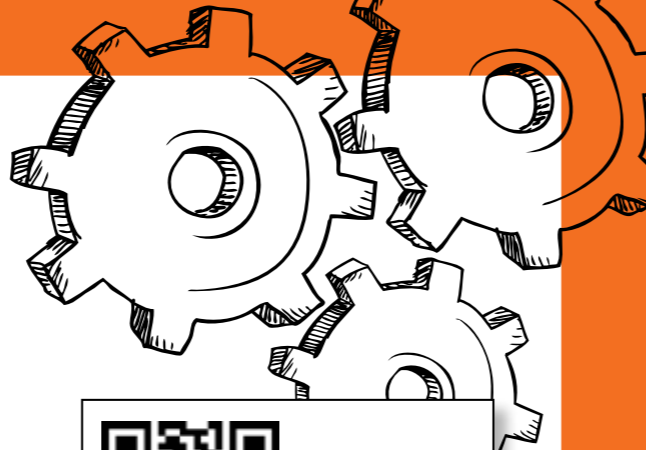


# Engineering



Industry approved qualifications are a must if you want to forge a successful career in engineering.



Use your smartphone to view Ross Varnam

We offer a wide choice of popular engineering and technology courses in the areas of mechanical, manufacturing, motor vehicle, engineering and electronics – industries which are vital to the national economy and essential for facing future global challenges.

Expert tuition is delivered in our state-of-the-art Technology and Engineering Centre by experienced tutors who possess a wealth of industry experience.

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**Ross Varnam**  
Apprenticeship: Auto Body Repair



Ross Varnam, who studied an Auto Body Repair apprenticeship in Engineering at the College, has been chosen to take part in WorldSkills London 2011. Ross will be a member of Team UK where he will compete in the Autobody Repair category.

The WorldSkills London 2011 event will be taking place at ExCEL from 5 to 8 October 2011 and at the competition, 1000 competitors from over 50 countries will compete in 46 skills areas to become the "best of the best."

Ross said, "Hopefully I'll win a gold medal in the WorldSkills competition and who knows after that, we'll see where it takes me!"



## BTEC Level 1 Diploma: Engineering

Location: Abbey Park Campus  
Course Code: A9172  
Course Length: One Year  
Qualification Level: 1

### What's it all about?

You will study basic electronics/mechanical engineering with a strong focus on improving literacy, numeracy and IT skills.

### What does it involve?

An emphasis on learning by practical application of skills. As such there is a large element of time dedicated to practical workshop sessions. You will develop skills through practical problem solving, working on your own and as part of a team.

There will be a strong focus on time-keeping, attendance of classes and participation in your learning.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Grade D in Mathematics and grade E in English and a Science based subject at GCSE (or equivalent).

### What can I do afterwards?

Level 2 Diploma in Automotive Engineering, Manufacture Engineering or Electrical/Electronic Engineering or Apprenticeships with local businesses.

### What days and times will I be in College?

14 hours per week over 35 weeks.

## BTEC Level 2 Diploma: Engineering (Electronics)

Location: Abbey Park Campus  
Course Code: A3900  
Course Length: One Year  
Qualification Level: 2

### What's it all about?

You will gain valuable insight into various areas of engineering technology and related industries, providing a potential spring board to further training.

### What does it involve?

The course comprises of four core units, and three specialist units chosen from electrical/electronic disciplines. You will also complete Functional Skills in English, maths and ICT.

### Are there exams?

No, assessment of work during the course, with an integrated vocational assignment at the end.

### What entry qualifications do I need?

Four GCSEs at grade D.

### What can I do afterwards?

The course leads to the level 3 Diploma or to a work-based learning scheme, which can then lead to university entrance.

### What days and times will I be in College?

15 hours per week over 36 weeks.

### Are there any other things I need to know?

You will need boots and overalls for the practical lessons.





## BTEC Level 2 Diploma: Engineering Computer Systems/Telecoms

**Location:** Abbey Park Campus  
**Course Code:** A0362  
**Course Length:** One Year  
**Qualification Level:** 2

### What's it all about?

This course is for you if you wish to enter a career in Communications Engineering who wish to proceed to the BTEC National Award or into industry by following an Apprenticeship route.

### What does it involve?

The course comprises three core units and four specialist units chosen from electrical/electronic disciplines. You will also complete Functional Skills in English, maths and ICT.

### Are there exams?

No, assessment of work during the course, with an integrated vocational assignment at the end.

### What entry qualifications do I need?

Four GCSEs at grade D, or a level 1 vocational qualification plus GCSE English at Grade D/E.

### What can I do afterwards?

This course leads to either a BTEC National Certificate or Diploma or could give you access to a career in telecommunications, computer systems or electronics.

### What days and times will I be in College?

16 hours per week over 36 weeks.

### Are there any other things I need to know?

You will need boots and overalls for the practical lessons.

## BTEC National Award/ Certificate/Diploma: Computer Systems Engineering

**Location:** Abbey Park Campus  
**Course Code:** A0360  
**Course Length:** Two Years  
**Qualification Level:** 3

### What's it all about?

This course is for you if you wish to enter a career in telecommunication computer systems engineering, maintenance, management of computer equipment and networks or data communications technologies such as satellites, fibre optics and the internet.

