

**“I want to be  
an aircraft engineer”  
CHRIS LITTLE**



# Engineering

## LEVEL 2 CITY AND GUILDS 2330 CERTIFICATE IN ELECTRO-TECHNICAL TECHNOLOGY – INSTALLATION IN BUILDINGS AND STRUCTURES

### 1 year

This programme is suitable for people who wish to acquire electrical installation knowledge and practical skills, prior to moving to a career in electrical installation, or who wish to develop their present careers.

### Course Units:

- Working Effectively and Safely in an Electro-technical Environment
- Principles of Electro-Technology
- Application of Health and Safety and Electrical Principles
- Installation (Buildings and Structures)
- Functional Skills in Communication, Application of Number and ICT

Using both the main campus and our Masons Road workshops, students will benefit from the support of tutors with an occupational background in a well-equipped centre. Additional individual support is also available.

### To Join the Course:

- Good hand-eye co-ordination and be able to demonstrate an interest in the subject
- A good level of Mathematics and English is also an advantage

Students will normally be expected to purchase specialist safety clothing costing approximately £50.

Mature students without formal qualifications who show commitment to the subject area may join the course following a successful interview.

### Assessment:

Completion is by a series of online tests and some practical assignments.

### Progression:

This course is the first element of an advanced apprenticeship. The natural progression is to join the apprenticeship programme.



## LEVEL 2 EAL PERFORMING ENGINEERING OPERATIONS

### 1 year full-time

This course is designed for someone looking to acquire practical hands on skills. The course is based in our engineering workshop at Masons Road and is for those considering employment in an engineering environment.

### Course Units:

#### Mandatory Units:

- Complying with Statutory Regulations and Organisational Safety Requirements
- Using and Interpreting Engineering Data and Documentation
- Working Efficiently and Effectively in Engineering

#### Optional Units:

- Fitting Using Hand Skills
- Operating Centre Lathes
- Operating Milling Machines
- Operating Grinding Machines

Other options depending upon occupational area.

### Assessment:

Completion is achieved by a series of practical assignments supplemented by some written coursework.

### To Join the Course:

Good hand-eye co-ordination and an interest in mechanical engineering. Students will usually be expected to purchase safety clothing costing approximately £50.

### Progression:

This course forms one element of a mechanical apprenticeship. The natural progression for this course is on to the apprenticeship programme.

## LEVEL 2 IMI MOTOR VEHICLE MAINTENANCE AND REPAIR

### 1 year full-time

This course is aimed at those looking to gain basic skills in motor vehicle repair with a view to working in that environment.

Based at our Masons Road workshops, this course consists of:

### Course Units:

#### Five Sections:

- Chassis Technology
- Engine Technology
- Transmission Technology
- Electrical and Electrical Technology
- General Aspects e.g. Health and Safety, Legal Aspects and Organisational Requirements

### Assessment:

Ongoing practical phase tests with online exams.

### To Join the Course:

Demonstrate an interest in motor vehicle maintenance and successfully complete a mechanical comprehension assessment.

### Progression:

Level 3 course or employment within motor vehicle repair.



## BTEC FIRST DIPLOMA IN ENGINEERING

### 1 year full-time, equivalent to 4 GCSEs at grade C or above

This course will give you a good grounding in Mathematics and Applied Science while providing an introduction to a range of engineering disciplines. It is designed to lead on to a national diploma in an engineering subject but provides a nationally recognised qualification that could also lead on to employment in an engineering related field.

You will study nine units during the year and these will be assessed by coursework assignments rather than examinations.

#### Course Units:

- Mathematics
- Applied Science
- Electronic Devices
- Electronic Circuit Construction
- Engineering Materials
- Computer Aided Design
- Fabrication and Sheet Metal Work
- Working Practices in Engineering
- Using and Interpreting Engineering Information

Your course is enhanced by the study of employability skills, enrichment visits and tutorial support. You will also have the opportunity to re-sit GCSE Mathematics and/or English (for those who have achieved a grade D at GCSE).

#### Assessment:

Assessment tasks may include practical projects, written work, and staff observations. There will be an emphasis on the use of ICT as a learning tool.

#### To Join the Course:

You will need to have:

- At least 2 GCSEs at grade D
- An interest in engineering
- A commitment to study

Mature students without formal qualifications who show commitment to the subject area may join the course following a successful interview.

