

BTEC Level 3 National in Applied Science: Comparing unit content between QCF and NQF

Introduction

This document is designed to help you with mapping unit content as you transition from BTEC Nationals (2010) qualifications to the new BTEC Nationals (2016).

Our guidance is broken down into two sections:

Section 1: How and where can I use existing content, and what new content has been included?

Highlighting comparable content with the BTEC National (2010) and how closely this maps across to the BTEC Nationals (2016).

Section 2: What do these changes mean for planning and teaching?

Review of key changes in language, outlining which units are externally assessed and when, and where to find further support.

Further support can be found within the relevant specification on our website ([here](#)).

Below is an overview of how wider support also links to this document:

Support	Purpose
Delivery Plans	Examples of how to structure and deliver different size qualifications over a one or two year period, including when to prepare learners for external assessment.
Authorised Assignment Briefs	Provides scenarios and teaching plans for each unit, to be used either as they are set out, or to inform your own planning.
Schemes of Work	Demonstrates how the unit content can be covered in the GLH while providing lesson ideas and highlighting links to other units to help you plan your teaching.
Sample Assessment Materials	Examples of how an externally assessed unit may be presented, with an accompanying mark scheme. These sample assessment materials have been developed to support this qualification and will be used as the benchmark to develop the assessment students will take. This covers either an exam or task.
Sample Marked Learner Work	Indicative example of learner work which has been assessed accurately to national standards.

Section 1: How and where can I use the existing content?

The tables below maps the relevant content of the new BTEC Level 3 National in Applied Science (2016) against the content of the current BTEC Level 3 National in Applied Science (2010).

The mapping focuses on mandatory units and provides greater detail of where content is the same as the existing (2010) specifications, and also where content is partially covered.

2016	2010
Unit 1: Principles and Applications of Science I	
<p>Comments/Details:</p> <p>This is a mandatory, externally set and marked 1.5 hour examination common to all programme sizes. It will be taken on a date published by Pearson in June 2017 and thereafter in January and June each year. The unit covers key concepts in Biology, Chemistry and Physics. Each section is worth 30 marks. The paper will include a range of question types, including multiple choice, calculations, short answer and open response. These question types will assess discrete knowledge and understanding of the content in this unit.</p> <p>There is no direct equivalent in QCF. The essential content is drawn from a variety of QCF units.</p>	
<p>Assessment Outcomes:</p> <p>AO1 Demonstrate knowledge of scientific facts, terms, definitions and scientific formulae Command words: give, label, name, state Marks: ranges from 12 to 18 marks</p> <p>AO2 Demonstrate understanding of scientific concepts, procedures, processes and techniques and their application Command words: calculate, compare, discuss, draw, explain, state, write Marks: ranges from 39 to 45 marks</p> <p>AO3 Analyse, interpret and evaluate scientific information to make judgements and reach conclusions Command words: calculate, comment, compare, complete, describe, discuss, explain, state Marks: ranges from 18 to 24 marks</p> <p>AO4 Make connections, use and integrate different scientific concepts, procedures, processes or techniques Command words: comment, compare, complete, discuss, explain Marks: ranges from 9 to 12 marks</p>	
<p>A Periodicity and properties of elements</p> <p>A1 Structure and bonding in applications in science</p> <p>A2 Production and uses of substances in relation to properties</p>	<p>Partially covered in:</p> <p>Unit 1</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to use the necessary skills to measure quantities for chemical reactions. Unit content 1. <p>Unit 19</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to use standard solutions in quantitative analysis. Unit content 1. <p>Unit 27</p> <ul style="list-style-type: none"> Learning outcome 1 - Know how physical and chemical properties of elements and their compounds are related to the positions of the elements in the periodic table. Unit content 1