### What does it involve?

Units covered include:

- networking
- PC fault analysis
- communication engineering and programming
- computer hardware
- networking and software development.

It is intended to provide you with as much practical and hands-on experience as possible.

### Are there exams?

Assessment is through coursework assessments, practical assignments, mid-term phase tests and module examinations.

### What entry qualifications do I need?

Five GCSEs at grade C including English. For adult learners, an offer may be made after assessment of qualifications and prior experience.

### What can I do afterwards?

You can progress to university to study Engineering or one of its branches. Alternatively you can enter design/test or maintenance engineering, manufacturing or servicing employment as an Apprentice or progress to a related Higher Education course.

### What days and times will I be in College?

16 hours per week over 36 weeks.

### Are there any other things I need to know?

You will need boots and overalls for the practical lessons.



## BTEC Level 3 Extended Diploma: Electrical/ Electronics Engineering

**Location:** Abbey Park Campus  
**Course Code:** A3898  
**Course Length:** Two Years  
**Qualification Level:** 3

### What's it all about?

This course prepares you for entry into careers such as technicians or junior engineers in local or national companies or any industry that involves electronic and computer maintenance.

### What does it involve?

The course will include a balance between learning and using practical skills, understanding electrical and electronic engineering theory and calculations, as well as using computers to design, calculate, make and write illustrated reports. BTEC level 3 Subsidiary Diploma in Engineering may be achieved in the first year. The second year completes the BTEC level 3 Extended Diploma in Engineering.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Five GCSEs at grade C including English.

### What can I do afterwards?

You can progress to university to study Engineering or one of its branches. Alternatively you can enter design/test or maintenance engineering, manufacturing or servicing employment as an Apprentice or progress to a related Higher Education course.

### What days and times will I be in College?

16 hours per week over 36 weeks.

### Are there any other things I need to know?

You must demonstrate an interest in basic electronics/IT and attend all classes. You will need protective clothing and footwear for practical workshop activities.

## BTEC Level 3 Diploma: Renewable Power

**Location:** Abbey Park Campus  
**Course Code:** A9786  
**Course Length:** Two Years  
**Qualification Level:** 3

### What's it all about?

Renewable Power Engineering sector. Design and manufacture of these systems together with the skills required to work on the installation and maintenance of these new technologies.

### What does it involve?

A mixture of theoretical, experimental and practical teaching methods will be used to enhance your learning.

You will undertake a variety of different modules based around designing, implementing and understanding renewable technology including:

- energy management
- sustainable transport
- geology of natural resources
- electrical installation
- features and applications of electrical machines
- principles and operation of three phase systems
- engineering design
- properties and applications of engineering materials
- principles and applications of electronic devices
- electrical technology, engineering project.

### Are there exams?

No, assessment is continuous.

### What entry qualifications do I need?

Four GCSEs at grade or above including Maths and Science. Consideration will also be given to adult learners and those with prior achievement relevant to the subject area.

### What can I do afterwards?

Learners will be equipped to seek employment in the renewable power sector, along with many fields of engineering. Progression to University courses in the electrical / renewable engineering field is also possible.

### What days and times will I be in College?

16 hours per week over 35 weeks.

### Are there any other things I need to know?

You will go on visits to power stations and renewable energy installations as well as attending exhibitions and conferences.



## **BTEC Level 2 Diploma: Engineering (Manufacturing)**

**Location:** Abbey Park Campus  
**Course Code:** A3741  
**Course Length:** One Year  
**Qualification Level:** 2

### **What's it all about?**

This course has been designed to give new entrants to the engineering sector the underpinning knowledge and specific skills needed to meet the needs of modern engineering industries.

### **What does it involve?**

The course comprises three core units and three specialist units chosen from design, manufacturing and mechanical disciplines. You will also complete Functional Skills in English, maths and ICT.

### **Are there exams?**

The course is assessed by assignment work during the course with an integrated vocational assignment at the end.

### **What entry qualifications do I need?**

Four GCSEs at grade D, or a level 1 vocational qualification plus GCSE English at Grade D/E.

### **What can I do afterwards?**

The course leads to a BTEC National Award/Certificate in Manufacturing or into industry by following an Apprenticeship route.

### **What days and times will I be in College?**

16 hours per week over 36 weeks.

### **Are there any other things I need to know?**

You will need boots and overalls for the practical lessons.

## **BTEC Level 3 Extended Diploma: Manufacturing Engineering**

**Location:** Abbey Park Campus  
**Course Code:** A1678  
**Course Length:** Two Years  
**Qualification Level:** 3

### **What's it all about?**

This course is for you if you wish to gain a broad qualification in design, mechanical, electrical and electronics engineering.

### **What does it involve?**

The course includes a balance between theory and practical skills, understanding engineering theory and calculations, as well as using computers to design, calculate, make and write illustrated reports. BTEC level 3 Subsidiary Diploma in Engineering may be achieved in the first year. The second year completes the BTEC level 3 Extended Diploma in Engineering.

### **Are there exams?**

No, continuous assessment.

### **What entry qualifications do I need?**

Five GCSEs at grade C including English. For adult learners, an offer may be made after assessment of qualifications and prior experience.

