

## Case study

The year is 2010.  
This could be the experience  
of one Diploma student.

**Name** Karen **Age** 19

### Which Diploma did you do?

The Advanced Diploma  
in Engineering

### Why?

I had good maths and science  
GCSEs and an interest in how  
things work. I wanted to get  
a solid grounding in engineering  
so I could go to university and  
then get a job in industrial design.

### What are you doing now?

I am in my first year of a BSc in  
Engineering at the University of  
London.

**“The Engineering Diploma will open up the world of engineering,  
and the exciting development opportunities there are in the sector,  
to many more young people. Diploma students will form a valuable  
part of the future of engineering.”**

**Mike Evans,**  
Director of Engineering, RWE npower

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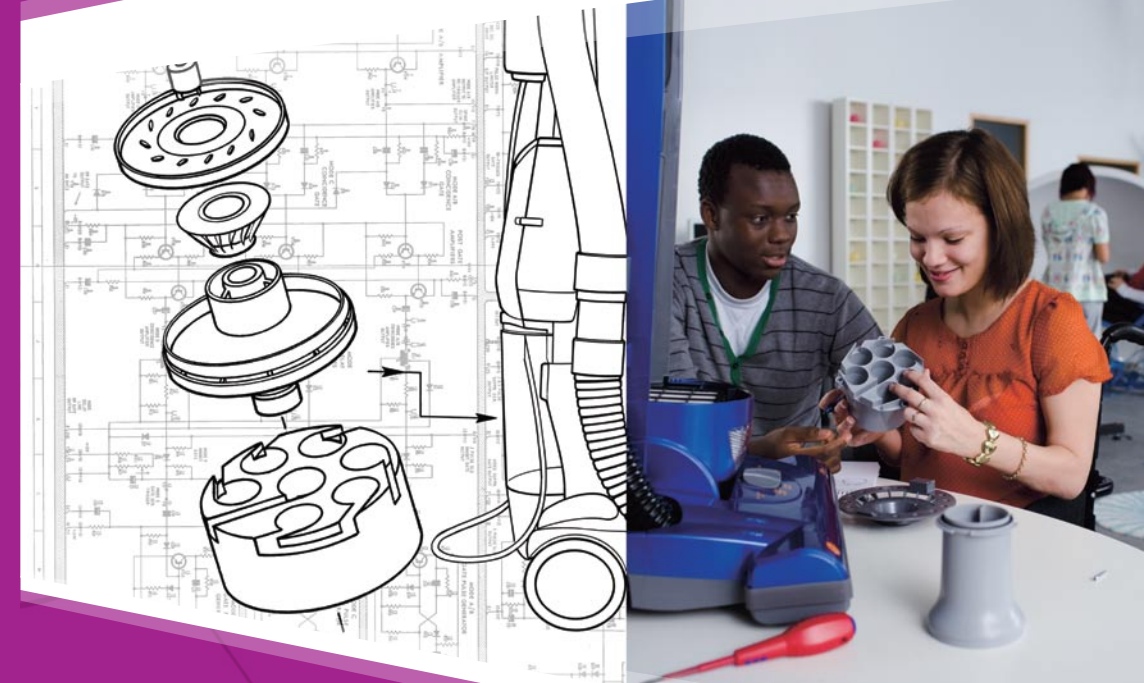
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**children, schools and families**

# The Diploma

**In Engineering**



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Bringing  
your  
learning  
to life

## ► A brief introduction to engineering

Engineers and scientists are crucial for the performance and competitiveness of our country. Science, engineering and technology industries account for more than a quarter of the UK's Gross Domestic Product (GDP). Engineers support businesses in areas like research and design and product development. The engineering industry already employs over 1.6 million people, and engineering employers are keen to increase their intake of new, young recruits with all the right skills.

## ► What is the Diploma in Engineering?

The Diploma in Engineering introduces young people to some of the key themes of engineering and gives them an understanding of basic engineering principles. Students learn what engineering is all about and examine the different opportunities it has to offer. As well as understanding the theory behind engineering, students learn practical skills and develop an ability to solve problems both individually and as part of a team. The course is designed to be interesting, relevant to modern engineering and to open up a wide range of educational, training and career opportunities.

Diploma students also develop a good standard of English, maths and ICT. They will also develop other skills such as teamwork and self management. In Years 10 and 11 they will study other compulsory subjects such as science and PE alongside their Diploma. This broad mix of knowledge, understanding and skills will equip young people for college and university or employment.

### There are three levels of Diploma:

» **The Foundation Diploma** – is a level 1 qualification – equivalent to five GCSEs grade D–G.

- » **The Higher Diploma** – is a level 2 qualification – equivalent to seven GCSEs grade A\*–C.
- » **The Advanced Diploma** – is a level 3 qualification – equivalent to 3.5 A levels grade A\*–E.
- » **A Progression Diploma (also level 3)** will be equivalent to 2.5 A levels. This Diploma will suit students who do not wish to complete a whole Advanced Diploma.

## ► What will the Diploma student learn?

Engineering Diploma students will complete a series of compulsory and optional courses, all designed to give them knowledge, skills and experience.

### Compulsory courses

Compulsory courses in engineering include:

- » **The Engineered World** looks at the importance of engineering in the modern world and the impact engineering has on the way we live our lives.
- » **Discovering Engineering Technology** introduces basic engineering principles such as design, materials, electronics systems, maintenance and manufacturing.

- » **Engineering the Future** looks at what makes innovations succeed, how new materials contribute to design and how to develop and launch new ideas.

This part of the course gives students the chance to explore their own creative approaches.

Students will also be asked to tackle a wide variety of different projects, such as:

- » What part could engineering play in reducing energy bills?
- » Engineering advances in telecommunications.
- » Changing peoples' lives for the better.
- » How can engineering improve the lives of people with disabilities?

### Choices

Students also have the flexibility to choose from a wide range of additional or specialist learning options, that are also part of the Engineering Diploma, to meet their personal interests and career goals.

Students can choose to deepen their knowledge, by taking a more specialist course, such as robotics, medical-engineering, aerospace, car and motorcycle maintenance, electronics, and chemical manufacturing.

They could alternatively take a subject that broadens their study programme such as a language or one of the humanities.

### Student project

All Diploma students will complete a project to demonstrate the skills and knowledge they have acquired. Students can choose their own project. For example, students might design a car powered by electricity or solar energy, or design a water pump for use in a developing world country.

### Personal, learning and thinking skills

Mastering essential life and work skills is crucial in today's competitive job market. So all Diploma students are encouraged to develop skills like teamwork and self-management, as part of their course. They will learn how to express themselves confidently, and how to apply their knowledge and skills creatively in a business environment.

### Work experience

Diploma students will do a minimum of 10 days' work experience. They will also get the chance to learn, and be mentored by, professionals working in their chosen field.

### English, maths and ICT

All Diploma students need to achieve a minimum standard in English, maths and ICT. These subjects can be studied as part of the Diploma or can be taken as part of GCSE studies alongside it.



## ► What will the Diploma lead to?

The Diploma is designed to broaden a young person's horizons and give them a wide range of next-step options.

The Progression and Advanced Diploma could both lead on to college or university, or to further training and employment. Students who have completed a Foundation or Higher Diploma in Engineering might choose to go on to do a Progression or Advanced Diploma, or perhaps to do A levels. They could also decide to start an Apprenticeship or take a job with further training.

A Diploma in Engineering does not mean students have to pursue a career in this sector. A Diploma gives students relevant, transferable skills that will be welcomed by colleges, universities and employers.