<p>B Structure and functions of cells and tissues</p> <p>B1 Cell structure and function B2 Cell specialisation B3 Tissue structure and function</p>	<p>Partially covered in:</p> <p>Unit 1</p> <ul style="list-style-type: none"> Learning outcome 2 - Be able to use the correct equipment to identify structures and functions in different types of cells. Unit content 2. <p>Unit 11</p> <ul style="list-style-type: none"> Learning outcome 1 - Know the levels of organisation within the human body. Unit content 1. <p>Unit 24</p> <ul style="list-style-type: none"> Learning outcome 1 - Understand plant structures and physiology. Unit content 1.
<p>New content:</p> <p>Unifying concept of cells Gram staining Calculation of magnification and size of cells</p>	
<p>C Waves in communication</p> <p>C1 Working with waves C2 Waves in communication C3 Use of electromagnetic waves in communication</p>	<p>Partially covered in:</p> <p>Unit 6</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to use mathematical tools in science. (This provides opportunity for learners to work with formulae but is not directly related to waves and communication.)
<p>New content:</p> <p>Waves in communication are not part of any 2010 unit.</p> <p>Care should be taken to ensure learners are aware of the command words, their definitions and amount of detail required for all aspects of this externally examined unit.</p>	

2016	2010
<p>Unit 2: Practical Scientific Procedures and Techniques</p>	
<p>Comments/Details:</p> <p>This is an internally set and assessed, externally verified, mandatory unit common to all programme sizes.</p> <p>Learners will acquire and be assessed on their practical skills in quantitative laboratory techniques of calibration, titration, chromatography, calorimetry. It also requires learners to review their personal development of scientific skills.</p> <p>The unit will be assessed through a maximum of four summative assignments. Authorised assignment briefs are available.</p> <p>There is no direct link to a particular QCF unit but there are partial links with techniques in QCF Units 2, 4, 19 and 22.</p>	
<p>Learning Aim A: Undertake titration and colorimetry to determine the concentration of solutions</p>	
<p>Content:</p> <p>A1 Laboratory equipment and its calibration A2 Preparation and standardisation of solutions using titration A3 Colorimetry</p>	<p>Partially covered in:</p> <p>Unit 2</p> <ul style="list-style-type: none"> Learning outcome 1 - Know how procedures are followed and communicated in the scientific workplace. Unit content 1. <p>Unit 4</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to use analytical techniques. Unit content 1.

	<ul style="list-style-type: none"> Learning outcome 3 - Be able to use instruments/sensors for scientific investigations. Unit content 3. <p>Unit 19</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to use standard solutions in quantitative analysis. Unit content 1. Learning outcome 2 - Be able to analyse data from spectroscopic techniques to provide analytical information about chemical substances. Unit content 2. <p>Unit 22</p> <ul style="list-style-type: none"> Learning outcome 4 - Be able to carry out quantitative analysis of compounds within a matrix. Unit content 4.
Learning Aim B: Undertake calorimetry to study cooling curves	
<p>Content:</p> <p>B1 Thermometers B2 Cooling curve</p>	<p>Partially covered in:</p> <p>Unit 4</p> <ul style="list-style-type: none"> Learning outcome 3 - Be able to use instruments/sensors for scientific investigations. Unit content 3.
Learning Aim C: Undertake chromatographic techniques to identify components in mixtures	
<p>Content:</p> <p>C1 Chromatographic techniques C2 Application of chromatography C3 Interpretation of a chromatogram</p>	<p>Partially covered in:</p> <p>Unit 4</p> <ul style="list-style-type: none"> Learning outcome 2 - Be able to use scientific techniques to separate and assess purity of substances. Unit content 2. <p>Unit 19</p> <ul style="list-style-type: none"> Learning outcome 3 - Be able to use chromatographic techniques to analyse mixtures of chemical substances. Unit content 3. <p>Unit 22</p> <ul style="list-style-type: none"> Learning outcome 2 - Be able to measure percentage yield and percentage purity. Unit content 2.
<p>New content:</p> <p>Learning aim D requires learner to review, analyse and evaluate personal responsibility, interpersonal skills and professional practice. This does not occur in QCF units.</p>	