### **What can I do afterwards?**

You can progress to university to study Engineering or one of its branches. You can enter the design engineering, manufacturing or servicing industries as an Apprentice.

### **What days and times will I be in College?**

17 hours per week over 35 weeks.

### **Are there any other things I need to know?**

Materials will be provided at a small cost to you. Please check these costs when enrolling.



## **Access to Higher Education Diploma: Engineering**

**Location:** Abbey Park Campus  
**Course Code:** A0414  
**Course Length:** One Year  
**Qualification Level:** 3

### **What's it all about?**

This is an intensive year of study designed to prepare you for a university course and requires you to have a mature attitude to time management and hard work.

### **What does it involve?**

This course allows the widest possible choice of engineering routes. Units covered include:

- electrical and mechanical science
- Functional Skills English, maths and ICT
- study skills.

### **Are there exams?**

Yes, exams and continuous assessment. You will be expected to produce a portfolio to demonstrate the range of your studies.

### **What entry qualifications do I need?**

Five GCSEs at grade C including English.

### **What can I do afterwards?**

On successful completion of this course you could continue your studies at university. Career progression could be into mechanical, electrical or electronic engineering.

### **What days and times will I be in College?**

14 hours per week over 35 weeks.

### **Are there any other things I need to know?**

You will need a good scientific calculator and time to work at home. Work experience is a compulsory part of this course.

Please see page 10 for more information on Access courses.

## **Foundation: Motor Vehicle**

**Location:** Abbey Park Campus  
**Course Code:** A0351  
**Course Length:** One Year  
**Qualification Level:** Entry

### **What's it all about?**

If you have a passion for motor vehicle work and possess basic qualifications this course is ideal. It will assist you in applying for initial employment in the practical side of the motor trade.

### **What does it involve?**

Units covered include:

- practical training and assessment in Health and Safety
- vehicle electrical and electronic theory and practice
- vehicle systems technology
- basic science, maths and IT.

### **Are there exams?**

No, you will be assessed on your ability to perform various practical tasks in the workshop.

### **What entry qualifications do I need?**

No formal qualifications.

### **What can I do afterwards?**

You can progress to the IMI level 1 and/or Apprenticeship status within the local automotive industry. This course will help you to gain employment in Motor Vehicle Engineering.

### **What days and times will I be in College?**

16 hours per week over 36 weeks.

### **Are there any other things I need to know?**

A trip to a vehicle manufacturer is undertaken within the course. This is designed to support learning and give you an insight into vehicle production.



## IMI Level 1 Diploma: Motor Vehicle Body Repair

**Location:** Abbey Park Campus  
**Course Code:** A1297  
**Course Length:** One Year  
**Qualification Level:** 1

### What's it all about?

This course is for you if you wish to gain employment in the motor body repair industry.

### What does it involve?

The College has training facilities which includes the latest vehicle body alignment technology.

Units covered include:

- welding
- panel removing and refitting
- dent repair and panel beating
- the use of fillers
- simple panel manufacture
- plastic welding and panel preparation
- vehicle construction
- materials
- repair techniques and equipment
- Functional Skills English, maths and ICT.

### Are there exams?

Yes, practical competence tasks and written assignments as well as online exams.

### What entry qualifications do I need?

Two GCSEs or equivalent (any grade).

### What can I do afterwards?

You can progress to IMI level 2. Employment in the motor trade as a part of a national Apprenticeship scheme.

### What days and times will I be in College?

16 hours per week over 35 weeks.

### Are there any other things I need to know?

The College organises Jaguar Factory tours, enrichment activities and a visit to the Coventry Transport Museum. You must demonstrate an interest in motor vehicle work and be prepared to attend all classes. You are encouraged to find part-time work within the body repair trade.

## IMI Level 1 Diploma: Vehicle Fitting Operation

**Location:** Abbey Park Campus  
**Course Code:** A5549  
**Course Length:** One Year  
**Qualification Level:** 1

### What's it all about?

This course is for you if you wish to gain employment in Motor Vehicle Engineering. If you have a passion for motor vehicle work this course is ideal.

### What does it involve?

This is a level 1 pre-Apprenticeship qualification that covers the technical needs for today's motor vehicle repair industry, including basic processes, principles and foundation skills. The learning programme involves you studying both the theory and practical aspects of light vehicles in the following:

- basic construction and layouts
- basic front wheel alignment
- basic testing of vehicle charging systems
- basic removal and replacement of clutches, exhaust systems, batteries, suspension dampers, braking system components and standard light vehicle tyres.

You also gain a broad knowledge and understanding of health and safety in the workplace and other skills associated with working in a garage. Your knowledge is assessed by IMI set practical assessments in a motor vehicle workshop environment. IMI also set online multiple-choice testing and assessments.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Two GCSEs or equivalent (any grade).

### What can I do afterwards?

You can progress onto IMI level 2 upon completion of level 1. You can progress to the City and Guilds and/or Apprenticeship status within the local automotive industry. Your tutor or assessor can help you find appropriate employment.

### What days and times will I be in College?

16 hours per week over 35 weeks.

### Are there any other things I need to know?

You will be expected to show a determined effort and attend all lessons. You are advised to obtain one day's work experience a week in a garage to complement the course.



