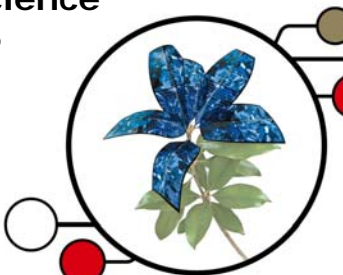


# BTEC Nationals in Applied Science from 2016



ALWAYS LEARNING PEARSON

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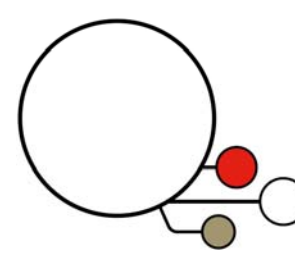
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Before we start ...

## What are your top 3 questions for us today?



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About your sector

- Careers in Applied Science – the future
- Progression routes
- BTEC Nationals students and higher education

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**Workshop agenda**

How are your BTEC Nationals evolving?

- 1 Course content:** Flexible choice of course sizes.
- 2 Assessment:** Students apply learning through a range of practical assessments.
- 3 Your course toolkit:** Combining qualifications, resources and training to enable progression.

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**BTEC Nationals in Applied Science**

Flexible choice of course sizes

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**Flexible choice of course sizes**

- Sizes
- Purpose and progression
- Your courses
- Your courses in depth

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**Flexible choice of course sizes**

**Sizes – Applied Science**

- Certificate**  
180 GLH  
Equivalent in size to: **0.5 A levels**
- Extended Certificate**  
360 GLH  
Equivalent in size to: **1 A level**
- Foundation Diploma**  
510 GLH  
Equivalent in size to: **1.5 A levels**
- Diploma**  
720 GLH  
Equivalent in size to: **2 A levels**

**Sizes – Specialist Applied Science courses**

- Extended Diploma**  
1080 GLH  
Equivalent in size to: **3 A levels**

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**Flexible choice of course sizes**

**Purpose and progression**

Qualification name and size → Fits into your curriculum ... → Progression to...

- Certificate**  
180 GLH  
Same as 0.5 A level  
Provides a basic introduction to the applied science sector  
Higher education or training
- Extended Certificate**  
360 GLH  
Same as 1 A level  
Part of a programme of study including other courses, e.g. BTEC Nationals or A levels  
Higher education or training
- Foundation Diploma**  
510 GLH  
Same as 1.5 A levels  
Provides a one-year full-time course giving a coherent study of the applied science sector  
Supports progression to higher education or training. On its own supports progression to Level 3

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**Flexible choice of course sizes**

**Purpose and progression**

Qualification name and size → Fits into your curriculum ... → Progression to...

- Diploma**  
720 GLH  
Same as 2 A levels  
Part of a study programme with room for another qualification alongside.  
A career in applied science, via higher education or entry-level employment
- Extended Diploma**  
1080 GLH  
Same as 3 A levels  
Main course in a programme of study, provides a wide-ranging study of the sector  
A career in applied science, via higher education or entry-level employment

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### Flexible choice of course sizes

- Increased mandatory content
- Knowledge into practice
- Employability skills throughout assessment criteria

**Structure key**

- Assignment – set and marked internally
- Task – set and marked by Pearson
- Written exam – set and marked by Pearson

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### Flexible choice of course sizes

Your courses at a glance

Certificate 120 GLH	Extended Certificate 240 GLH	Foundation Diploma 360 GLH	Diploma 480 GLH	Extended Diploma 600 GLH
TOTAL: 2 UNITS	TOTAL: 4 UNITS	TOTAL: 6 UNITS	TOTAL: 8 UNITS	TOTAL: 12 UNITS
7 mandatory units	3 mandatory units	4 mandatory units	6 mandatory units	7 mandatory units
1 mandatory unit 1 optional unit	1 mandatory unit 2 optional units	1 mandatory unit 3 optional units	1 mandatory unit 4 optional units	1 mandatory unit 5 optional units
1 optional unit	2 optional units	3 optional units	4 optional units	5 optional units