2016	2010
Unit 3: Science Investigation Skills	
<p>Comments/Details:</p> <p>This is a mandatory externally assessed task common to all programmes except the Certificate. It will be available for first assessment in summer 2017 and thereafter twice a year in December/January and summer. Learners are required to carry a practical task lasting up to three hours, under centre supervision, in a two week window determined by Pearson. Learners then have 1.5 hours to complete a written task book, supervised by the centre, in a week determined by Pearson. This will be externally assessed by Pearson.</p> <p>Learners will be assessed on their ability to plan, record, process, analyse and evaluate scientific findings, using primary and secondary information/data.</p> <p>It has some similar content to QCF Unit 3 but the assessment methodology is different and the practical content is determined by Pearson, instead of the learner/centre.</p>	
<p>Assessment Outcome:</p> <p>AO1 Demonstrate knowledge and understanding of scientific concepts, procedures, processes and techniques and their application in a practical investigative context</p>	
<p>Essential Content:</p> <p>A1 Developing a hypothesis for an investigation</p> <p>A2 Selection of appropriate equipment, techniques and standard procedures</p> <p>A3 Health and safety associated with the investigation</p> <p>A4 Variables in the investigation</p> <p>A5 Method for data collection and analysis</p>	<p>Partially covered in:</p> <p>Unit 3</p> <ul style="list-style-type: none"> • Learning outcome 1 - Be able to plan an investigation relevant to the area of study. Unit content 1. • Learning outcome 3 - Be able to collect, collate and analyse the results from the investigation. Unit content 3. • Learning outcome 4 - Be able to draw conclusions from the investigation. Unit content 4. <p>Unit 6</p> <ul style="list-style-type: none"> • Learning outcome 2 - Be able to collect and record scientific data. • Learning outcome 3 - Be able to display and interpret scientific data.
<p>Assessment Outcome:</p> <p>AO2 Interpret and analyse qualitative and quantitative scientific information to make reasoned judgements and draw conclusions based on evidence in a practical investigative context</p>	
<p>Essential Content:</p> <p>B1 Collection of quantitative/qualitative data</p> <p>B2 Processing data</p> <p>C1 Interpretation/analysis of data</p> <p>C2 Evaluation</p>	<p>Partially covered in:</p> <p>Unit 3</p> <ul style="list-style-type: none"> • Learning outcome 3 - Be able to collect, collate and analyse the results from the investigation. Unit content 3. • Learning outcome 4 - Be able to draw conclusions from the investigation. Unit content 4. <p>Unit 6</p> <ul style="list-style-type: none"> • Learning outcome 2 - Be able to collect and record scientific data. • Learning outcome 3 - Be able to display and interpret scientific data.
<p>Assessment outcome:</p> <p>AO3 Evaluate practical investigative procedures used and their effect on the qualitative and quantitative scientific information obtained to make reasoned judgements</p>	
<p>Essential Content:</p> <p>B1 Collection of quantitative/qualitative</p>	<p>Partially covered in:</p> <p>Unit 3</p> <ul style="list-style-type: none"> • Learning outcome 3 - Be able to collect, collate and analyse

<p>data</p> <p>C2 Evaluation</p>	<p>the results from the investigation. Unit content 3.</p> <ul style="list-style-type: none"> Learning outcome 4 - Be able to draw conclusions from the investigation. Unit content 4. <p>Unit 6</p> <ul style="list-style-type: none"> Learning outcome 2 - Be able to collect and record scientific data. Learning outcome 3 - Be able to display and interpret scientific data.
<p>Assessment outcome:</p> <p>A04 Be able to make connections between different scientific concepts, procedures, processes and techniques to make a hypothesis and write a plan for a practical investigation</p>	
<p>Essential Content:</p> <p>A1 Developing a hypothesis for an investigation</p> <p>A2 Selection of appropriate equipment, techniques and standard procedures</p> <p>A3 Health and safety associated with the investigation</p> <p>A4 Variables in the investigation</p> <p>A5 Method for data collection and analysis</p>	<p>Partially covered in:</p> <p>Unit 3</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to plan an investigation relevant to the area of study. Unit content 1. Learning outcome 3 - Be able to collect, collate and analyse the results from the investigation. Unit content 3. Learning outcome 4 - Be able to draw conclusions from the investigation. Unit content 4.
<p>Essential Content</p> <p>D Enzymes in action</p> <ul style="list-style-type: none"> ➤ D1 Protein structure ➤ D2 Enzymes as biological catalysts in chemical reactions ➤ D3 Factors that can affect enzyme activity <p>E Diffusion of molecules</p> <ul style="list-style-type: none"> ➤ E1 Factors affecting the rate of diffusion ➤ E2 Arrangement and movement of molecules <p>F Plants and their environment</p> <ul style="list-style-type: none"> ➤ F1 Factors that can affect plant growth and/or distribution ➤ F2 Sampling techniques ➤ F3 Sampling sizes 	<p>Partially covered in:</p> <p>Unit 13</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to investigate properties of water and biological molecules in living organisms. Unit content 1. Learning outcome 2 - Understand the structure of proteins. Unit content 2. Learning outcome 3 - Be able to investigate the factors that affect the activities of enzymes in biological systems. Unit content 3. <p>Unit 16</p> <ul style="list-style-type: none"> Learning outcome 2 - Be able to show how rates of reaction are affected by varying the conditions. Unit content 2. <p>Unit 16</p> <ul style="list-style-type: none"> Learning outcome 2 - Be able to show how rates of reaction are affected by varying the conditions. Unit content 2. <p>Unit 23</p> <ul style="list-style-type: none"> Learning outcome 4 - Understand the factors associated with life forms and natural environmental balance. Unit content 4. <p>Unit 24</p> <ul style="list-style-type: none"> Learning outcome 4 - Know the ways in which people can influence plant and soil processes. Unit content 4. <p>Unit 8</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to use statistical techniques

