

Pearson
Higher Nationals in
**Construction and the
Built Environment**

Qualification Guide

First Teaching from September 2017

First Certification from 2018

Issue 1



Level
BTEC
Higher
National
Certificate



Level
BTEC
Higher
National
Diploma



Introducing your new Pearson BTEC Higher Nationals in Construction and the Built Environment

BTEC is one of the world's most successful and best-loved applied learning brands, engaging students in practical, interpersonal and thinking skills for more than thirty years.

Pearson BTECs are work-related qualifications for students taking their first steps into employment or those already in employment and seeking career development opportunities. Pearson BTECs provide progression into the workplace either directly or via study at university and are also designed to meet employers' needs. Pearson BTEC Higher National qualifications are therefore widely recognised by industry and higher education as the principal vocational qualification at Levels 4 and 5.

The Pearson BTEC Higher National Certificate (HNC) is at level 4 (the same as the first year of a UK honours degree).

The Pearson BTEC Higher National Diploma (HND) is at level 4 and level 5 (the same as the first two years of a UK honours degree).

Professional courses developed collaboratively with subject experts

With input from industry, employers, professional bodies, tutors, students, and higher education institutions, the new Pearson BTEC Higher Nationals have been designed to better meet the needs of a changing market. The result is a qualification suite designed and developed to meet professional standards, recognised by employers and universities, which develop not only academic skills and abilities, but work-readiness skills.

The objectives of the redevelopment of the Higher Nationals have been to ensure:

- employer engagement;
- work relatedness;
- opportunities for progression to further higher education;
- alignment with UK higher education expectations; and
- qualifications which are up to date with current professional practice and include professional accreditation where possible.

Sector input

In developing the Higher Nationals, Pearson has sought to engage with a broad range of stakeholders; to inform the educational and vocational context in which the qualification will be situated.

Education Sector Input

Through the consultation process and the writing of new units, we have worked with representatives from:

- Bath College
- Leeds College of Building
- Southampton City College
- Wigan & Leigh College
- Oaklands College
- West Nottinghamshire College
- Belfast Metropolitan College
- Coleg Sir Gar
- New College Durham
- North Lindsey College
- University College London
- London South Bank University
- Southampton Solent University

Construction Sector Input

Through the External Stakeholder Advisory Group, and individual meetings, the following have been consulted in the development of this qualification:

- Cundall (multinational engineering)
- Vinci (multinational engineering, construction and facilities management)
- Laing O'Rourke (multinational engineering, construction and manufacturing)

- Balfour Beatty (construction, engineering, infrastructure)
- Digital Node (BIM Services)

Professional Body Input

The following Professional Bodies were consulted during the development of the qualification via participation in the External Stakeholder Advisory Group as well as individual meetings:

- Institution of Structural Engineers (iStructE)
- Royal Institute of Chartered Surveyors (RICS)
- Institution of Civil Engineers (ICE)
- Chartered Institution of Building Services Engineers (CIBSE)
- British Research Establishment (BRE)
- Engineering Construction Industry Training Board (ECITB)
- Chartered Association of Building Engineers (theCABE)
- Construction Industry Training Board (CITB)
- Chartered Institute of Architectural Technologists (CIAT)

“A word from our subject expert

“It is a great pleasure to present the new Higher Nationals in Construction and The Built Environment. This new qualification offers a combination of pathways and units that will allow students to develop the skills and knowledge necessary to work within one of the most dynamic and growing areas of the global economy.

Responding to an environment in which the construction industry, around the world, is in greater and greater need for technically skilled and professionally aware individuals to help drive the industry forward, these qualifications represent a valuable opportunity for students and employers.

In developing these qualifications, we have worked closely with industry experts, universities, colleges and students to ensure that we are providing a programme that meets the needs of both today's students and the industry's future.”



”

Key Features of the New Qualifications

Based on research and input from an External Stakeholder Advisory Group, the following features are to be integrated into the new qualifications.

Building Information Modelling (BIM), the process of using a digital representation of a building's physical components, is having widespread impact on the way that construction projects are developed and managed; throughout the building lifecycle. Aspects of BIM are embedded within many of the new units, as well as having specialist units dedicated to this subject.

Environmental Assessment/Management are rapidly becoming key features in the design and management of built assets. Whether it is during the design, when decisions may be influenced by a greater understanding of the environmental impact, or in the monitoring of existing assets to maximise the environmental performance, the ability to model, develop and monitor the performance of buildings will help to improve our environment.

