Engineering Level 2 Diploma

Where can it take you?

Electronics Engineer

Electronics engineering is a sub-field within electrical engineering. Responsibilities include; designing new electronics, testing circuits, quality assurance, and project management. They are fully certified engineers who have completed a degree in electronics engineering. They can work in broadcasting, telecommunications, construction, mobile technologies and manufacturing industries.

Aeronautical Engineer

Space vehicles to weapons systems, missiles and satellites, or ensuring that an aircraft is strong and safe. You could work on the different components that make up aircraft. Some professionals design jetliners while others draw up plans for passenger planes and helicopters. Aeronautical engineers are responsible for improving flight safety, fuel efficiency and much more.

Mechanical Engineer

As a mechanical engineer you could develop processes and products from the tiny (small component design) to large heavy plant machinery finding efficient solutions to various problems as they come up. This field of engineering is considered as one of the most varied forms. You could find yourself working in any number of fields; medical, power and construction to name but a few.

Marine Engineer

Marine engineering covers a broad spectrum; development and construction of new marine vessels and their component parts. These vessels could be anything from sailboats to military battleships and aircraft carriers. You may also get the opportunity to design engines, create blueprints, and experiment with propulsion devices!

Design Engineer

Design engineers help put together lots of different things, including for instance any themed attractions that you may have visited. Fancy creating a game changing attraction and maybe seeing the world? This is a great career for creative people who are interested in engineering, physics and entertainment. A rollercoaster design team may include electrical engineers, mechanical engineers, drafting and structural engineers.

Mechatronics/Robotics

Mechatronics/robotics combines electronic and mechanical engineering. You could be designing, re-designing, constructing, testing, programming or operating intelligent products and systems. By mixing hardware and software, you would be producing the machinery/robots of the future which can be used for underwater exploration or improving production. You could even create the next generation of robotic floor cleaners.

Electrical Engineer

Electrical engineers focus on the maintenance, design and improvement of products that are powered by or produce electricity. You might wire light aircraft, automobiles, buildings, produce portable music products or GPS devices. You can be the person responsible for the electrical power of the phone in everybody's pocket, medical equipment, a skyscraper or a robot.

Structural Engineer

A structural engineer uses maths and science to shape the world that we live in. They design, and solve problems. There are lots of areas to choose from; civil engineer (how buildings will impact the environment); structural engineer (will it stay together, hold up?) to building services (is the building comfortable, warm, liveable or loveable).

Software Engineer

You could work on systems such as varied as Facebook. There is a shortage in software engineering so lots of support is available. You could create, test, develop, and maintain computer software that millions of people use daily. Computer programs and applications are specially designed by application software engineers.

Environmental Engineer

Could a career investigating land, air and water quality looking for contaminents be for you? Environmental engineers produce purification systems for developing countries to provide improved water sources. The next time you brush your teeth, drink water or take a bath, think of the environmental engineers who have enabled this.

Broadcasting Engineer

The next time you watch a clip on YouTube, Instagram or Vimeo; remember an engineer made this happen. Broadcast and sound engineers operate, test, repair and install electronic equipment. This equipment is used to transmit radio, cable programmes and television. Did you know that they can also produce soundtracks for motion pictures and operate sound for concerts and live events.

Other Careers

Transport engineering, biomedical engineering, medical engineering, process engineering, nuclear engineering, drafting and design engineering, vehicle engineering, mining, and geological engineering, thermal engineering. There are many branches to choose from.

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What to Expect

Choosing to study for a BTEC Engineering qualification is a great decision for many reasons. This qualification will give you the opportunity to gain specific knowledge and understanding in engineering, and will help you to sharpen your skills for employment or further study.
Have you ever wondered how electronic devices get smaller and smaller yet more complex? Or how athletes can be aided by new technologies to achieve even greater attainment in their chosen discipline? From jewellery to athletic equipment, smartphones, laptops and televisions are a few examples of engineering that can be found all around us in today's world.

Engineers use their knowledge and understanding to make things happen and strive to solve many of the different problems that arise in the modern world. Engineering plays a vitally important role in many careers and industries: medicine, communications, automotive, electronics and aerospace are just some examples of sectors where engineers are the driving force behind new development and advances.
A BTEC in Engineering qualification is an ideal stepping stone to apprenticeships, higher education (e.g. university) or possibly the level 3 BTEC Engineering course which is run here at ONE over two years.

Students wishing to progress from level 2 to level 3 Engineering must meet at least one of the following three conditions:
1.Students meeting entry requirements for Level 3, except Maths, can progress if they achieve grade 6 in resit
2.Students with grade 5 in Maths who achieve distinction on Level 2 course, can progress onto Level 3
3.Students with grade 4 in Maths who achieve distinction also need staff endorsement to progress.

What does the course involve?

The BTEC level 2 Engineering course here at ONE is full time and runs over one year. It consists of 9/10 units, the units are internally assessed and externally verified. The optional units are chosen to ensure that a wide breadth of engineering principles are completed, also, that teaching staff specialisms are utilised to their fullest in order to give the student the opportunity to develop new skills and understanding in our teachers specialised subjects, of which there are many. Also, students will be required to complete a one week work experience placement in order to gain further understanding of how an engineering workplace operates.
Some of the skills gained include: the understanding of how the engineered world operates, the design of new products and what materials to use in their development, how to maintain various products, the use of various hand tools and machines, health and safety in the engineering environment and mathematics for engineering.
Other skills that will be developed during the course include: taking responsibility for their own learning, team-work, working from a prescribed brief, working to deadlines, presenting information effectively, applying learning and skills in a work-related context and accurately completing administrative tasks and processes.

Can I take additional qualifications?

This course is the equivalent to studying three subjects so additional qualifications are not endorsed.

What are the costs?

There is no cost for enrolling on the course, but you will be required to contribute each year towards trips, materials costs, and administration for work experience etc.

Each student should also purchase their own overalls and safety boots (steel toe cap), either from the college (further details will be given at start of term) or from their own supplier.

Indicative costs are:
•Resource payment £40:00 (refundable at end of course if all resources borrowed are returned intact).
•Materials/consumables Contribution: £25
•Work experience will require mandatory health and safety checks, costs for these will be confirmed at Enrolment

What is the duration?

This is a one year course.

Entry Requirements

5 GCSEs at 9-3 (A*-D) including Mathematics and English at grade 4.

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