Pearson

Higher Nationals in Computing: Qualification Guide

A future-focused Computing qualification with specialist pathways, expanded AI content and a focus on practical, technical and transferable skills for progression into higher education and digital careers.

FIRST TEACHING FROM SEPTEMBER 2027



About Pearson Higher Nationals

Higher Nationals are practical Level 4 **(Higher National Certificate/ HNC)** and Level 5 **(Higher National Diploma/HND)** qualifications regulated by Ofqual, designed to develop the skills employers need, and allow learners to go straight into work or further study.

Why has the qualification been redeveloped?

Computing is a fast-moving sector. Developments in artificial intelligence, automation, cloud technologies, data, software development, networking and cybersecurity are changing the technical skills needed by employers.

Feedback from employers, sector professionals, FE and HE providers, and students has informed the qualification content, pathway structure and the knowledge, skills and behaviours learners will develop.

The redevelopment ensures that learners continue to develop broader workplace capabilities alongside their technical knowledge. The common core at Level 4 includes Fundamentals of Computer Science, Designing a Computing Project and Professional Practice.

Building on this foundation, the common Level 5 core requires learners to complete either a Computing Research Project or an Applied Computing Project, supporting a choice of research-focused or applied learning while ensuring a consistent core curriculum across all pathways.

What's new?

Nine pathways at both Levels 4 and 5

The new structure provides the same nine named pathways at both HNC and HND levels:

1. **General**
2. **Quality Engineering**
3. **Software Engineering**
4. **Data Engineering**
5. **Data Analytics**
6. **Network Engineering**
7. **Cybersecurity**
8. **Cloud Computing**
9. **Applied Artificial Intelligence**

The selected pathway appears in brackets in the qualification title. This provides a clear identity for the learner's area of specialism and supports progression from the HNC to the corresponding HND pathway.

New and expanded specialist areas

The offer includes dedicated pathways in areas that are increasingly important across the computing sector:

- **Applied Artificial Intelligence** – covering core AI, automation, digital productivity, ethics, applied AI, and generative and conversational AI.
- **Cloud Computing** – covering cloud foundations, DevOps automation, cloud networking, cloud security, data centre operations and cloud systems architecture.
- **Data Engineering** – covering database engineering, data analytics, enterprise database systems, advanced data engineering, and big data analytics and visualisation.

More AI content across the qualification

AI is embedded throughout the qualification rather than being confined to a single pathway. A broad range of AI-focused specialist and optional units cover areas such as:

- Agentic AI
- AI Programming
- Machine Learning
- Computer Vision
- Natural Language Processing
- Deep Learning



What's new?

A broader optional unit bank

Centres can select from an expanded bank of optional units that reflect current and emerging areas of the computing sector. Topics include:

- emerging technologies
- green computing and digital sustainability
- web and games development
- virtual and augmented reality
- blockchain technologies
- information security
- cloud infrastructure and cryptography
- software development
- FinOps
- work-based learning

Clearer specialist progression

The same nine pathways are available at both HNC and HND levels. This gives learners the opportunity to build their specialist knowledge as they progress from Level 4 to Level 5.



Flexible project options at Level 5

At Level 5, learners complete one 30-credit project unit. Centres can select either:

- **Unit 501: Computing Research Project**, or
- **Unit 502: Applied Computing Project**.

This provides flexibility to support different learner destinations and programme approaches, including academic progression and applied, employment-focused learning.

What's new?

A consistent qualification structure

The HNC comprises **120 credits**, eight 15–credit Level 4 units. The HND comprises **240 credits**, including 120 credits at Level 5. Most units are worth 15 credits, while the two alternative Level 5 project units are each worth 30 credits.

The structure combines:

- common core learning
- pathway-mandatory units
- optional units

Units that are mandatory within one specialist pathway may also be available as optional units within another pathway.



First teach

The redeveloped HN in Computing is available for **first teaching from September 2027**.

HN in Computing
Qualification structure

Rules of combination

- Units are worth 15 credits, except Units 501 and 502, which are worth 30 credits.
- **HNC**: 120 Level 4 credits: 8 x 15-credit units.
- **HND**: 240 credits: the 120-credit HNC plus 120 Level 5 credits.
- **HND**: 6 x 15-credit units plus one 30-credit project unit.
- Specialist mandatory units from one pathway may be selected as optional units in another pathway.

KEY

Cell colour identifies the type of each unit in the pathway.