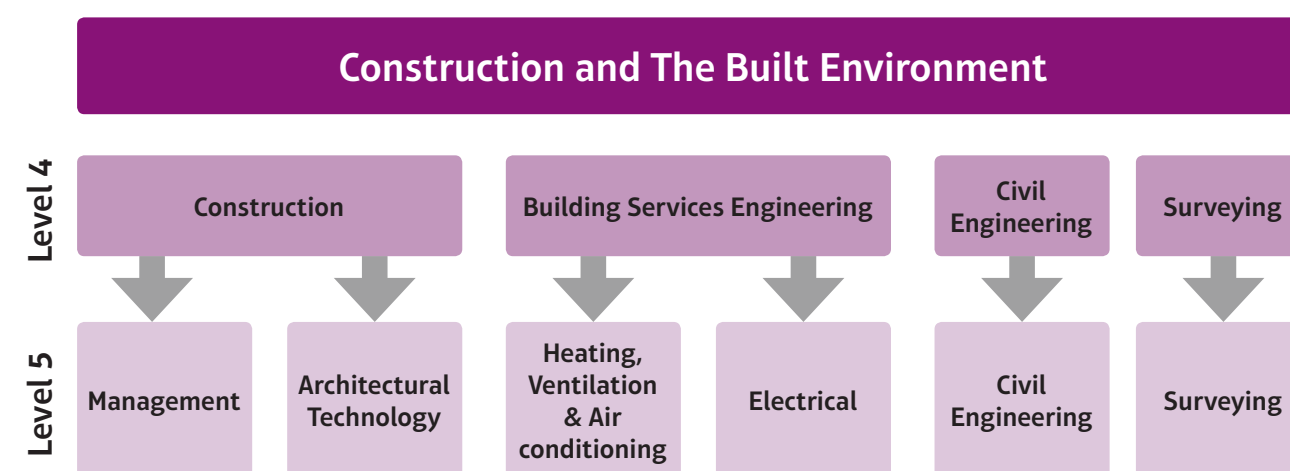
Specialist Study at Level 4 and Level 5, was a strong message from employers; the need for students coming from Level 4 to have a clear understanding of a focused area of the industry. The pathways of the new qualification have been designed to ensure that students gain a strong specialist understanding of their subject at Level 4 and may then progress to industry or a more specific, deeper engagement with their specialism at Level 5.

Health & Safety is embedded throughout the qualification. The importance of health & safety, in the construction industry, permeates all aspects of the industry and all stages of a project process. Therefore, the new Higher Nationals in Construction and The Built Environment seek to integrate issues of health & safety in many units of study; rather than isolating health & safety to a single separate unit.

What's new?

For the new Pearson BTEC Higher National qualifications, we are building on what you've told us you value most:

- **Essential subject knowledge** needed by students to progress successfully into further study or to the world of work;
- **Refreshed content** that is closely aligned with professional bodies', employers' and higher education needs for a skilled future workforce;
- **Assessments that consider cognitive skills** (what students know) along with affective and psychomotor skills (what they can do and how they behave);
- **An assessment strategy** that supports progression to Level 6 studies and also allows centres to offer assessment relevant to the local economy, reflecting the strengths of different learning styles;
- **Learning outcomes** mapped against professional body standards where appropriate;
- **Robust quality assurance measures** that serve to ensure that all stakeholders (e.g. professional bodies, universities, businesses, centres and students) can feel confident in the integrity and the integrity and value of the qualification.



Level 4 HND Pathways

The approach to developing the units of the new qualification are based on three types of unit:

Core – units, whose content, ALL students must undertake; either in support of the subject or their overall educational journey

Specialist – unit, whose content, is required for a specific pathway

Options – units, whose content, may be deemed necessary for students or used to enhance or broaden the specific area of study

Level 4 Higher National Certificate in Construction and The Built Environment (Construction)

1 Individual Project (Pearson-set)
2 Construction Technology
3 Science & Materials
4 Construction Practice & Management
5 Legal & Statutory Responsibilities in Construction
6 Construction Information (Drawing, Detailing, Specification)
7 Surveying, Measuring & Settingout
Plus one Level 4 Option unit

Level 4 Higher National Certificate in Construction and The Built Environment (Building Services Engineering)

1 Individual Project (Pearson-set)
2 Construction Technology
3 Science & Materials
4 Construction Practice & Management
8 Mathematics for Construction
9 Principles of Heating System Design & Installation
10 Principles of Ventilation & Airconditioning Design & Installation
Plus one Level 4 Option unit

Level 4 Higher National Certificate in Construction and The Built Environment (Civil Engineering)