**Types of assessment**

Assignment - Set and marked internally	IN	Mandatory unit
Task - Set and marked by Pearson	PE	Optional unit
Written exam - Set and marked by Pearson	EX	

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### Flexible choice of course sizes

Inside your Extended Certificate in Applied Science

Support from Higher Education

Focus on key practical techniques

Choice of units give a specific purpose and measured outcomes

**Extended Certificate**  
360 GLH

**TOTAL: 4 UNITS**

**3 MANDATORY UNITS**

1. Principles and Applications of Science I (90 GLH)
2. Practical Scientific Procedures and Techniques (90 GLH)
3. Science Investigation Skills (120 GLH)

1 optional unit from 9 Units:

Key science concepts which lay the foundation for progression

Externally-assessed unit which draws together skills and knowledge

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**Flexible choice of course sizes**

### Inside your Diploma in Applied Science

Support from Higher Education

Further development of practical science skills but also looking at application in industry

Choice of two optional units give a specific purpose and focus on an area of interest

**Diploma**  
720 GLH

**TOTAL: 8 UNITS**

**6 MANDATORY UNITS**

1. Principles and Applications of Science I (90 GLH)
2. Practical Scientific Procedures and Techniques (90 GLH)
3. Science Investigation Skills (120 GLH)
4. Laboratory Techniques and their Application (90 GLH)
5. Principles and Applications of Science II (120 GLH)
6. Investigative Project (90 GLH)

2 optional units from 16 units

Key science concepts which lay the foundation for progression

Allows students to choose an area of interest, could be related to local employment opportunities

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**Flexible choice of course sizes**

### Inside your Extended Diploma in Applied Science

Support from Higher Education

Further development of underpinning scientific knowledge across all three science disciplines

Options - students are able to follow a general applied science route or focus on a particular occupational area

**Extended Diploma**  
1080 GLH

**TOTAL: 13 UNITS**

**7 MANDATORY UNITS**

1. Principles and Applications of Science I (90 GLH)
2. Practical Scientific Procedures and Techniques (90 GLH)
3. Science Investigation Skills (120 GLH)
4. Laboratory Techniques and their Application (90 GLH)
5. Principles and Applications of Science II (120 GLH)
6. Investigative Project (90 GLH)
7. Contemporary Issues in Science (120 GLH)

8 optional units from 19 units

Externally assessed unit which draws together skills and knowledge

Externally assessed unit using knowledge and understanding to analyse and evaluate reporting of a science issue.

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**Flexible choice of course sizes**

### Optional Units

8. Physiology of Human Body Systems	9. Human Regulation and Reproduction	10. Biological Molecules and Metabolic Pathways	11. Genetics and Genetic Engineering
12. Diseases and Infections	13. Applications of Inorganic Chemistry	14. Applications of Organic Chemistry	15. Electrical Circuits and their Application
16. Astronomy and Space Science	17. Microbiology and Microbiological Techniques	18. Industrial Chemical Reactions	19. Practical Chemical Analysis
20. Biomedical Science	21. Medical Physics Applications	22. Materials Science	23. Forensic Evidence, Collection and Analysis
24. Cryogenics and Vacuum Technology	25. Forensic Fire Investigation	26. Forensic Traffic Accident Investigation	

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**Meaningful employer involvement**

### Employer involvement

- Deliver or co-deliver some units:
  - Guest lecturers
  - Masterclasses
- Host students in work placements or workplace visits.

**So students can..**  
Learn from current practitioners  
Apply their knowledge and skills in practice

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**Flexible choice of course sizes**

### In summary

- Qualifications designed for progression to HE and employment.
- Recognised by industry.
- Appropriate assessment that is relevant to progression.

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**Questions**

Pause for thought ... any questions on what you've heard so far?