## IMI Level 1 Diploma: Vehicle Maintenance and Repair Motorcycles

**Location:** Abbey Park Campus  
**Course Code:** A6189  
**Course Length:** One Year  
**Qualification Level:** 1

### What's it all about?

This level 1 qualification covers the basic technical needs for today's motor vehicle repair industry. It provides essential knowledge for service technicians working on motorcycles in all types of garages and dealerships.

### What does it involve?

It involves you studying both the theory and practical aspects of the following:

- motorcycle construction and routine maintenance
- operating principles of motorcycle engines, tyres, brakes, steering and suspension systems
- operating principles and maintenance of motorcycle transmission systems and electrical and electronic systems
- assembling new motorcycles.

You will also gain a broad knowledge and understanding of Health and Safety in the workplace and other skills associated with working in a garage.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Two GCSEs or equivalent (any grade).

### What can I do afterwards?

IMI level 2 Certificate in Motorcycles Route or Apprenticeship Motorcycle repair technician or similar motorcycle related industry.

### What days and times will I be in College?

16 hours per week over 35 weeks.

### Are there any other things I need to know?

A trip to a vehicle manufacturer is undertaken within the course. This is designed to support learning and give you an insight into motorcycle vehicle production.

## IMI Level 2 Diploma: Maintenance and Repair Motorcycles

**Location:** Abbey Park Campus  
**Course Code:** A7354  
**Course Length:** One Year  
**Qualification Level:** 2

### What's it all about?

This level 2 qualification covers the technical needs for today's motor vehicle repair industry, including the diagnosis of non-complex system faults. It provides essential knowledge for service technicians working on motorcycles in all types of garages and dealerships.

### What does it involve?

It involves you studying both the theory and practical aspects of motorcycles in the following areas:

- carrying out routine vehicle maintenance
- removing and replacing engine units and components
- electrical auxiliary units and components
- chassis units and components.

You will also gain a broad knowledge and understanding of Health and Safety in the workplace and other skills associated with working in a garage.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Level 1 Diploma in motorcycle repair or similar prior learning.

### What can I do afterwards?

You can progress to the IMI level 3 Diploma in motorcycle repair, or an Apprenticeship in motorcycle repair.

### What days and times will I be in College?

14 hours per week over 36 weeks.

### Are there any other things I need to know?

The College arranges trips to local vehicle manufacturing plants and museums.



## Level 2 Diploma: Repair of Motor Vehicle Bodies Route

**Location:** Abbey Park Campus  
**Course Code:** A1358  
**Course Length:** One Year  
**Qualification Level:** 2

### What's it all about?

This is a level 2 qualification which covers technical needs for basic body repair techniques and procedures. It provides essential knowledge and skills for the body repairer.

### What does it involve?

It involves you studying both the theory and practical aspects, including:

- removing and fitting permanent and non-permanent fixed body panels and components
- carrying out minor repairs to body panels
- resistance spot welding.

You will also gain a broad knowledge and understanding of Health and Safety in the workplace and other skills associated with working in a garage. Functional Skills are compulsory elements of this course.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

A suitable level 1 qualification or substantial body repair experience.

### What can I do afterwards?

You can progress to the IMI level 3 Diploma in motorcycle repair, or an Apprenticeship in motorcycle repair.

### What days and times will I be in College?

15 hours per week over 35 weeks.

### Are there any other things I need to know?

Various enrichment trips are planned for this course.

## IMI Level 2 Diploma: Motor Vehicle Paint Refinishing

**Location:** Abbey Park Campus  
**Course Code:** A1360  
**Course Length:** One Year  
**Qualification Level:** 2

### What's it all about?

This qualification has been designed for you to develop occupational knowledge of vehicle paint refinishing and supports you if you do not have access to a work placement.

### What does it involve?

The course requires you to complete the following modules:

- contribute to workplace good housekeeping
- ensure your own actions reduce risks to Health and Safety
- maintain positive working relationships
- prepare vehicle panels to accept foundation and topcoats
- prepare and apply foundation materials to vehicles
- repair minor vehicle paint defects.

You will also study Functional Skills in English, maths and ICT.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Four GCSEs at grade D, or a level 1 vocational qualification plus GCSE English at Grade D/E. A level 1 in vehicle paint refinishing or some accredited experience.

### What can I do afterwards?

You can progress to the IMI level 3 Diploma in Vehicle Paint Refinishing. The qualification forms part of the national Apprenticeship framework for vehicle paint sprayers. You are encouraged to gain employment in this area.

### What days and times will I be in College?

16 hours per week over 36 weeks.

### Are there any other things I need to know?

The College arranges trips to local vehicle manufacturing plants and museums.



## Level 2 Diploma: Vehicle Fitting Operations Route

**Location:** Abbey Park Campus  
**Course Code:** A6188  
**Course Length:** One Year  
**Qualification Level:** 2

### What's it all about?

This is a level 2 qualification that includes the full range of routine vehicle fitting procedures. It provides essential knowledge and skills for vehicle fitters working on a wide range of vehicles.