#### Further Opportunities:

- Progression on to the BTEC National Diploma in Engineering or Electrical/Electronic Engineering
- Employment in engineering or an engineering related industry

## BTEC NATIONAL DIPLOMA IN ENGINEERING

### 2 years full-time, equivalent to 3 A Levels

The BTEC National Diploma in Engineering is a course designed for students considering a career in any branch of engineering. Some students who study this course may be looking to progress to university, possibly to study engineering or a related discipline; others may be aiming to follow a career as an Engineering Technician.

The course provides a vocational alternative to A Levels and will appeal to international and UK students looking for a course of study with an emphasis on the more practical aspects of the subject. You will study a total of eighteen units during the two years of the course and these will be assessed by coursework assignments and possibly occasional short tests, rather than examinations.

#### Course Units:

##### Year One

You will cover a broad range of engineering topics to give a basis for specialisation in year two. The units will run concurrently with the National Diploma in Electronic and Electrical Engineering.

- Mathematics
- Electronics
- Mechanical Principles
- Electrical Principles
- Business for Technicians
- Communication for Technicians
- Engineering Drawing
- Electronic Circuit Manufacture
- Microprocessor Systems

##### Year Two

You will study more specialised units depending on the chosen engineering subject. A project worth two units will be undertaken and will be expected to reflect the student's own areas of interest. Other units studied will include:

- Engineering Materials and Processes
- Engineering Design
- Analogue Electronics
- Digital Electronics
- Fabrication Processes
- Computer Aided Design

#### Assessment:

Assessment tasks may include the production of portfolios, presentations, practical projects, and staff observations. There will be a strong emphasis on the use of ICT as a learning tool.

Your course will also include tutorial support, enrichment visits as appropriate, and the opportunity to re-sit GCSE English if needed.

#### To Join the Course:

You will need at least one of the following:

- A minimum of four GCSE passes at grade C or above to include Mathematics
- A BTEC First Diploma in Engineering or related subject with overall merit profile
- Other qualifications of equivalent standard

Mature students without formal qualifications who show commitment to the subject area may join the course following a successful interview.

# BTEC NATIONAL DIPLOMA IN ELECTRICAL/ELECTRONIC ENGINEERING

## 2 years full-time, equivalent to 3 A Levels

The field of Electrical and Electronic Engineering is changing and expanding constantly. There is a constant demand for well qualified personnel to fill the many varied job roles available, both in Britain and throughout the world.

This course is designed principally for students considering a career in electrical engineering or electronics or related disciplines such as computing or telecommunications. It is likely to appeal to students looking for a vocational course of study that is assessed by assignment work.

This course will be suitable for students wishing to progress to university to study at higher national diploma or degree level, or directly to a career as an Engineering Technician. The emphasis in lessons is on learning through both practical and written exercises and ICT will frequently be used as a learning tool.

### Course Units:

You will study a total of eighteen units over the two years of the course.

#### Year One

You will cover a broad range of Engineering topics needed to provide an understanding of all subjects relating to Electrical/Electronic Engineering. The units will run concurrently with the National Diploma in Engineering.

- Mathematics
- Electronics
- Mechanical Principles
- Electrical Principles
- Business for Technicians
- Communication for Technicians
- Engineering Drawing
- Electronic Circuit Manufacture
- Microprocessor Systems

#### Year Two

You will study more specialised units depending on the chosen engineering subject. A project worth two units will be undertaken and will be expected to reflect the student's own areas of interest. Other units studied will include:

- Analogue Electronics
- Digital Electronics
- Software Design and Development
- Maintaining Computer Systems
- Engineering Materials and Processes
- Engineering Design

### Assessment:

Assessment tasks may include the production of portfolios, presentations, practical projects, and staff observations. There will be a strong emphasis on the use of ICT as a learning tool. An individual project relating to one or more areas covered in the course will be completed in year two. Your course will also include tutorial support, Functional Skills ICT and the opportunity to re-sit GCSE English if needed.

### To Join the Course:

You will need at least one of the following:

- A minimum of four GCSE passes at grade C or above including Mathematics
- A BTEC First Diploma in Engineering or related subject with overall merit profile
- Other qualifications of equivalent standard

Mature students without formal qualifications who show commitment to the subject area may join the course following a successful interview.

