

## Purpose Statement

Cambridge Technical Level 3 Extended Diploma in Laboratory Skills **1080GLH**

603/0695/6

The Level 3 Extended Diploma in Laboratory Skills has been developed for learners aged 16+, who enjoy the sciences and want to learn how to apply their skills, knowledge and understanding in food, environmental or human science before progressing on to take related courses in higher education.

This qualification will give you the scientific principles and practical techniques to carry out experiments safely and accurately. You will also have the opportunity to collect, analyse, evaluate and present primary data across a broad range of topics. You will evaluate your chosen analytical techniques to improve the quality and collection of data and will conclude your studies by completing a unit on 'Scientific Research Techniques' in a topic that will bring together all knowledge and understanding gained in the theoretical units plus allowing some specialism focusing on the key synoptic task of 'Testing Consumer Products'. Carrying out research is fundamental to science in both University and in the workplace and this will better prepare you to progress to higher education or employment in areas related to food, human or environmental science.

You will apply your skills, knowledge and understanding to tasks or activities that are relevant to how food, environmental and human sciences are used in the workplace. Having an appreciation of how these are used in work will also help to prepare you for continuing your education in this sector.

The Level 3 Extended Diploma in Laboratory Skills is an Applied General qualification which is equivalent to three GCE A levels. It should fill approximately a full two year learning programme and will provide you with a broad choice of optional units to allow flexibility in your choice of science sectors and will not restrict them in your choice of University courses.

It is recommended that if you are starting this qualification you will have achieved science qualifications for example GCSEs in science subjects at grade C or above or level 2 vocational qualifications, e.g. OCR Level 2 Cambridge Technical in Science. It is also recommended that you have grade C or above in Maths and English GCSE.

Everybody will study thirteen units on:

- Science Fundamentals
- Laboratory Techniques
- Scientific Analysis and Reporting
- Human Physiology
- Genetics
- Control of Hazards in the Laboratory
- Human Nutrition
- Cell Biology
- Environmental Surveying
- Environmental Management
- Waste Management

- Global Scientific Information
- Scientific Research Techniques

Plus a further two units from:

- Drug Development
- Sustainability and renewable energy
- Food Technology
- Microbiology
- Crop production and soil science
- Conservation of biodiversity

All units have been written to reflect current science practices. We have worked with employers and universities who have helped us to embed these practices and to include the transferable skills that they are looking for in future applicants such as:

- knowledge and understanding of biological, chemical and physical principles underlying laboratory science;
- transferrable skills necessary to perform laboratory techniques in the workplace;
- ability to analyse collected data to solve problems within a laboratory setting;
- ability to take a project based approach to research, analysis and development, linking scientific principles and laboratory techniques;
- understanding of dealing with large amounts of scientific data, knowledge of the functionality of information and how data is stored and processed by organisations.
- ability to learn in work-related contexts;
- skills for independent learning and development including research techniques and presentation skills.

The majority of career opportunities in this sector are at degree level, and to gain employment you will mostly likely need to progress from this qualification into higher education or an apprenticeship programme. Once suitably qualified, you may progress into related jobs likely at more junior levels at first such as laboratory technician, food development technician, conservation wardens before undertaking further study to progress onto more senior roles such as water quality expert, environmental manager, microbiologist. Examples of employers who offer opportunities for suitably qualified individuals include: conservation organisations; the Environment Agency; water companies; waste management companies; DEFRA; food producers; pharmaceutical companies, the NHS and local authorities.

This qualification is part of a suite of Cambridge Technicals in Science at Level 2 (Cambridge Technical Level 2 Certificate/Extended Certificate/Diploma in Science) and Cambridge Technicals in

Laboratory Skills at Level 3 (Cambridge Technical Level 3 Certificate/Extended Certificate/Foundation Diploma/ Diploma/Extended Diploma in Laboratory Skills).

You would choose this qualification above the smaller qualifications in the suite if you want to study a broad range of scientific topics rather than specialising in a particular vocational pathway at this stage, leaving you with a more varied choice of University degree programmes.

Normally you would take one of the OCR Level 3 Cambridge Technicals in Laboratory Skills because you had already successfully gained Level 2 qualifications in a similar or related subject but there are no formal entry requirements for these qualifications.

This is one of five qualifications available in the Level 3 Cambridge Technicals in Laboratory Skills suite:

- OCR Cambridge Technical Certificate in Laboratory Skills 180GLH (equivalent to 0.5 of an A Level)
- OCR Level 3 Cambridge Technical Extended Certificate in Laboratory Skills 360GLH (equivalent to one A Level)
- OCR Level 3 Cambridge Technical Foundation Diploma in Laboratory Skills 540GLH (equivalent to 1.5 A Levels)
- OCR Level 3 Cambridge Technical Diploma in Laboratory Skills 720GLH (equivalent to two A levels)

The smaller Certificate will develop the theory of scientific principles and practical techniques and you would take this alongside other complementary science-based qualifications and will prepare you for progression onto the larger sized qualifications in the suite or other similar Level 3 qualifications.

The Extended Certificate will develop skills, knowledge and understanding to perform laboratory techniques. This qualification will complement a study programme containing other science or STEM related qualifications including those from other vocational sectors such as sport or health and social care.

The Foundation Diploma expands on these fundamental skills, allowing you to develop a further range of skills, knowledge and understanding required for research and analytical techniques in the development of products or processes relevant to environmental, food or human science. You may take this as a one year full-time course of study or take it alongside another area of study that complements it as part of a two year full-time study programme.

The larger Diploma provides a wider range of optional units allowing you to further specialise in specific fields. This qualification typically makes up two-thirds of a 16-19 study programme and may be taken alongside other qualifications giving breadth to your study programme.

## **SUPPORT**

The following Universities support this qualification:

Reading University

Bradford University

Northampton University

Details of the letters of 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 Level 3 Extended Diploma in Laboratory Skills please refer to the centre handbook available on the OCR website.

If you have any other queries please contact [vocational.qualifications@ocr.org.uk](mailto: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.