Core Mandatory | Specialist Mandatory | Optional

Level 4 – Higher National Certificate (HNC)

Unit credits	GENERAL		QUALITY ENGINEERING		SOFTWARE ENGINEERING		DATA ENGINEERING		DATA ANALYTICS		NETWORK ENGINEERING		CYBERSECURITY		CLOUD COMPUTING		APPLIED ARTIFICIAL INTELLIGENCE	
	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title
15	401	Fundamentals of Computer Science	401	Fundamentals of Computer Science	401	Fundamentals of Computer Science	401	Fundamentals of Computer Science	401	Fundamentals of Computer Science	401	Fundamentals of Computer Science	401	Fundamentals of Computer Science	401	Fundamentals of Computer Science	401	Fundamentals of Computer Science
15	402	Designing a Computing Project (Pearson-set)	402	Designing a Computing Project (Pearson-set)	402	Designing a Computing Project (Pearson-set)	402	Designing a Computing Project (Pearson-set)	402	Designing a Computing Project (Pearson-set)	402	Designing a Computing Project (Pearson-set)	402	Designing a Computing Project (Pearson-set)	402	Designing a Computing Project (Pearson-set)	402	Designing a Computing Project (Pearson-set)
15	403	Professional Practice	403	Professional Practice	403	Professional Practice	403	Professional Practice	403	Professional Practice	403	Professional Practice	403	Professional Practice	403	Professional Practice	403	Professional Practice
15	404	Digital Systems Analysis	405	Core Software Design and Development	405	Core Software Design and Development	405	Core Software Design and Development	411	Core Data Analytics	413	Core Networking	409	Core Cybersecurity	416	Core Cloud Computing	420	Core AI
15		Optional unit	406	Core Software Testing	408	Applied Software Development	410	Database Engineering	412	Applied Data Analytics	414	Applied Networking	413	Core Networking	417	Cloud DevOps Automation	421	AI Automation and Digital Productivity
15		Optional unit	407	Applied Software Testing	409	Core Cybersecurity	411	Core Data Analytics		Optional unit	416	Core Cloud Computing	415	Applied Cybersecurity	418	Cloud Networking	422	Ethics and AI
15		Optional unit		Optional unit		Optional unit	404	Digital Systems Analysis		Optional unit		Optional unit		Optional unit	419	Cloud Security		Optional unit
15		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit

Level 5 – Higher National Diploma (HND)

Unit credits	GENERAL		QUALITY ENGINEERING		SOFTWARE ENGINEERING		DATA ENGINEERING		DATA ANALYTICS		NETWORK ENGINEERING		CYBERSECURITY		CLOUD COMPUTING		APPLIED ARTIFICIAL INTELLIGENCE	
	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title
30	501 or 502	Computing Research Project (Pearson-set) or Applied Computing Project (Pearson-set)	501 or 502	Computing Research Project (Pearson-set) or Applied Computing Project (Pearson-set)	501 or 502	Computing Research Project (Pearson-set) or Applied Computing Project (Pearson-set)	501 or 502	Computing Research Project (Pearson-set) or Applied Computing Project (Pearson-set)	501 or 502	Computing Research Project (Pearson-set) or Applied Computing Project (Pearson-set)	501 or 502	Computing Research Project (Pearson-set) or Applied Computing Project (Pearson-set)	501 or 502	Computing Research Project (Pearson-set) or Applied Computing Project (Pearson-set)	501 or 502	Computing Research Project (Pearson-set) or Applied Computing Project (Pearson-set)	501 or 502	Computing Research Project (Pearson-set) or Applied Computing Project (Pearson-set)
15	503	Risk Assessment and Change Management	503	Risk Assessment and Change Management	506	Advanced Software Design	509	Enterprise Database Management Systems	512	Advanced Data Analytics	514	Quality of Service (QoS)	517	Applied Data Forensics	518	Cloud Data Centre Operations	520	Applied AI
15		Optional unit	504	Security Testing	507	Full Stack Development	510	Advanced Data Engineering	511	Big Data Analytics and Visualisation	515	Secure System Design	515	Secure System Design	519	Cloud System Architecture	521	Generative and Conversational AI
15		Optional unit	505	Application Development	508	Discrete Mathematics	511	Big Data Analytics and Visualisation	513	AI for Data Analysis	516	Internet of Things		Optional unit		Optional unit		Optional unit
15		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit
15		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit
15		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit		Optional unit

L4 OPTIONAL UNITS

Unit #	Unit title	Unit #	Unit title	Unit #	Unit title
423	Agentic AI	428	Maths for Computing	432	System Architecture
424	Creative AI Coding	429	Responsive Website Design and Development	433	Game Development
425	AI Programming			434	Green Computing
426	Digital Project Management	430	Emerging Technologies	435	Client-Server Computer Systems
427	UI/UX Programming and Development	431	Operating Systems		

L5 OPTIONAL UNITS

Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title	Unit #	Unit title
522	Machine Learning Concepts	527	System Analysis and Design	532	Prototyping with AI	537	Fundamentals of Blockchain Technology	541	FinOps
523	Natural Language Processing	528	Robotics	533	Transport Layer Engineering	538	Applied Cloud Cryptography	542	API Design and Development
524	Advanced AI Concepts	529	Game Design and Scripting	534	Digital Sustainability	539	Cloud Infrastructure Protection	543	Data Structures and Algorithms
525	Computer Vision	530	Information Security Management	535	Virtual and Augmented Reality	540	Improving Organisational Performance		
526	Deep Learning	531	E-Commerce and Strategy	536	Work-Based Learning				

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