Level 3 Certificate in Applied Science Course Information

Course Overview

- **Exam Board** – AQA
- **Usual Age Range** – 16 to 18
- **Qualification** – Level 3 Certificate
- **Curriculum Time** – Five 50-minute lessons per week in class plus work in Independent Learning Time
- **Assessment** – 2x 1hr30min written exams and an internally assessed portfolio.
- **Grading** – Students will receive a Pass, Merit, Distinction, or Distinction* grade.
- **Full specification** - https://filestore.aqa.org.uk/resources/science/specifications/AQA-1775-SP-2016.PDF

Curriculum Intent

The intent of the AQA Level 3 Certificate in Applied Science is to equip students with a broad understanding of the fundamental scientific concepts and practical skills associated with applied science, enabling them to apply this knowledge to real-world problems and prepare for further study or careers in the field. The qualification is designed to cover a range of topics within biology, chemistry, and physics, as well as practical techniques and the roles and skills of scientists.

The AQA Level 3 Certificate in Applied Science is designed to equip students with a strong understanding of the relevance of science to the world of work, a priority for studying at the UTC. The qualification explicitly incorporates topics related to healthcare science, allowing students to develop a deep understanding of the field and its applications. Additionally, students will have opportunities to engage in practical experiences through project days, work placements, and other activities with our healthcare science partners as a part of UTC life, providing them with firsthand exposure to healthcare science careers and other scientific fields. This will enable students to make informed decisions about their future career paths and explore various opportunities within the sector.

Suggested destinations after completion of this course include progression to higher education or employment in the applied science sector. The qualification can prepare students for a range of science-related courses, including biomedical, forensic, and sports science, as well as nursing.

Throughout the AQA Level 3 Certificate in Applied Science, students will have ample opportunities to develop their literacy skills. The course will incorporate a variety of activities that promote effective communication and critical thinking. Students will regularly engage with scientific texts, including research articles, textbooks, and laboratory manuals. They will also have opportunities to write extended responses as a part of their Unit 2 assessed coursework . These activities will allow students to demonstrate their ability to construct coherent, relevant, and logically structured pieces of scientific writing.

The explicit teaching of scientific key words will support students in developing a strong scientific vocabulary. By learning and using precise language, students will be able to communicate their understanding of complex scientific concepts more effectively. Students will be encouraged to explore a wide range of scientific topics and perspectives through their reading, writing, and discussions in carefully designed learning activities selected by their teacher.

The AQA Level 3 Certificate in Applied Science will incorporate a strong emphasis on numeracy skills. Students will have opportunities to develop their mathematical abilities through the application of these skills in real-world scientific contexts. The course will cover a range of numerical topics, including:

- Arithmetic and numerical computation
- Handling data
- Algebra
- Graphs
- Geometry and trigonometry

Students will learn to apply these mathematical concepts to solve problems and analyse data in various scientific disciplines. For example, they may be required to calculate concentrations, analyse experimental results using graphs, and solve equations related to chemical reactions or physical phenomena. By integrating numeracy skills into the applied science curriculum, the course will ensure that students are well-prepared for further study and careers in STEM fields.

The AQA Level 3 Certificate in Applied Science will provide opportunities for students to develop valuable transferable skills, such as research, teamwork, problem-solving, and written and oral communication, which are highly sought after by higher education institutions and employers.

The course consists of three units studied in Year 12.

Unit 1: Key Concepts in Science

Key Concepts in the Application of biology

1a Cell Structure

1b Transport Mechanisms

1c The Heart

1d Homeostasis

1e Breathing and Cellular Respiration

1f Photosynthesis and Food Chain Productivity

Key Concepts in the Application of chemistry

2a Atomic Structure

2b The Periodic Table

2c Amount of Substance

2d Bonding and Structure

2e Enthalpy Changes

Key Concepts in the Application of physics

3a Useful Energy and Efficiency

3b Electricity and Circuits

3c Dynamics

Unit 2: Applied Experimental Techniques

Applied Experimental Techniques in Biology

1a Rate of Respiration

1b Light-dependent Reaction in Photosynthesis (The Hill Reaction)

Applied Experimental Techniques in Chemistry

2a Volumetric Analysis

2b Colorimetric Analysis

Applied Experimental Techniques in Physics

3a Resistivity

3b Specific Heat Capacity

Unit 3: Science in the Modern World

- Topical scientific issues obtained from a variety of media sources
- The public perception of science and the influence that the media have
- The ethical, moral, commercial, environmental, political and social issues involved in scientific advances, and how these are represented in the media
- The roles and responsibilities that science personnel carry out in the science industry

Remote Learning and Revision

Students will benefit from additional study for their exam-assessed unit. Due to the course being relatively new, revision resources are not abundant. However, there is an extensive revision guide which could be purchased-
https://www.hoddereducation.com/science/my-revision-notes-aqa-applied-science

Curriculum Overview

The learning in GCSE Science is sequenced as follows.

Note: the full Curriculum Plans are available on request to info@nef.tynecoast.academy

Half Term 1

Unit 1		Unit 2
1a	Cell Structure	1b Light-Dependent Reaction in Photosynthesis
1f	Photosynthesis and Food Chain Productivity	
2a	Atomic Structure	
2b	The Periodic Table	
2c	Amount of Substance	

Half Term 2

Unit 1		Unit 2
1a	Cell Structure	1a Rate of Respiration
1b	Transport Mechanisms	2a Volumetric Analysis
1e	Breathing and Cellular Respiration	2b Colorimetric Analysis

Half Term 3

Unit 1		Unit 2
1c	The Heart	3a Resistivity
1d	Homeostasis	3b Specific Heat Capacity
3a	Useful Energy and Efficiency	
3b	Electricity and Circuits	

Half Term 4

Unit 1		Unit 2
3c	Dynamics	3a Resistivity
2d	Bonding and Structure	3b Specific Heat Capacity

Half Term 5

Unit 1		Unit 3
2e	Enthalpy	• Topical scientific issues obtained from a variety of media sources • The public perception of science and the influence that the media have • The ethical, moral, commercial, environmental, political and social issues involved in scientific advances, and how these are represented in the media • The roles and responsibilities that science personnel carry out in the science industry

Exam Dates

The dates for the exams are as follows:

Unit 1	Key Concepts in Science	Wednesday 4th June 2025
Unit 3	Science in the Modern World	Tuesday 10th June 2025