1 Individual Project (Pearson-set)
2 Construction Technology
3 Science & Materials
4 Construction Practice & Management
8 Mathematics for Construction
20 Principles of Structural Design
6 Construction Information (Drawing, Detailing, Specification)
Plus one Level 4 Option unit

Level 4 Higher National Certificate in Construction and The Built Environment (Surveying)

1 Individual Project (Pearson-set)
2 Construction Technology
3 Science & Materials
4 Construction Practice & Management
11 Measurement & Estimating
12 Financial Management & Business Practices in Construction
5 Legal & Statutory Responsibilities in Construction
Plus one Level 4 Option unit

Core Units
Optional Units
Specialist Units

* All units are valued at 15 credits (150 learning hours), except these which are 30 credits (300 learning hours)

Level 4 Option Units		
13 Tender & Procurement	14 Building Information Modelling	15 Principles of Refurbishment
16 Principles of Alternative Energy	17 Principles of Public Health Engineering	18 Civil Engineering Technology
19 Principles of Electrical Design & Installation	20 Principles of Structural Design	21 Site Supervision & Operations



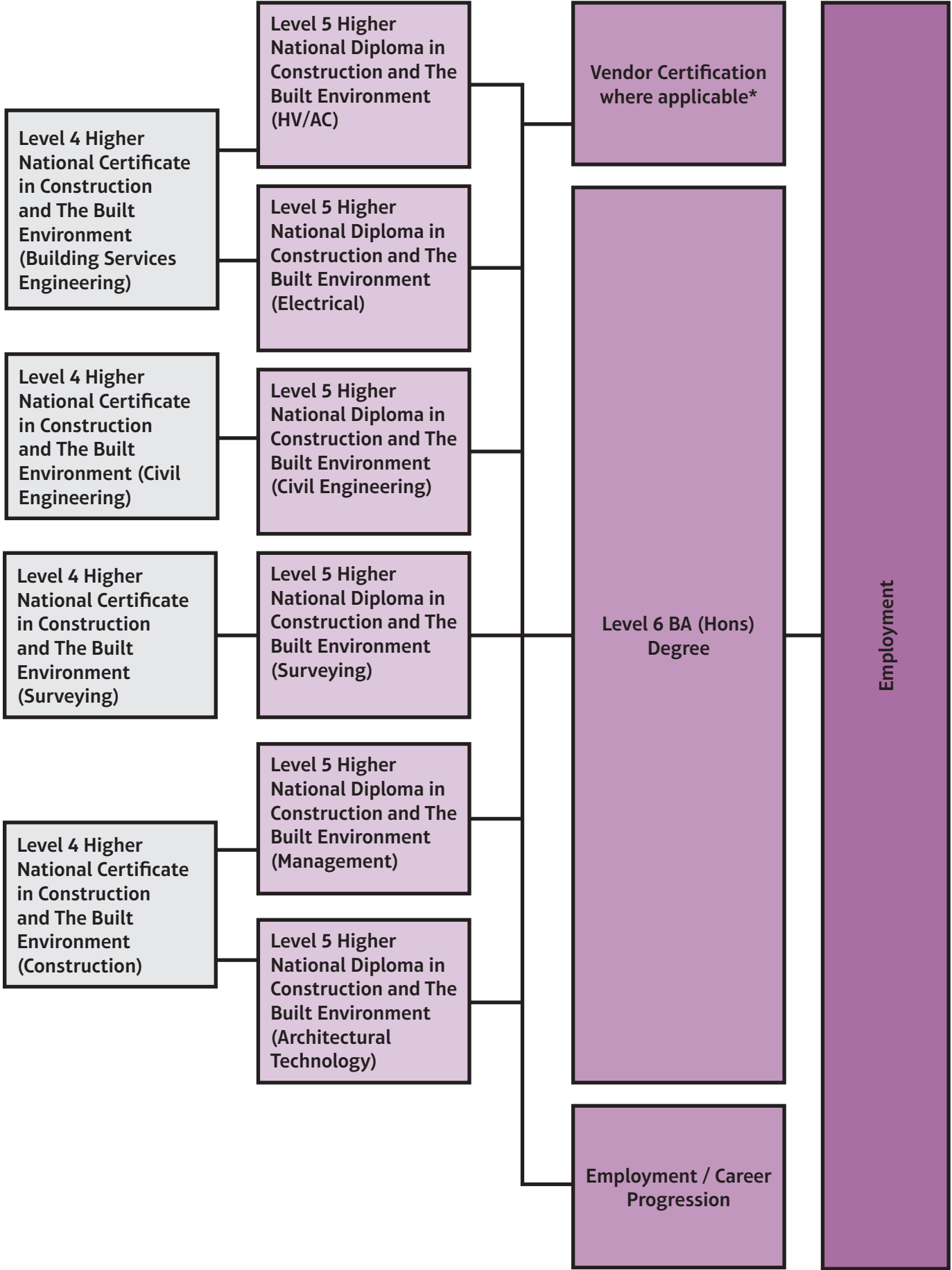
Level 5 HND Pathways

Level 5 Higher National Diplomain Construction and The Built Environment (Management)	Level 5 Higher National Diploma in Construction and The Built Environment (Architectural Technology)	Level 5 Higher National Diplomain Construction and The Built Environment (Heating,Ventilation & Air-Conditioning)	Level 5 Higher National Diplomain Construction and The Built Environment (Electrical)	Level 5 Higher National Diplomain Construction and The Built Environment (Civil Engineering)	Level 5 Option Units
Level 4	Level 4	Level 4	Level 4	Level 4	35 Alternative Construction Methods
1 Individual Project (Pearson-set)	1 Individual Project (Pearson-set)	1 Individual Project (Pearson-set)	1 Individual Project (Pearson-set)	1 Individual Project (Pearson-set)	36 Advanced Building Information Modelling
2 Construction Technology	2 Construction Technology	2 Construction Technology	2 Construction Technology	2 Construction Technology	37 Environmental Assessment & Monitoring
3 Science & Materials	3 Science & Materials	3 Science & Materials	3 Science & Materials	3 Science & Materials	38 Personal Professional Development
4 Construction Practice & Management	4 Construction Practice & Management	4 Construction Practice & Management	4 Construction Practice & Management	4 Construction Practice & Management	39 Transport Systems for Buildings