We'll answer as many as we can.

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## BTEC Nationals in Applied Science

Students apply learning through a range of practical assessments

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### Students apply learning in practical assessments

- Types of assessment
  - Internal assessment and quality assurance
  - External assessment (tasks and exams)
  - Synoptic assessment
  - Grading and compensation

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### Students apply learning in practical assessments

#### Types of assessment

	Set and marked by	Format	Students demonstrate
Assignments	You. Verified by Pearson Resubmission time limit is now 15 working days (increased from 10 working days).	<ul style="list-style-type: none"> <li>Practical tasks</li> <li>Work-related scenarios</li> <li>Tailored to local needs</li> </ul>	Application of knowledge and skills Individually or in teams
Tasks	Pearson	<ul style="list-style-type: none"> <li>Practical tasks</li> <li>Everyday scenarios</li> <li>Controlled conditions</li> <li>Some pre-released information</li> </ul>	Application of learning to common workplace or HE scenarios
Exams	Pearson	<ul style="list-style-type: none"> <li>Practical questions</li> <li>Written responses</li> <li>Controlled conditions</li> </ul>	Confidence with recalling and applying technical information and fundamental knowledge

Range of assessment styles allows learners to showcase their skills and application of knowledge, so they can progress to higher education and/or employment.

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**Students apply learning in practical assessments**

Quality Assurance - confidence in the standard

**PROPOSAL – UNDER REVIEW**

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**Students apply learning in practical assessments**

**Tasks**

**Unit 3: Science Investigation Skills**  
A task set and marked by Pearson and completed under supervised conditions.  
The supervised assessment can be arranged over a number of sessions in a three-week period timetabled by Pearson.  
**Part A:** investigation to gather data, taken during first two weeks.  
**Part B:** written task partly based on data from Part A, taken during third week.  
The supervised assessment sessions are a maximum of 3 hours for Part A and 1½ hours for Part B.  
Written submission.  
First assessment: May/June 2017

**Unit 7: Contemporary Issues in Science**  
A task set and marked by Pearson and completed under supervised conditions.  
Learners will be provided with pre-release material two weeks prior to a supervised assessment period in order to carry out research.  
The supervised assessment period is a maximum of 2½ hours in a period timetabled by Pearson.  
Written submission.  
First assessment: May/June 2018.

- Students demonstrate confidence applying knowledge to everyday scenarios.
- All tasks set and marked by Pearson.
- Controlled conditions.
- Available May / June. One re-sit allowed.

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**Students apply learning in practical assessments**

**Exams**

**Unit 1: Principles and Applications of Science I**  
**How long:** 1½ hours  
**Taking the test:** Unseen – taken in exam conditions (can be in a classroom).  
First Assessment: May/June 2017

**Unit 5: Principles and Applications of Science II**  
**How long:** 2 hours  
**Taking the test:** Unseen – taken in exam conditions (can be in a classroom).  
First assessment: January 2018.

- Students demonstrate confident application of technical, theoretical or fundamental knowledge.
- Controlled assessment conditions.
- All exams set and marked by Pearson.
- Available January and May/June.
- One re-sit allowed.

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**Group task**

# Group activity looking at an assessment



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**Students apply learning in practical assessments**

## Synoptic assessment

<p><b>Certificate</b></p> <p><b>Unit 1: Principles and Applications of Science 1</b> An exam-based assessment. Learners make judgements and reach conclusions by evaluating scientific information and making connections between different scientific concepts, procedures and processes.</p> <p>M 90</p>	<p><b>Diploma</b></p> <p><b>Unit 6: Investigative Project</b> Learners produce a realistic plan and carry out an investigative project. They prepare an evaluative report considering project outcomes and improvements that could be made. The unit will allow learners to apply transferable and specialist knowledge and skills from across the whole qualification.</p> <p>M 120</p>
<p><b>Extended Certificate &amp; Foundation Diploma</b></p> <p><b>Unit 3: Science Investigation Skills</b> Learners complete a practical investigation which assesses the skills learnt in the unit though the context of the content areas. Draws on the knowledge and practical techniques they will have met in Unit 1 and Unit 2.</p> <p>M 120</p>	<p><b>Extended Diploma</b></p> <p><b>Unit 7: Contemporary Issues in Science</b> Learners complete the assessment by analysing, interpreting and evaluating three articles on a science issue, using knowledge and understanding from their studies of the sector and apply both transferable and specialist knowledge and skills.</p> <p>M 120</p>

