Statement of purpose

OCR Level 3 Cambridge Technical Certificate in Engineering Principles (601/4593/6)

Overview

This qualification is designed for learners aged 16-19 wanting to gain an understanding of the engineering sector. This could lead to further study in engineering, or learners could proceed into an engineering-related apprenticeship or employment.

In order to take this qualification learners do not need any specific knowledge or skills related to the qualification and/or occupation. We do, however, strongly recommend that learners hold a level 2 maths qualification, for example GCSE grade C or above. They should be aged 16 or over.

This qualification has been designed so that it can be delivered in one or two years. If the learner is undertaking a two year study programme this qualification may form part of the programme alongside complementary subjects such as GCE A Levels or additional specialist engineering qualifications.

What does this qualification cover?

Learners will cover three topics and all are examined. All learners take units 1 and 2 to enable the learner to demonstrate their understanding of the underpinning mathematics and scientific principles which are the foundation of engineering.

Learners then choose one more unit from a choice of two topics; these are principles of mechanical engineering and principles of electrical and electronic engineering. This will increase the depth and breadth of their skills and knowledge.

This qualification will also enable learners to develop other desirable skills. Depending on their choice of optional unit this could include problem solving and creative thinking.

The school or college delivering this will involve employers in the teaching and/or assessment of the qualification. This might mean an employer is able to offer opportunities for workplace-based training. The school or college might create assignments with employers so that learners are completing tasks that are typical of those in an engineering organisation. Or as part of teaching an employer might, for example, explain the engineering principles and concepts covered in some of the topics and how they apply to the work that employer does.

What could this qualification lead to?

This qualification could provide entry to employment through an apprenticeship in engineering. For example: Advanced Apprenticeships in Manufacturing Engineering, Power Engineering or Engineering Environmental Technologies.

The qualification could also lead directly to employment in engineering such as electrical and electronic engineering, mechanical engineering and design, automation, systems and control and manufacturing.

As part of an academic study programme, this qualification could also form part of the learner's basis for application to a Higher Education course in Engineering, alongside complementary subjects, possibly alongside complementary subjects, such as GCEs in Maths and/or Physics or other applied qualifications.

This qualification is part of a larger suite of Level 3 Cambridge Technicals in Engineering:

• **OCR Level 3 Cambridge Technical Certificate in Engineering Principles**

• OCR Level 3 Cambridge Technical Extended Certificate in Engineering

• OCR Level 3 Cambridge Technical Foundation Diploma in Engineering (VRQ)

• OCR Level 3 Cambridge Technical Diploma in Engineering (VRQ)

• OCR Level 3 Cambridge Technical Extended Diploma in Engineering (VRQ)

Learners should take this Certificate to gain an understanding of the basic principles of engineering and develop some practical engineering skills. It takes 180 guided learning hours to deliver. This means it is a similar size to one AS level and can be taken in one or two years. This gives the learner some flexibility to take this qualification alongside complementary ones as part of a one or two year study programme, whether vocational or academic, in preparation for further study or directly to employment in the sector.

About other qualifications in the suite

Learners who take the Extended Certificate will gain a broader understanding of some of the key fundamental principles of engineering. Its larger size means learners take two optional units to extend the range of engineering skills they will develop. As a larger qualification, taking more time, there is less flexibility for learners to take as many additional subjects as they can with the Certificate. It would be possible in a two year programme to take two or three complementary courses such as a GCE or an applied qualification. The Extended Certificate takes 360 guided learning hours to deliver. This means it is a similar size to one A level and could be taken over one or two years.

The Foundation Diploma and Diploma have been designed to be recognised in performance tables in England as Technical level qualifications. They take 540glh and 720glh to deliver respectively. They are made up of the core knowledge and principles units from the Certificate/Extended Certificate, and go on to develop the practical application of engineering skills. The Foundation Diploma and Diploma are larger and let the learner additionally take up to eight units teacher assessed units, which cover practical engineering topics. These may be more appropriate for learners who may want to proceed directly into Higher Education as part of a study programme of complementary subjects, although they also may form part of progression to an engineering career, advanced apprenticeship or other further study.

The Extended Diploma is a similar size to three A levels and can be taken in two years. This gives you the breadth of engineering skills and knowledge to progress into employment where you could continue to study or a degree programme in HE. The Extended Diploma in engineering will form your complete study programme in preparation for progression into employment. The qualification

will provide the subject specific skills, knowledge and understanding and a range of transferable skills that you will require for employment in engineering roles such as electrical and electronic engineering; mechanical engineering and design; automation, systems and control; and manufacturing.

SUPPORT

The following Universities support this qualification:

Northampton University

Coventry University

Manchester Metropolitan University

Details of this support can be found on the OCR website http://www.ocr.org.uk/qualifications/by-type/vocational-education-and-skills/16-19-performance-table-reform/

FURTHER INFORMATION

To find out more about the OCR Level 3 Cambridge Technical Certificate in Engineering Principles please refer to the centre handbook available on the OCR website.

If you have any other queries please contact vocational.qualifications@ocr.org.uk

ABOUT US

OCR is a leading UK awarding body. We provide qualifications which engage people of all ages and abilities at school, college, in work or through part-time learning programmes.

Our general and vocational qualifications equip learners with the knowledge and skills they need for their future, helping them achieve their full potential.