5 Legal & Statutory Responsibilities in Construction	5 Legal & Statutory Responsibilities in Construction	8 Mathematics for Construction	8 Mathematics for Construction	6 Construction Information (Drawing, Detailing, Specification)	40 Alternative Energy Systems Design & Installation
6 Construction Information (Drawing, Detailing, Specification)	6 Construction Information (Drawing, Detailing, Specification)	9 Principles of Heating System Design & Installation	9 Principles of Heating System Design & Installation	8 Mathematics for Construction	41 Surveying for Conservation,Renovation & Refurbishment
7 Surveying, Measuring & Setting-out	7 Surveying, Measuring & Setting-out	10 Principles of Ventilation & Airconditioning Design & Installation	10 Principles of Ventilation & Airconditioning Design & Installation	20 Principles of Structural Design	43 Hydraulics
Plus one Level 4 Option unit	Plus one Level 4 Option unit	17 Principles of Public HealthEngineering	19 Principles of Electrical Design & Installation	Plus one Level 4 Option unit	42 Highway Engineering
Level 5	Level 5	Level 5	Level 5	Level 5	44 Advanced Surveying & Measuring
22 Group Project (Pearson-set)*	22 Group Project (Pearson-set)*	22 Group Project (Pearson-set)*	22 Group Project (Pearson-set)*	22 Group Project (Pearson-set)*	46 Advanced Materials
23 Contracts & Management	23 Contracts & Management	28 Further Mathematics for Construction	28 Further Mathematics for Construction	28 Further Mathematics for Construction	45 Maintenance & Operations
24 Project Management	26 Advanced Construction Drawing & Detailing	31 Advanced Heating, Ventilation & Air-conditioning Design & Installation	32 Building Management Systems	29 Geotechnics and Soil Mechanics	47 Construction Data Management
25 Management for Complex Buildings	27 Construction Technology for Complex Buildings	32 Building Management Systems	33 Advanced Electrical Design & Installation	30 Advanced Structural Design	
Plus one Level 5 Option unit	Plus one Level 5 Option unit	Plus one Level 5 Option unit	Plus one Level 5 Option unit	Plus one Level 5 Option unit	
Plus one Level 5 Option unit	Plus one Level 5 Option unit	Plus one Level 5 Option unit	Plus one Level 5 Option unit	Plus one Level 5 Option unit	
Plus one Level 5 Option unit (or a Specialist unit from another pathway)	Plus one Level 5 Option unit (or a Specialist unit from another pathway)	Plus one Level 5 Option unit (or a Specialist unit from another pathway)	Plus one Level 5 Option unit (or a Specialist unit from another pathway)	Plus one Level 5 Option unit (or a Specialist unit from another pathway)	
Core Units					
Optional Units					
Specialist Units					

* All units are valued at 15 credits and 150 TQT, except these which are 30 credits and 300 TQT.



