develop your skills and knowledge even further, gaining practical knowledge through a large team-based project, incorporating Digital and Software Design, Mechanics, and Management.

This course will allow you to develop the high level of electrical and electronic engineering knowledge you need to walk into a job in the industry, preparing you for a multitude of opportunities.

In association with



How do I get a place?

- One Higher at Grade C or above in Physics, Maths or Technological
- A relevant NQ at Level 6 accompanied with a good academic reference recommending articulation to a higher level
- Industrial experience and/or other qualifications will also be considered

What will I learn?

- Mathematics
- Analogue & Digital Electronics
- MCU Processing
- Embedded Systems
- Electrical Theory
- Energy Systems
- Analogue Electronics
- Physical Electronics
- Communications
- Digital and Software Design
- Mechanics
- Management

What can I do next ?

An Engineer in the Electrical Engineering field, particularly generation, distribution, research, manufacture, Renewable Energy and other emerging technologies.

City and Guilds 2377 Electrical Equipment Maintenance and Testing (PAT)

Campus: Sighthill
Mode of Attendance: Block Release

What is this course about?

The PAT Testing course aims to prepare the participants for the City & Guilds 2377 examination.

This vocational course provides the opportunity to carry out in-service inspection and testing of electrical equipment. It is also of interest to anyone with responsibility for the implementation and supervision of an equipment testing and maintenance regime.

How do I get a place?

This course is offered by Enterprise, the business training branch of the College. Contact the Enterprise team on enterprise@edinburghcollege.ac.uk or call 0131 535 4800.

What will I learn?

By the end of this course, participants will be able to:

- understand the legal requirements for maintenance of electrical equipment.
- identify the different types, construction and classification of electrical equipment for use.
- identify the suitability of electrical equipment for use.
- demonstrate knowledge and understanding of the

in-service tests carried out on different types and classes of equipment.

- carry out practical in-service inspection and testing on items of electrical equipment.

This course will cover:

- introduction to the Code of Practice for Inspection and Testing of Electrical Equipment
- equipment types and classification
- the use of test instruments
- practical testing of portable equipment

What can I do next?

This course will help to enhance your testing competence.

City and Guilds 2382 Requirements for Electrical Installation (17th Edition)

Campus: Sighthill
Mode of Attendance: Block Release

What is this course about?

The aim of the 17th Edition course is to provide practising electricians and electrical contractors with a good working knowledge of BS 7671: 2008 (IEE Wiring Regulations, 17th Edition).

This course is for anyone already employed in the electrical contracting industry that needs to update their knowledge of the regulations to renew their Electrician's grade cards. The course also provides an insight to electrical safety for anyone who is required to have some electrical knowledge as part of their job.

How do I get a place?

There are no formal entry requirements. The course is suitable for those employed in the electrical contracting industry or associated trades who require knowledge of the regulations as part of their work. This course is offered by Enterprise, the business training branch of the College. Contact the Enterprise team on enterprise@edinburghcollege.ac.uk or call 0131 535 4800.

What will I learn?

By the end of this course, delegates will be:

- Conversant with the format, content and the application of BS7671:2008
- Aware of the purposes, structure and content of the On-Site Guide and be able to use this in support of BS7671
- Prepared to sit the City & Guilds examination leading to the award of City & Guilds 2382.

Course Content

- Modules 1 & 2: Introduction to BS7671 (including Part 2) BS7671 Parts 1 & 3
- Module 3: Part 4 - Protection for Safety
- Module 4: Part 5 - Selection and Erection of Equipment
- Module 5: Part 6 - Inspection & Testing
- Module 6: Part 7 - Special Installations or Locations

What can I do next

This is essential for qualified electricians seeking to attempt the Inspection & Testing course.

City and Guilds 2394 Initial and Fundamental Inspection and Testing

Campus: Sighthill

Mode of Attendance: Block Release

Course Overview

The Inspection, Testing & Certification Of Electrical Installations course aims to prepare participants for the City & Guilds 2394 examination.

How do I get a place?

It is preferable that participants have completed the 17th Edition Wiring Regulations course as this is a course for qualified electricians and people of similar status employed in the electrical contracting industry. This course is offered by Enterprise, the business training branch of the College. Visit the Enterprise website for more information or contact the Enterprise team on enterprise@edinburghcollege.ac.uk or call 0131 535 4800.

What will I learn?

By the end of the course participants should be fully aware of:

- BS7671 requirements for initial verification and periodic inspection and testing.
- The information required to correctly conduct the inspection and testing of an installation.
- The statutory and non-statutory requirements and relevant guidance material which apply to the activity of inspecting and testing of electrical installations.

- The information to be contained on forms e.g. certificates and periodic inspection reports and how this information should be recorded.

This course will cover:

- Preparation for inspection and testing: requirements; information required; statutory and non-statutory requirements; certification and documentation
- Inspection: items to be inspected; periodic inspection; extent and limitations and electrical safety
- Testing instrumentation calibration and sequence of testing associated requirements, IP code, parallel circuit resistance
- Installation testing, continuity of protector conductors, ring circuit continuity; insulation resistance penetration and flashover, electrical separation, special locations, polarity; earth loop impedance; earth electrode, RCD tests and prospective fault current.
- Testing: practical exercises and techniques

What can I do next?

This course is an NCICEIC requirement for Qualified Supervisor status.





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