### What does it involve?

It provides you with the opportunity to study both the theory and practical aspects of some of the following:

- inspecting, repairing and replacing high performance light vehicle tyres and motorcycle tyres
- carrying out light vehicle front wheel alignment
- inspecting and replacing light vehicle clutches, exhaust components, suspension dampers, vehicle batteries and braking systems
- safe use of oxy-acetylene.
- assessing and securing a roadside situation.

Functional Skills elements are compulsory elements of the course.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

A level 1 automotive qualification or substantial experience of vehicle fitting.

### What can I do afterwards?

Opportunities for progression on to the level 3 course are possible if you can demonstrate advanced diagnostic skills. Alternatively you may find employment in the motor trade as part of a national apprenticeship scheme.

### What days and times will I be in College?

16 hours per week over 35 weeks.

### Are there any other things I need to know?

Various enrichment trips are planned as part of the learning programme.

## IMI Level 2 Diploma: Motor Vehicle Maintenance and Repair

**Location:** Abbey Park Campus  
**Course Code:** A9929  
**Course Length:** One Year  
**Qualification Level:** 2

### What's it all about?

This course is for you if you are not employed in the automotive industry and want the opportunity to develop occupational knowledge and skills.

### What does it involve?

Units covered include:

- engine
- chassis
- electrical and transmission technology
- materials and fabrication
- vehicle servicing
- health & safety.

Study is split equally between the classroom and our well equipped workshop.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Level 1 in a vehicle maintenance qualification.

### What can I do afterwards?

An ideal qualification in which to enter employment as a general service technician or level Three Diploma in Vehicle Maintenance and Repair is available to successful learners.

### What days and times will I be in College?

16 hours per week over 36 weeks.



## Level 2 Diploma: Motor Sport

**Location:** Abbey Park Campus  
**Course Code:** A0465  
**Course Length:** One Year  
**Qualification Level:** 2

### What's it all about?

This course is for you if you wish to ultimately progress to university-level study in automotive engineering/motor sport engineering.

### What does it involve?

Units covered include:

- Health and Safety
- vehicle electronics and electrics
- vehicle engineering skills (basic)
- vehicle chassis technology
- engine technology
- motor sports engines
- on-event maintenance and inspection
- maths and science.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Two GCSEs or equivalent (any grade).

### What can I do afterwards?

Progress to the BTEC National Award/certificate in vehicle technology. The course will support an Apprenticeship in the motor trade.

### What days and times will I be in College?

15 hours in College over 36 weeks.

### Are there any other things I need to know?

Experience in the motor vehicle trade. A positive attitude to learning is essential. Various motor vehicle/motor sport-related educational trips are arranged.

## IMI Level 3 Diploma: Motor Vehicle Maintenance and Repair

**Location:** Abbey Park Campus  
**Course Code:** A4500  
**Course Length:** One Year  
**Qualification Level:** 3

### What's it all about?

The course is about fault diagnosis and repair on motor vehicle components and systems. This includes engine, chassis and electronic systems.

### What does it involve?

Units covered include:

- good housekeeping
- Health and Safety
- working with others
- diagnose and rectify engine system faults
- diagnose and rectify chassis system faults
- diagnose and rectify transmission system faults
- diagnose and rectify electrical system faults.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Five GCSEs at grade C including English.

### What can I do afterwards?

On successful completion of this course you may be able to progress to the BTEC National Certificate. Full-time employment in and around the automotive industry.

### What days and times will I be in College?

16 hours in College over 35 weeks.

### Are there any other things I need to know?

To apply for this course you must have successfully completed a level 2 motor vehicle course.



## Extended Diploma: Motor Vehicle Maintenance and Repair

**Location:** Abbey Park Campus  
**Course Code:** A9981  
**Course Length:** Two Years  
**Qualification Level:** 3

### What's it all about?

The aim of the course is to develop the necessary knowledge and skills required for a Modern Vehicle Engineer to assist in diagnostic and repair techniques.

### What does it involve?

At each level and route of the qualifications are split into Technical units covering all aspects of the motor vehicle. Units include;

- Vehicle systems
- Vehicle Science
- Vehicle Mathematics
- Information Communication Technology for Vehicle Repair
- Vehicle Electrics and Electronics.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

At least four GCSEs at Grades A\* - C including Mathematics, Science and English.

### What can I do afterwards?

You can progress and develop in an Automotive Environment as a Technician or study further at University to master technician.

### What days and times will I be in College?

16 hours in College over 36 weeks.

### Are there any other things I need to know?

Vocational trips are included in the learning program; such as Manufacturing plants and Motor museums.

## Bursary funding

### Need financial help to attend College?

Find out about bursary funding for 16 to 19 year olds on page 188.

## Travel

### How will you be travelling to College?

Find out about subsidised bus passes on page 7.

## Apprenticeships

### Earn while you learn

A vast range to choose from, you can find your perfect apprenticeship at Leicester College. Find out more on page 8.



## Apprenticeship: Electrical/ Mechanical Maintenance

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A1730  
**Course Length:** One/Two Years  
**Qualification Level:** 2

### What's it all about?

It is necessary for off the job training for this programme to be supported in company to enable you to develop the required skills for the Maintenance Engineering industry.