<p>G Energy content of fuels</p> <ul style="list-style-type: none"> ➤ G1 Fuels ➤ G2 Hazards associated with fuels ➤ G3 Units of energy <p>H Electrical circuits</p> <ul style="list-style-type: none"> ➤ H1 Use of electrical symbols to design circuits ➤ H2 Equations ➤ H3 Energy usage 	<p>to investigate scientific problems. Unit content 1.</p> <p>Unit 1</p> <ul style="list-style-type: none"> • Learning outcome 3 - Be able to investigate different types of energy and their transfers. Unit content 3 <p>Unit 14</p> <ul style="list-style-type: none"> • Learning outcome 1 - Know the fundamental concepts associated with energy and its measurement. Unit content 1. <p>Unit 17</p> <ul style="list-style-type: none"> • Learning outcome 1 - Know principle electrical terms, quantities and relationships. Unit content 1.
<p>New content: The specification contains a glossary of key terms typically used in assessment. Care should be taken to ensure these are fully understood and addressed by learners during assessment.</p>	

2016	2010
<p>Unit 4: Laboratory Techniques and their Application</p>	
<p>Comments/Details: This is an internally set and assessed, externally verified, mandatory unit for the Foundation Diploma or larger programmes. Learners are required to investigate scientific organisations, to understand the importance of health and safety and relevant legislation. They will explore techniques for preparing and testing and organic liquid and an organic solid. Learners will also need to demonstrate understand how scientific information may be stored and communicated in a workplace laboratory. The unit will be assessed through a maximum of four summative assignments. Authorised assignment briefs are available. Whilst not directly comparable there is similarity in the content for this unit and QCF Unit 2.</p>	
<p>Learning Aim A: Understand the importance of health and safety in scientific organisations</p>	
<p>Content: A1 Application of health and safety legislation in scientific organisations A2 Hazards in a scientific organisation</p>	<p>Partially covered in: Unit 2</p> <ul style="list-style-type: none"> • Learning outcome 1 - Know how procedures are followed and communicated in the scientific workplace. Unit content 1. • Learning outcome 4 - Be able to demonstrate safe working practices in the scientific workplace. Unit content 4.
<p>Learning Aim B: Explore manufacturing techniques and testing methods for an organic liquid</p>	
<p>Content: B1 Manufacturing techniques B2 Testing methods and techniques</p>	<p>Partially covered in: Unit 4</p> <ul style="list-style-type: none"> • Learning outcome 2 - Be able to use scientific techniques to separate and assess purity of substances. Unit content 2.

