Wigston College

AAQ Cambridge Advanced National in Applied Science Level 3 Extended Certificate

Examination Board

OCR

Entry Requirements

GCSE Grade 5,5 in Combined Science or 5 in separate sciences and Grade 4 in GCSE Maths

What will I be studying?

Year 12

F180 Fundamentals of science

This unit is assessed by an exam. In this unit you will learn about the key topics that are important in biology, chemistry and physics. You will study two key practical's for each of those components to be assessed as part of section D of the exam. Topics include: Cell structure and microscopy, Bioenergetics, Structure and function of biological molecules, Biodiversity and ecosystems (Chemistry) Atomic structure and the Periodic Table, Quantitative chemistry, Structure and bonding, Rates of reactions and enthalpy changes Section C (Physics) Electricity, Motion, Medical physics.

F182: Investigating science (NEA)

This unit is assessed by an assignment. In this unit you will learn about the role of a research scientist in industry by learning how to conduct your own scientific investigation. You will develop the skills to research, plan and risk assess your investigation before safely undertaking the practical tasks. Topics include: Planning a scientific investigation, Performing a scientific investigation, Analysing and communicating results, Evaluating a scientific investigation.

Year 13

F181: Science in society
This unit is assessed by an exam. In this unit you will learn about the skills scientists use and the roles they perform in an international scientific community. You will examine different types of scientific data and learn how scientists use them to draw conclusions that can contribute to scientific advancement. Topics include: What scientists do, Handling scientific data, Scientific developments, Communicating science.

F183: Analytical techniques in chemistry: This unit is assessed by an assignment. In this unit you will learn how to plan and perform practical investigations to separate substances and purify them. Topics include: Topic Area 1: Techniques to categorise and separate chemical substances. Topic Area 2: Quantitative and qualitative analytical techniques to quantify and identify substances o Topic Area 3: The principles of spectroscopic techniques and interpreting spectra for chemical substances.

F184: Environmental studies

This unit is assessed by an assignment. In this unit, you will learn to use primary and secondary data to study ecosystems. You will develop the skills to carry out in situ fieldwork investigations to survey an area using different sampling techniques. Topics include: Ecosystems and biodiversity, Impact of human activity and natural events, Waste management, Environmental management and conservation, Fieldwork Assessments.

How will I be studying?

This course will be taught in a laboratory with a teacher. You will be expected to make an active contribution to whatever you are working on, whether it be group-based or independent work: assignments will include both written and practical work. Students will be expected to participate in class discussions and regular practical work which has to be carried out safely. Applied Science students have lots of work to complete outside the classroom to prepare for NEAs and write up scientific investigations. Students enjoy getting regular feedback from their assignments which determines which grade they will be working towards.

How will I be assessed?

Unit	GLH	Assessed
F180 Fundamentals of science	90	External (90 minutes)
F181 Science in society	60	External (75 minutes)
F182 Investigating science	90	NEA

Unit	GLH	Assessed
F183 Analytical techniques in chemistry	60	NEA
F184 Environmental studies	60	NEA

Deadlines for NEAs are yet to be set

Core Mathematics:

As this subject contains elements of mathematical content within its specification and assessments, we strongly advise that you have at least a Grade 4 in GCSE Mathematics.

Where Next?

When taken in addition to A Levels, OCR's Level 3 Alternative Academic Qualification Cambridge Advanced National in Applied Science (Extended Certificate) qualification aims to prepare you for undergraduate study in a wide range of science related courses by developing and assessing specific skills and foundational knowledge not covered in A Levels.

This qualification provides you with an understanding of applied science practical techniques and applications. Through a combination of theoretical study and hands on experience, you will develop the necessary knowledge and skills that can support progression to higher education study.

The qualification will also help you develop independence and confidence in using skills that are relevant to the sector and that prepare you for progressing to university courses where independent study skills are needed. You will develop the following transferable skills that can be used in both higher education and other life and work situations:

Both the subject-specific knowledge, understanding and skills, and broader transferable skills developed through this qualification, will help you progress to further study in related areas such as:

· Biomedical Science degree
· Allied Health and Nursing degree
· Life Sciences degree
· Forensic Science degree

The qualification carries UCAS points and is recognised by higher education providers* as contributing to meeting admission requirements for many relevant courses if taken alongside other Level 3 qualifications as part of a programme of learning.