### What does it involve?

The programme is made up of six units, two mandatory and six optional. For apprenticeship programmes you will need to carry out appropriate NVQ training and Functional Skills.

### Are there exams?

There is one multiple-choice external exam covering the three core units and then on programme assessment, in either multiple-choice format or short answer questions. Practical elements are tested.

### What entry qualifications do I need?

You must be employed in the motor vehicle industry.

### What can I do afterwards?

Once the course is completed, you can progress to the Advanced Diploma in Engineering Technology, a level 3 course equivalent to two or more A levels. Completion of the programme is designed to give a firm foundation in both the practical and theory elements to enable you to progress onto higher level courses.

### What days and times will I be in College?

One day a week over 38 weeks on Wednesdays.

## Apprenticeship: Mechanical and Production Engineering

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A1214  
**Course Length:** One/Two Years  
**Qualification Level:** 2

### What's it all about?

Designed on the Engineering Competency Standards and meets the requirements of both employers and the awarding body who oversee the accreditation.

### What does it involve?

It is made up of six units, the first three being the core and the remainder being skills specific. They are:

- engineering environment awareness
- engineering techniques
- engineering principles
- material processes
- fitting and machining techniques
- technology (milling and turning).

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Five GCSEs at grade C including English.

### What can I do afterwards?

The programme is designed to give a firm foundation in both the practical and theory elements of mechanical and production engineering to enable you to progress onto higher level courses.

### What days and times will I be in College?

One day a week over 38 weeks on Wednesdays.



## Apprenticeship: Fabrication and Welding

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A1270  
**Course Length:** One/Two Years  
**Qualification Level:** 2

### What's it all about?

This course gives you a foundation in both the practical and theory elements to enable you to progress onto higher level courses.

### What does it involve?

It is necessary for the off the job training for this programme to be supported in company to enable you to develop required skills.

Practical elements are tested through skills tests in the College workshop.

The Intermediate certificate is made up of seven units, three units are common core and four units are skills specific to Fabrication and Welding. The Performing Engineering Operations will cover unit six which will be assessed through observation of practical skills.

### Are there exams?

Assessments will be one external exam plus programmes assessment, either multiple choice or short answer questions.

### What entry qualifications do I need?

Five GCSEs at grade C including English.

### What can I do afterwards?

You can progress to the Advanced Diploma in Engineering Technology, a level 3 course which is the equivalent of two or more A levels in a vocational subject.

### What days and times will I be in College?

One day a week over 38 weeks on Wednesdays.

## Apprenticeship: Electrical/ Electronic Engineering

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A1636  
**Course Length:** One/Two Years  
**Qualification Level:** 2

### What's it all about?

It is designed to give a firm foundation in both the practical and theory elements of electrical/electronic engineering to enable you to progress onto higher level courses.

### What does it involve?

You will need to carry out appropriate NVQ and Functional Skills training.

It is made up of six units, the first three being the core and the remainder being skills specific. They are:

- engineering environment awareness
- engineering techniques
- engineering principles
- electrical and electronic principals
- testing methods
- systems and devices.

### Are there exams?

Yes, exams and continuous assessment. There is one multiple choice external exam covering the three core units and then on programme assessment, in either multiple choice format or short answer questions. Practical elements are tested through skills tests in the College workshops.

### What entry qualifications do I need?

Employment in the motor vehicle industry as an Electrical/Electronic Apprentice. A level 1 qualification or equivalent in English, maths and science.

### What can I do afterwards?

You can progress to the Advanced Diploma in Engineering Technology, a level 3 course the equivalent of two or more A levels in a vocational subject.

### What days and times will I be in College?

Ten hours in College over 37 weeks on Wednesdays.



## Apprenticeship: Auto Electricians

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A2897  
**Course Length:** One/Two Years  
**Qualification Level:** 2

### What's it all about?

This is a level 2 qualification that covers the technical needs for today's Auto repair industry, including the interpretation of data from system symptoms and diagnosis of non-complex faults.

### What does it involve?

It involves you studying both the theory and practical aspects of the following:

- repairing electrical units
- locating and correcting simple electrical faults
- enhancing vehicle electrical system features and the choice of either,
  - conducting pre and post work inspections
  - removing and fitting basic mechanical, electrical and trim (MET) components.

You can also gain a broad knowledge and understanding of Health and Safety in the workplace and other skills associated with working in a garage.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

You must be employed in a Motor Vehicle Body-shop.

### What can I do afterwards?

You can progress onto a level 3 Advanced Apprenticeship.

### What days and times will I be in College?

One day a week over 36 weeks on Tuesdays.

### Are there any other things I need to know?

You must be employed as a Automotive Electrician.

## Apprenticeship: Technical Support

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A8164  
**Course Length:** One/Two Years  
**Qualification Level:** 2

### What's it all about?

This course will provide you with routes to identifying the competences you need to assist in the planning of Engineering activities. To understand and comply with any organisational policies and procedures within an engineering environment.

### What does it involve?

The course consists in the production of plans for a range of engineering activities, such as:

- components/product manufacturing
- assembly activities
- installation
- material processing and finishing
- testing and trialling
- commissioning
- planning maintenance
- lifting, moving and transporting of goods
- transporting of goods or materials
- plans for capability studies or equipment replacement programs.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

None.