	<p>Unit 10</p> <ul style="list-style-type: none"> Learning outcome 3 - Be able to carry out relevant scientific practical work <p>Unit 22</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to prepare substances. Unit content 1. <p>Unit 28</p> <ul style="list-style-type: none"> Learning outcome 4 - Be able to carry out reactions involving organic compounds. Unit content 4.
<p>Learning Aim C: Explore manufacturing techniques and testing methods for an organic solid</p>	
<p>Content:</p> <p>C1 Manufacturing techniques C2 Industrial manufacturing techniques C3 Estimation of purity</p>	<p>Partially covered in:</p> <p>Unit 10</p> <ul style="list-style-type: none"> Learning outcome 3 - Be able to carry out relevant scientific practical work <p>Unit 22</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to prepare substances. Unit content 1. <p>Unit 28</p> <ul style="list-style-type: none"> Learning outcome 4 - Be able to carry out reactions involving organic compounds. Unit content 4.
<p>Learning Aim D: Understand how scientific information may be stored and communicated in a workplace laboratory</p>	
<p>Content:</p> <p>D1 Systems for managing laboratory information D2 Communicating information in a scientific organisation D3 Use of informatics for storage and retrieval of scientific information</p>	<p>Partially covered in:</p> <p>Unit 2</p> <ul style="list-style-type: none"> Learning outcome 1 - Know how procedures are followed and communicated in the scientific workplace. Unit content 1. Learning outcome 3 - Know about laboratory information management systems. Unit content 3. <p>Unit 9</p> <ul style="list-style-type: none"> Learning outcome 1 - Know how informatics is used in science. Unit content 1. Learning outcome 3 - Be able to store and analyse scientific data. Unit content 3.

2016	2010
Unit 5: Principles and Applications of Science II	
<p>Comments/Details:</p> <p>This is a mandatory, externally set and marked 2 hour examination for the Diploma and Extended Diploma programmes.</p> <p>It will be available on a date published by Pearson in January and May/June 2018. The unit builds on and extends the range of key concepts in Biology, Chemistry and Physics that were covered in Unit 1. Each section is worth 40 marks. The paper will include a range of question types, including multiple choice, calculations, short answer and open response. These question types will assess discrete knowledge and understanding of the content in this unit.</p> <p>There is no direct equivalent in QCF.</p>	
<p>Assessment Outcomes:</p> <p>AO1 Demonstrate knowledge of scientific facts, terms, definitions and scientific formulae Command words: describe, draw, explain, identify, name, state Marks: ranges from 18 to 24 marks</p> <p>AO2 Demonstrate understanding of scientific concepts, procedures, processes and techniques and their application Command words: calculate, describe, draw, explain, give, show, state Marks: ranges from 51 to 60 marks</p> <p>AO3 Analyse, interpret and evaluate scientific information to make judgements and reach conclusions Command words: analyse, comment, describe, explain, give, state Marks: ranges from 18 to 24 marks</p> <p>AO4 Make connections, use and integrate different scientific concepts, procedures, processes or techniques Command words: calculate, comment, explain Marks: ranges from 12 to 15 marks</p>	
<p>Essential content</p> <p>A Properties and uses of substances</p> <p>A1 Relating properties to uses and production of substances</p> <p>A2 Structures, reactions and properties of commercially important organic compounds</p> <p>A3 Energy changes in industry</p>	<p>Partially covered in:</p> <p>Unit 14</p> <ul style="list-style-type: none"> Learning outcome 2 - Be able to investigate how changes of temperature or physical state relate to changes in internal energy. Unit content 2. <p>Unit 16</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to relate enthalpy changes to the bonding in a range of substances. Unit content 1. Learning outcome 4 - Be able to demonstrate the structure and properties of simple organic molecules. Unit content 4. <p>Unit 26</p> <ul style="list-style-type: none"> Learning outcome 1 - Understand how to calculate enthalpy changes from experimental and supplied data. Unit content 1. Learning outcome 4 - Understand how physical chemistry concepts are applied the control of industrial processes. Unit content 4. <p>Unit 27</p> <ul style="list-style-type: none"> Learning outcome 2 - Understand how the properties of substances influence their production and uses. Unit content 2. <p>Unit 28</p> <ul style="list-style-type: none"> Learning outcome 1 - Know the properties of hydrocarbons. Unit content 1.