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**Grading**

## Headlines

- **Compensation**  
Students don't have to pass every unit to pass the course.
- **New "N" grade for externally assessed units**  
New grade in between Pass and Unclassified ensures students narrowly missing a Pass still gain points towards the overall grade.
- **Students don't have to pass all mandatory units**  
No requirement to pass all mandatory units.

Learn more in our Get Ready to Teach events

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**Students apply learning in practical assessments**

**In summary**

- Three types of **assessment**:  
**Task** (*external*)  
**Written exams** (*external*)  
**Assignments** (*internal*)
- Internal re-submission time changed to 15 working days
- Compensation to reflect performance across whole course
- Synoptic assessment for each size of qualification

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**BTEC Nationals in Applied Science**

Your course toolkit

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**Combines qualifications, resources and training to enable progression**

Plan Teach Assess & Track Develop



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**Combines qualifications, resources and training to enable progression**

Planning

Plan Teach Assess & Track Develop

**FREE** Get to know your course

- Specification
- Sample Assessment Materials
- Delivery Guide

**FREE** Expert help and support

- Subject Advisor

**FREE** Unit-by-unit planning

- Schemes of Work
- Mapping documents

**FREE** Recruit and prepare learners

- Learner profiles
- Study Skills Activities

**FREE** Course planning

- myBTEC
- Delivery Plan
- Curriculum Models
- Get Ready to Teach events

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**Combines qualifications, resources and training to enable progression**

Planning

Plan Teach Assess & Track Develop

Let's look at some of those materials....

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**Combines qualifications, resources and training to enable progression**

Teaching

Plan Teach Assess & Track Develop

**PAID FOR** Resources for learning and revision

- BTEC Revise
- Student textbook

**PAID FOR** Resources for teaching

ActiveLearn Digital Service, including:

- Unit-by-unit support for planning
- Unit-by-unit support for independent learning

**PAID FOR** Training

- Training courses

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Combines qualifications, resources and training to enable progression

Teaching

Plan Teach Assess & Track Evaluate

Let's look at some of those materials....

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Combines qualifications, resources and training to enable progression

Assessment and tracking

Plan Teach Assess & Track Evaluate

**Guidance**

- Quality Assurance Guides including Handbook, Assessment and Assignment Writing
- Standards Verifier
- Quality Review visit
- Standardisation training

**Examples of the Standard**

- Authorised Assignment Briefs
- Past papers and mark schemes; specimen papers and tasks for practice
- Sample Marked Learner Work

**Templates and tools**

- myBTEC: Progress tracking

**Reports and feedback**

- Principal Standards Verifier reports (internally and externally assessed units)

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Combines qualifications, resources and training to enable progression

Assessment and tracking

Plan Teach Assess & Track Evaluate

Let's look at some of those materials.... This will include video of myBTEC.

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**Combines qualifications, resources and training to enable progression**

Develop

Train Teach Assess for Learning Develop

**RAID Training**  
• Training courses

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**Questions**

Pause for thought ... any questions on what you've heard so far?

We'll answer as many as we can.

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**Next steps**

Look out for Getting Ready to Teach Events in Spring 2016

**Specifications**  
Visit the Applied Science specification page

**Get Ready to Teach events**  
- register your interest

**Sign up for Subject Advisor emails**

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**Your subject advisor**

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 @Sciences



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