### What can I do afterwards?

On completion of this program you may be able to progress onto a level 4 Higher National Certificate VRQ.

### What days and times will I be in College?

One day a week in college over 37 weeks.



## Apprenticeship: Motor Vehicle Body Repair

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A1351  
**Course Length:** Two Years  
**Qualification Level:** 2

### What's it all about?

This level 2 qualification covers the technical knowledge for the Apprenticeship in today's motor vehicle body repair industry, including basic body repair techniques and procedures.

### What does it involve?

It involves you studying both the theory and practical aspects of the following:

- removing and fitting non-welded non-structural body panels
- removing and replacing non-structural body panels
- repairing non-structural body panels.

You will also gain a broad knowledge and understanding of Health and Safety in the workplace and other skills associated with working in a garage.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Employment in the motor vehicle industry as an Body repair apprentice.

### What can I do afterwards?

On successfully completing this qualification you will be able to progress to a level 3 Advanced Apprenticeship in Body repair or work as a fully skilled body repair technician.

### What days and times will I be in College?

One day a week over 36 weeks on Tuesdays.

## Apprenticeship: Motor Vehicle Paint and Refinishing

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A6713  
**Course Length:** One/Two Years  
**Qualification Level:** 2

### What's it all about?

The level 2 qualification covers the technical needs for today's motor vehicle repair industry. It provides the knowledge for vehicle body and paint operators working on a wide range of vehicles across the motor vehicle sector.

### What does it involve?

It involves you studying both the theory and practical aspects of the following:

- preparing panels to accept foundation and topcoats
- preparing and applying foundation materials to vehicles
- repairing minor paint defects.

You will also gain a broad knowledge and understanding of Health and Safety in the workplace and other skills associated with working in a garage.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

You must be employed in a Motor Vehicle Body-shop.

### What can I do afterwards?

Progress to advanced apprenticeship in Motor Vehicle paint and refinishing.

### What days and times will I be in College?

One day a week over 36 weeks on Mondays.



## Apprenticeship: Motor Vehicle Maintenance and Repair

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A0782  
**Course Length:** One/Two Years  
**Qualification Level:** 2

### What's it all about?

This level 2 qualification covers the technical needs for today's motor vehicle repair industry, including the diagnosis of non-complex system faults.

### What does it involve?

It involves you studying both the theory and practical aspects of the following:

- carrying out routine vehicle maintenance
- removing and replacing – engine units and components
- electrical auxiliary units and components
- chassis units and components.

You will also gain a broad knowledge and understanding of Health and Safety in the workplace and other skills associated with working in a garage.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

Employment in the motor vehicle industry and level 1 vocational qualification or experience in industry.

### What can I do afterwards?

You can progress to the IMI Light Vehicle Maintenance and Repair, level 3 Advanced Apprenticeship.

### What days and times will I be in College?

One day a week over 36 weeks on Tuesdays.

## Apprenticeship: Motorcycle Maintenance

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A8076  
**Course Length:** One/Two Years  
**Qualification Level:** 2

### What's it all about?

This Apprenticeship covers practical skills including how to carry out routine vehicle maintenance, remove and replace engine units and components, remove and replace chassis units and components and includes health and safety in the workplace.

### What does it involve?

- NVQ level 2 level 2 in Vehicle Maintenance and Repair (Motorcycle)
- Functional Skills in English, maths and ICT level 1
- Technical Certificate – IMI level 2 Technical Certificate in Vehicle Maintenance and Repair (Motorcycle)
- employment rights and responsibilities.

### Are there exams?

Assessments will be one external exam plus programme assessments, either multiple choice or short answer questions.

### What entry qualifications do I need?

A minimum of a level 1 qualification is required.

### What can I do afterwards?

You can progress onto employment or a level 3 course. After an apprenticeship you will be classed as semi-skilled.

### What days and times will I be in College?

One day a week in College over 36 weeks on Tuesdays.



## Advanced Apprenticeship: Mechanical Engineering

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A1720  
**Course Length:** One/Two Years  
**Qualification Level:** 3

### What's it all about?

This level 3 qualification covers the technical skills for the Mechanical Engineering industry.

### What does it involve?

Eight units must be completed.

Core units are:

- engineering and environmental Health and Safety
- organisational efficiency and improvement

Skills specific units:

- computer aided design
- cnc programming/machining
- mechanical engineering principles
- advanced manufacture techniques
- advanced turning
- advanced milling.

### Are there exams?

There is one multiple-choice external exam covering the two core units and then on-programme assessment, in either multiple-choice format or short answer questions. Practical elements are tested through skills tests in the College workshops.

### What entry qualifications do I need?

Employment in the Mechanical Engineering industry is required.

### What can I do afterwards?

Once the course is completed, you can progress to an HNC, and from this onto an HND and then through to a Degree in Engineering.

The programme is designed to extend both your practical and theoretical knowledge, providing you with the skills required for industry.

### What days and times will I be in College?

One day a week for 38 weeks on Tuesdays.

## Advanced Apprenticeship: Electrical/Mechanical Maintenance

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A1731  
**Course Length:** One/Two Years  
**Qualification Level:** 3

### What's it all about?

This level 3 qualification covers the technical skills for the Mechanical/Electrical Maintenance industry.