	<ul style="list-style-type: none"> Learning outcome 2 - Know the properties of simple functional group compounds. Unit content 2.
<p>Essential content</p> <p>B Organs and systems B1 The cardiovascular system B2 Ventilation and gas exchange in the lungs B3 Urinary system structure and function B4 Cell transport mechanisms</p>	<p>Partially covered in:</p> <p>Unit 11</p> <ul style="list-style-type: none"> Learning outcome 2 - Be able to relate the structure of the circulatory system to its function in a multicellular organism. Unit content 2. Learning outcome 3 - Be able to relate the structure of the respiratory system to its function. Unit content 3. <p>Unit 12</p> <ul style="list-style-type: none"> Learning outcome 1 - Know the importance of the regulation of body fluids in the human body. Unit content 1. <p>Unit 29</p> <ul style="list-style-type: none"> Learning outcome 1 - Know the different physiological measurement tests available and the conditions they can detect. Unit content 1.
<p>Essential content</p> <p>C Thermal physics, materials and fluids C1 Thermal physics in domestic and industrial applications C2 Materials in domestic and industrial applications C3 Fluids in motion</p>	<p>Partially covered in:</p> <p>Unit 14</p> <ul style="list-style-type: none"> Learning outcome 1 - Know the fundamental concepts associated with energy and its measurement. Unit content 1. <p>Unit 52</p> <ul style="list-style-type: none"> Learning outcome 3 - Know the meaning of terms used to describe the properties of a metal. Unit content 3.
<p>New content: Much of the essential content C is not covered in QCF units, particularly materials in domestic and industrial applications and fluids in motion.</p> <p>Care should be taken to ensure learners are aware of the command words, their definitions and amount of detail required for all aspects of this externally examined unit.</p>	

2016	2010
Unit 6: Investigative Project	
<p>Comments/Details:</p> <p>This is an internally set and assessed, externally verified, mandatory unit for the Diploma and Extended Diploma qualifications.</p> <p>Learners will research, plan and carry out and review an investigative project chosen in collaboration with their teacher/tutor. Learners must select a relevant area of study linked to chemistry, physics or biology, or a combination of different fields.</p> <p>Assessment will be internal using a maximum of three summative assessments. Authorised assignment briefs are available.</p> <p>There is no direct link to a particular QCF unit but there are strong generic links with QCF Unit 3. Additional links may be made with relevant QCF units depending on the subject/discipline specific investigate project undertaken by the learner.</p>	
Learning Aim A: Undertake a literature search and review to produce an investigative project proposal	
<p>Content:</p> <p>A1 Literature review A2 Investigative project proposal</p>	<p>Partially covered in:</p> <p>Unit 3</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to plan an investigation relevant to the area of study. Unit content 1.
<p>New content:</p> <p>Emphasis on literature search and review. Use of Harvard referencing system essential content.</p>	
Learning Aim B: Produce a plan for an investigative project based on the proposal	
<p>Content:</p> <p>B1 Schedule B2 Plan B3 Health and safety and ethical considerations</p>	<p>Partially covered in:</p> <p>Unit 2</p> <ul style="list-style-type: none"> Learning Outcome 4 - Be able to demonstrate safe working practices in the scientific workplace. Unit content 4. <p>Unit 3</p> <ul style="list-style-type: none"> Learning outcome 1 - Be able to plan an investigation relevant to the area of study. Unit content 1. <p>Unit 5</p> <ul style="list-style-type: none"> Learning outcome 3 - Be able to investigate the ethical and moral issues associated with scientific advances. Unit content 3.
Learning Aim C: Safely undertake the project, collecting, analysing and presenting the results	
<p>Content:</p> <p>C1 Experimental procedures and techniques C2 Collect, collate and analyse data C3 Data presentation</p>	<p>Partially covered in:</p> <p>Unit 3</p> <ul style="list-style-type: none"> Learning outcome 3 - Be able to collect, collate and analyse the results from the investigation. Unit content 3. Learning outcome 4 - Be able to draw conclusions from the investigation. Unit content 4.
Learning Aim D: Review the investigative project using correct scientific principles.	
<p>Content:</p> <p>D1 Scientific report for the investigative project D2 Scientific evaluation of findings D3 Skill development within project work</p>	<p>Partially covered in:</p> <p>Unit 1 Learning outcome 4 - Be able to communicate scientific information. Unit content 4.</p> <p>Unit 3 Learning outcome 4 - Be able to draw conclusions from the investigation. Unit content 4.</p>