Progression opportunities:



The purpose of Pearson BTEC Higher Nationals in Construction and the Built Environment is to develop students as professional, self-reflecting individuals, able to meet the demands of employers in the construction sector and adapt to a constantly changing world. The qualifications aim to widen access to higher education and enhance the career prospects of those who undertake them.

On successful completion of the Level 5 Higher National Diploma, students can develop their careers in the construction sector through:

- Entering employment;
- Continuing existing employment;
- Gaining vendor certification;
- Committing to Continuing Professional Development (CPD); or Progressing to university.

Assessment Strategy

Pearson BTECs combine a student-centred approach with a flexible, unit-based structure. Students are required to apply their knowledge to a variety of assignments and activities, with a focus on the holistic development of practical, interpersonal and higher level thinking skills. Assessment reflects not only what the student knows but also what he or she can do to succeed in employment and higher education in an ethical manner.

Pearson BTEC Higher Nationals have always allowed for a variety of forms of assessment evidence to be used, provided they are suited to the type of learning outcomes being assessed. For many units, the practical demonstration of skills is necessary and, for others, students will need to carry out their own research and analysis, working independently or as part of a team.

Resources

We are providing a wealth of support to ensure that tutors and students have the best possible experience during their course. We have worked with students and tutors worldwide to create an effective and interactive community for our qualifications, called HN Global, an exciting new online platform created by Pearson to engage with Higher National students and tutors around the world.

Created in parallel with the development of the new BTEC Higher National qualifications, HN Global houses a great number of resources for students to get the most out of their BTEC Higher National experience.

Pearson also offer Study Skills units to all learners – an online toolkit accessed on HN Global that supports the delivery, assessment and quality assurance of BTECs in centres.

www.highernationals.com

“The HN’s are recognised throughout industry for their technical excellence in content and work-place relevance. They are used as a benchmark by many employers for their trainees and apprentices to achieve before completion of their training programme. The HN’s also unlock the door to university and degree programmes. Some students may find this route more relevant to them, than following the more traditional route through A levels followed by university. This Higher National route allowed me to progress to university and gain my honours degree; preparing me for a successful career in the construction industry.”

Scott Summerfield Senior Engineer, Cundall

Do you need programme approval?

Providers wishing to deliver the new Pearson BTEC Higher National qualifications will be subject to a new qualification approval process, more aligned with that used in UK Higher Education. Email hnqa@pearson.com or visit qualifications.pearson.com/higher-nationals for more information about the process.



FAQs

1. If a provider is already delivering the existing Higher National in Construction qualifications do they still need to obtain approval for delivering the new qualification?

Yes, existing providers would still be required to gain approval for delivering the new Higher National qualification but the process will be simplified for centres that meet the automatic approval criteria. Approval will then be provisionally granted subject to the return of a signed declaration and payment of the approval fee. More details can be found here <insert link to approval guidance document>

2. How long will the approval process take?

This will depend on whether the provider is eligible for automatic approval. Once an existing provider has been notified of eligibility for auto approval, the approval will remain provisional until the provider returns the signed declaration and approval. If an existing provider is ineligible and requires a desk based review, the review cannot begin until the provider confirms its intention to proceed and the approval fee is paid. New providers will go through the standard provider approval process which currently takes about 20 days.

3. Is it possible for students to change their pathway at the end of their first year on the course programme?

Yes it is. Providers will need to advise Pearson's registrations team and they will be able to transfer the student's registration to the appropriate pathway.

4. Why are specialist units not optional for all pathways at Level 5?

Yes they do. SAMs are for guidance and support only and can be customised and amended according to localised needs and requirements. All assignments must still be moderated as per the internal verification process.

5. If Pearson are providing Sample Assessment Materials, do providers still have to devise their own assignments and complete internal verification of assignments?

Yes they do. SAMs are for guidance and support only and can be customised and amended according to localised needs and requirements. All assignments must still be moderated as per the internal verification process.

6. How will providers know what the accreditation requirements are for Professional Bodies and what students would need to do to claim accreditation.

In the programme specification, providers will find the Professional Body exemptions in the appendices. There will also be further details and guidance for providers available on the Pearson qualifications website on how students can claim their exemptions.

7. How will the Pearson-set Assignment be defined and assessed?

Each year, Pearson will release a 'theme' and (for Level 4) related 'topics'. Themes will be developed through a consultation process; involving industry and education representatives. Centres will develop an assignment, for their students, based on the theme and topics. At Level 4, students will work in relation to a given topic. While, at Level 5, students will develop their own topic; through research in relation to the theme. Centres will internally assess the assignment. A sample of the Pearson-set assignment will form part of the work reviewed by External Examiners during their annual visits.

highernationals@pearson.com
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