### What does it involve?

The following units must be completed for the full award:

- maintenance of mechanical systems (mechanical option)
- mechanical engineering principles (mechanical option)
- electrical testing and commissioning (electrical option)
- electrical and electronic principles (electrical option)
- engineering and environmental Health and Safety
- organisational efficiency and improvement
- advanced CAD
- maintenance engineering principles
- general maintenance techniques
- fluid power.

### Are there exams?

There is one multiple-choice external exam covering the two core units and then on programme assessment, in either multiple-choice format or short answer questions.

### What entry qualifications do I need?

Employment in the Electrical or Mechanical Maintenance industry is required.

### What can I do afterwards?

Once the course is completed, you can then progress to an HNC, and from this onto an HND and then through to a Degree in Engineering.

The programme is designed to extend both your practical and theoretical knowledge, providing you with the skills required for industry.

### What days and times will I be in College?

One day a week in College over 38 weeks on Tuesdays.



## Advanced Apprenticeship: Electrical/Electronic Engineering

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A1715  
**Course Length:** One/Two Years  
**Qualification Level:** 3

### What's it all about?

This level 3 qualification covers the technical skills for the Electrical/Electronics industry.

### What does it involve?

Eight units must be completed.  
Core units are:

- engineering and environment
- Health and Safety

Skills specific units are:

- organisational efficiency and improvement
- electronic principles
- programmable logic controllers
- analogue electronics
- digital electronics
- microelectronic.

### Are there exams?

There is one multiple-choice external exam covering the two core units and then on-programme assessment, in either multiple-choice format or short answer questions. Practical elements are tested through skills tests in the College workshops.

### What entry qualifications do I need?

Proven track record/CPD and trade experience or an apprenticeship in the same field.

### What can I do afterwards?

Once the course is completed, you can then progress to an HNC, and from this onto an HND and then through to a Degree in Engineering.

The programme is designed to extend both your practical and theoretical knowledge, providing you with the skills required for industry.

### What days and times will I be in College?

One day a week for 38 weeks on Tuesdays.

## Advanced Apprenticeship: Auto Electricians

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A6784  
**Course Length:** One/Two Years  
**Qualification Level:** 3

### What's it all about?

This level 3 qualification provides the essential knowledge for auto-electricians across the industry. It focuses on faults involving the interaction of more than one auto-electrical system and accurate diagnosis.

### What does it involve?

It involves you studying both the theory and practical aspects of the following:

- diagnosis and rectification of engine electrical faults
- transmission and chassis electrical faults
- auxiliary equipment electrical faults.

You will also gain a broad knowledge and understanding of Health and Safety in the workplace and other skills associated with working in a garage.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

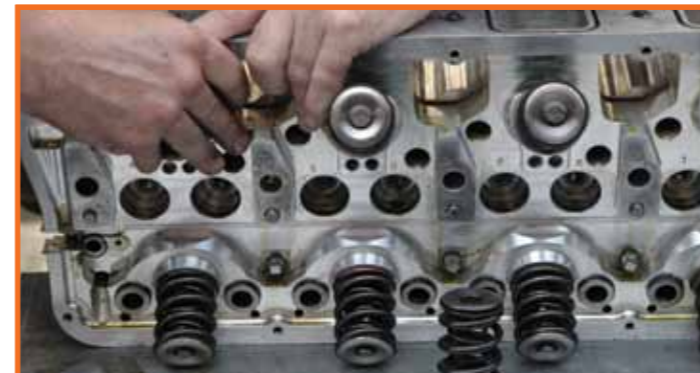
You must be in employment as an Automotive Electrician.

### What can I do afterwards?

Level 4 Master Technician or HNC/D in Motor Vehicle maintenance and repair. This allows progression within the industry and could lead to master technician status.

### What days and times will I be in College?

One day a week in College over 36 weeks on Mondays.



## Advanced Apprenticeship: Motor Vehicle Body Repair

**Location:** Abbey Park Campus/Workplace  
**Course Code:** A1353  
**Course Length:** One/Two Years  
**Qualification Level:** 3

### What's it all about?

This level 3 qualification covers technical needs for today's motor vehicle repair industry, including diagnosis and rectification procedures for major accident damage.

### What does it involve?

This motor industry qualification covers activities that relate to body repairers working on a wide range of vehicles in all types of garages, dealerships and specialist body repair shops.

You will demonstrate a broad working knowledge and understanding of Health and Safety in the workplace and other skills associated with working in a garage. The qualification includes the following areas:

- removing and replacing body panels
- repairing body panels
- rectifying vehicle misalignment.

### Are there exams?

Yes, exams and continuous assessment.

### What entry qualifications do I need?

A minimum of a level 2 qualification.

### What can I do afterwards?

This qualification is for aspiring and first line managers. It offers opportunities for individuals in a generic management role.

### What days and times will I be in College?

One day a week in College over 36 weeks on Thursdays.

## Bursary funding

**Need financial help to attend College?**  
Find out about bursary funding for 16 to 19 year olds on page 188.

## Travel

**How will you be travelling to College?**  
Find out about subsidised bus passes on page 7.