2016	2010
Unit 7: Contemporary Issues in Science	
<p>Comments/Details:</p> <p>This is a mandatory externally assessed written task only required for the Extended Diploma programme.</p> <p>It will be available for first assessment in summer 2018 and thereafter twice a year in December/January and summer.</p> <p>Learners are required to explore contemporary science issues and the impact they have on the world we live in order to demonstrate skills of analysis and interpretation and to put forward reasoned judgements and justifications for them.</p> <p>Learners will have up to 8 hours in a two week, predetermined window, to familiarise themselves with and produce up to four pages of notes, on a contemporary scientific issue described in three articles in a source booklet issued by Pearson. Learners then have 2.5 hours to complete a supervised written task. This will occur in a three day window, determined by Pearson, The written answers, worth up to 50 marks will be externally assessed by Pearson.</p> <p>The unit has some similar content to QCF Unit 5 but the assessment methodology is different and the scientific issues being considered are determined by Pearson.</p>	
<p>Assessment outcomes:</p> <p>AO1 Demonstrate knowledge and understanding of contemporary scientific issues</p> <p>AO2 Apply knowledge and understanding of contemporary scientific issues to real-life scientific scenarios</p>	
<p>Essential content:</p> <p>A Contemporary scientific issues</p> <p>A1 Understand the scientific issues in terms of ethical/social/economic/environmental impact</p> <p>A2 Understand the influence of different organisations/individuals on scientific issues</p>	<p>Partially covered in:</p> <p>Unit 5</p> <ul style="list-style-type: none"> Learning aim 4 - Know the relationship between science, commerce and politics. Unit content 4
<p>Assessment outcome:</p> <p>AO3 Be able to make valid judgements based on interpretation, analysis and evaluation of different sources of scientific information</p>	
<p>Essential content:</p> <p>B Interpretation, analysis and evaluation of scientific information</p> <p>B1 Interpretation and analysis of scientific information</p> <p>B2 Evaluation of scientific information</p>	<p>Partially covered in:</p> <p>Unit 5</p> <ul style="list-style-type: none"> Learning aim 1 - Know how scientific ideas develop. Unit content 1.
<p>Assessment outcome:</p> <p>AO4 Be able to apply and synthesise scientific ideas from several sources and adapt to other real-life scenarios</p>	
<p>Essential content:</p> <p>C Science reporting</p> <p>C1 Know how science is reported in different media and for different audiences</p> <p>C2 Understand the presentation of</p>	<p>Partially covered in:</p> <p>Unit 1</p> <ul style="list-style-type: none"> Learning aim 4 - Be able to communicate scientific information. Unit content 4. <p>Unit 5</p> <ul style="list-style-type: none"> Learning aim 2 - Understand the public perception of

science reporting and its relationship with the reporting medium and target audience	science, as influenced by the media. Unit content 2.
New content: The specification contains a glossary of key terms typically used in assessment. Care should be taken to ensure these are fully understood and addressed by learners during assessment.	

Section 2: What do these changes mean for planning and teaching?

What are the key changes that I need to be aware of?

Different language used for delivery

You can find a glossary of key terms and command verbs for both internally and externally assessed units below:

Internally assessed: can be found within appendix 2 of the specifications, found [here](#)

Externally assessed [here](#)

2016 Internally assessed units	2010 Internally assessed units
<ul style="list-style-type: none">Where criteria require demonstration of a practical skill this is usually specified as being 'correct' and at a 'competent' level for pass and 'skilful' level for merit. The skill level is more clearly defined in the essential information for assessment decisions.	<ul style="list-style-type: none">Learners are required to 'demonstrate,' 'carry out,' 'investigate' but no level of ability/skill is defined.
<ul style="list-style-type: none">Pass criteria usually require an 'explanation'	<ul style="list-style-type: none">Pass criteria frequently require a 'description.'
<ul style="list-style-type: none">Merit criteria usually require an 'analysis,' 'comparison,' or 'discussion.'	<ul style="list-style-type: none">Merit criteria frequently require and 'explanation.'
<ul style="list-style-type: none">Distinction criteria usually require a degree of synopsis across the other criteria demonstrated by the use of command words like, 'evaluate,' 'analyse,' and 'justify.'	<ul style="list-style-type: none">Distinction criteria often introduced additional content. Frequently used commands words were, 'evaluate,' analyse.'

Which units are being externally assessed?

Unit	First Assessment Window
1: Principles and Applications of Science I	May / June 2017
3: Science Investigation Skills	May / June 2017
5: Principles and Applications of Science II	January 2018
7: Contemporary Issues in Science	May / June 2018

How should I plan delivery of these units to reflect the changes in assessment?

More guidance on delivery models can be found within BTEC Nationals Delivery Guide and Delivery Plans.

These documents are available within the course materials section for Applied Science Production (accessible [here](#)).