

QUALIFICATION TITLE - OCR Level 3 Cambridge Technical Diploma in Science for Technicians

QUALIFICATION NUMBER - 601/7461/4

OVERVIEW

This qualification is for you if you're 16 years old or over, and want to study science and how it is applied in the workplace.

This qualification is not just about theoretical science, it will provide you with the skills, knowledge and understanding to progress into employment in the science industry either through an apprenticeship (Laboratory and Science Technicians) or directly into work in roles such as a Lab Technician, Researcher, Ecologist, Environmental Scientist.

The qualification is designed to be taken as part of a study programme alongside other Vocational Qualifications such as NVQ/SVQ in Laboratory and Associated Technical Activities. The Institute of Science & Technology (IST) offers the Certificate in Laboratory Skills or you may take A-Levels such as Biology, Chemistry Physics or Maths.

You will take 3 mandatory units and 8 optional units (from a choice of 17).

Everybody will study the following mandatory units:

- Science Fundamentals
- Laboratory Techniques
- Analytical Techniques

These units will give you an understanding of science within the wider contexts of its' uses in industries such as food manufacturing, pharmaceuticals, human medicine or environmental management and conservation. It will provide you with the scientific knowledge that underpins the practical application of scientific skills. It will prepare you for work in a laboratory setting and has a strong focus on health and safety. It will also provide you with analytical skills which will allow you to use data to carry out scientific investigations and draw justified conclusions.

You will choose to study at least one of four specialised pathways depending on the career you wish to pursue. Depending on the pathway chosen the units you take will vary:

Pathway – Environmental Science

Includes units on 'Sustainability and Renewable Energy' and 'Conservation'.

The type of job roles this pathway could lead to are Environmental Scientist, Park Ranger, Environmental Surveyor, Soil Scientist, Hydrologist; so the knowledge, understanding and skills you will need to gain the pathway are included in key units on Environmental Management and Environmental Surveying. You will learn to evaluate, interpret and report on environmental information and data, drawing on your learning in science fundamentals. You will examine various

types of environment and how they interact. You will then apply relevant scientific methods and analytical techniques in the field and the laboratory.

Pathway – Food Science

Includes units on 'Nutrition' and 'Crop Production and Soil Science'.

The type of job roles this pathway could lead to are Biochemist, Microbiologist, Food Development Technician, Agricultural Technician; so the knowledge, understanding and skills you will need to gain the pathway are included in key units 'Food Technology' and 'Waste Management'. You will learn to investigate the fundamental and generic aspects of food manufacture and the links between sectors. A vital aspect of food production is waste management and you will learn about the management of solid waste, air emissions and water discharges and the processes used by people in industry to minimise waste.

Pathway – Human Science

Includes units on 'Controlling Disease' and 'Human Physiology'.

The type of job roles this pathway could lead to are Biochemist, Biologist, Microbiologist, Geneticist, Dietician, Cardiovascular Technician, Cytologist, Clinical Researcher; so the knowledge, understanding and skills you will need to gain the pathway are included in key units 'Human Physiology' and 'Genetics'. You will learn how body systems are structured, how they function, how they are inter-related and how they can go wrong. You will also learn about the new scientific advances in mapping the human genome and how this is changing the way diseases and disorders are treated. You will understand how geneticists have been able to produce genetic chromosome maps using data from crosses, but are now able to produce detailed chromosome maps using the science of genomics.

Pathway – Pharmaceutical Science

Includes units on 'Testing Consumer Products' and 'Drug Development'

The type of job roles this pathway could lead to are Clinical Researcher, Lab Technician, Pharmacy Assistant; so the knowledge, understanding and skills you will need to gain the pathway are included in the key units 'Testing Consumer Products' and 'Drug Development'. You will learn about the scientific processes, requirements and cost of developing and testing drugs from starting in the laboratory as a compound to reaching the consumer as a functional product.

Whichever pathway you choose you will have opportunities to find out from employers how the skills and knowledge you will acquire are used in work. Your school or college will decide how this will happen. The school or college might ask an employer from the science industry to come in to

talk to your class about how they use the skills you are gaining or you may have the opportunity to have work experience in a science-based organisation.

IS THIS QUALIFICATION RIGHT FOR ME?

This qualification is part of a suite of Cambridge Technicals in Science (for Technicians) at Levels 2 and 3. Normally you'd choose one of the OCR Level 3 Cambridge Technicals in Science for Technicians because you've successfully gained Level 2 qualifications in a similar or related subject. But, there are no formal entry requirements for these qualifications.

There are 3 sizes of qualification available within the Level 3 Cambridge Technicals in Science for Technicians suite:

360 GLH Cambridge Technical Introductory Diploma in Science for Technicians

540 GLH Cambridge Technical Foundation Diploma in Science for Technicians

720 GLH Cambridge Technical Diploma in Science for Technicians

You should take the Technical Introductory Diploma to gain an introduction to the science industry. The Introductory Diploma takes 360 guided learning hours to deliver. This means it is a similar size to one A Level and can take one year to complete. This gives you the flexibility to take a range of other qualifications whether vocational or academic in preparation for further study or employment in the sector.

You should take the Technical Foundation Diploma to gain a more detailed introduction to the science industry and to specialise in a particular pathway by selecting specialised units. The Foundation Diploma takes 540 guided learning hours to deliver. This means it is a similar size to one and a half A Levels and can take two years to complete. This also gives you the flexibility to take a range of other qualifications whether vocational or academic in preparation for further study or employment in the sector.

The Technical Diploma also gives you an introduction to the science industry. Because it is a larger sized qualification it means students take more optional units and increase the depth and breadth of their skills and knowledge which in turn can help you choose where you would like to specialise within the industry and inform further study or career choices. The Diploma takes 720 guided learning hours to deliver. This means it is a similar size to two A levels and can take two years to complete. You may want to take an additional qualification such as an A level, particularly if you are hoping to progress into Higher Education

SUPPORT

The following employers support this qualification:

Environmental Science Pathway

ADAS

Anglian Water

Food Science Pathway

Tulip Ltd

Human Science Pathway

The Sanger Institute

Pharmaceutical Science Pathway

Pfizer

Medimmune

For links to all letters of support please go to:

<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 Diploma in Science for Technicians 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 you with the knowledge and skills needed for your future, helping you achieve your full potential.