

Pearson Level 3 Alternative Academic Qualification BTEC National in Information Technology (Extended Certificate)

Qualification Number: 610/3960/3

The Pearson Level 3 Alternative Academic Qualification BTEC National in Information Technology (Extended Certificate) is designed for post-16 students with an interest in the Digital sector and aiming to progress to higher education as a route to graduate level employment.

Equivalent to one A level in size, it is suitable for students looking to develop their applied knowledge and skills in Information Technology as part of a study programme alongside A levels.

What will the student study as part of this qualification?

The qualification has been developed in consultation with higher education representatives and sector experts to ensure students have the knowledge, understanding and skills they need to progress to, and thrive in, higher education.

The qualification has four mandatory units covering the following topics:

- **Information Technology Systems** – Information technology systems, including the relationship between software and hardware, and the issues related to IT systems
- **Cyber Security and Incident Management** – Types of cyber security attacks, the vulnerabilities in networked systems and how to plan and respond to attacks
- **Website Development** – The development tools, techniques and processes used in website development and how to test usability, functionality and fitness for purpose
- **Relational Database Development** – Structure of data, data design and database management systems (DBMS).

Unit 1: Information Technology Systems – externally assessed (90 marks, 2 hrs)

Unit 2: Cyber Security and Incident Management – externally assessed (90 marks, 2 hr 15 mins)

Unit 3: Website Development – internally assessed (15 hrs, PASB)

Unit 4: Relational Database Development – internally assessed (15 hrs, PASB)

Sequence of delivery

Year One

Unit	Unit Title	GLH	Assessment method	Term 1	January exam series	Term 2	Term 3	Summer exam series
1	Information Technology Systems	120	Ext	Del (Topic A, B & C)	-	Del (Topic D, E & F)	Rev	Ext
3	Website Development	60	Int	Del (Learning Aim A)	-	Del (Learning Aim B & C)	PSAB (15 hours)	

Unit 1 Information Technology Systems: This unit is an externally assessed mandatory unit that lays the foundation for the entire course. This unit provides essential underpinning knowledge of information technology systems, terminology, concepts and processes. There are many opportunities for learners to apply the knowledge gained in this unit to other units. For example, Topic B2 introduces learners to various types of networks, such as PANs, LANs, WANs, and VPNs. This knowledge can then be utilised in Unit 2, where learners will demonstrate their understanding of the cybersecurity risks associated with these networks. Topic E1 introduces learners to a range of online services, which they can later apply in Unit 3 when designing and developing a website in response to a brief. Similarly, Topic E2 familiarises learners with different data sources, collection methods, and techniques for improving data accuracy. This knowledge will be relevant in Unit 4, where learners will design and develop a database to meet a client's requirements. As this is the first external assessment students will undertake, it is scheduled for the summer exam season. This approach provides centres with sufficient time to teach the unit content and allows students to develop their understanding of the command words used in assessments. It also ensures that students have the opportunity to resit the assessment in the second year of study, if necessary.

Content Area	Topics
A: Explore the concepts and implications of the use of, and relationships among devices that form IT systems	A1 Functions and use of digital devices, and the notation used to represent the design of IT systems A2 Peripheral devices and media A3 Computer software in an IT system A4 Choosing IT systems A5 Emerging technologies
B: Transmitting data	B1 Connectivity B2 Networks B3 Issues relating to transmission of data
C: Operating online	C1 Online systems C2 Online communities
D: Protecting data and information	D1 Threats to data, information, and systems D2 Protecting data
E: Impact of using IT systems	E1 Online services E2 Using and manipulating data
F: Issues	F1 Moral and ethical issues F2 Legal issues

Unit 3 Website Development: This unit is internally assessed via a 15-hour PSAB, which is marked by centres and verified by Pearson. Learners will explore the fundamental principles of website development and then design and develop a website in response to a client brief. Learners will build on the knowledge, understanding, and skills developed in Unit 1, where they gained a broad understanding of information technology systems that can be applied in this unit. For example, their knowledge of Topic C1: Online Systems, C2: Online Communities, F1: Moral and Ethical Issues, and F2: Legal Issues will support them in designing and developing an effective website that meets the client's requirements.

Learning Aim	Topics
A Understand how the principles of website development are used to create effective websites	A1 Purpose and principles of websites A2 Planning a website in response to a client brief
B Explore website design skills and techniques to meet client requirements	B1 Website design B2 Asset management techniques
C Develop a website to meet client requirements	C1 Common tools and techniques to produce a website C2 Website development processes C3 Testing

Year Two

Unit	Unit Title	GLH	Assessment method	Term 1	January exam series	Term 2	Term 3	Summer exam series
2	Cyber Security and Incident Management	120	Ext	Del (Topic A, B, C and D)	Ext			Resit Ext
4	Relational Database Development	60	Int			Del (Learning Aim A, B, C)	PSAB (15 hours)	

Unit 2 Cyber Security and Incident Management: This mandatory unit is externally assessed and provides learners with the knowledge and understanding of cybersecurity terminology, security threats, system vulnerabilities, protection methods, forensic procedures, and the implications of cyber threats. In Unit 1, learners developed an understanding of various digital devices, computer systems used in IT, emerging technologies, connections, networks, and online communities. Building on this foundation, Unit 2 will enable learners to identify and address the cybersecurity risks associated with these different aspects of IT systems. Learners will also be able to build on their familiarity with command words used in the external assessment for unit 1 such as "describe," "explain," and "evaluate," as these remain consistent across assessments. This unit's assessment is scheduled for the January window, providing students with the option to resit during the summer exam series if necessary.

Unit 2: Computer Network Security and Encryption

Assessment type: External

Content Area	Topics
A: Cyber security threats, system vulnerabilities and security protection methods	A1 Cyber security threats A2 System vulnerabilities A3 Legal responsibilities A4 Software and hardware security measures
B: Use of networking architectures and principles for security	B1 Network types B2 Network components B3 Networking infrastructure services and resources
C: Cyber security documentation	C1 Internal policies
D: Forensic procedures	D1 Forensic collection of evidence D2 Systematic forensic analysis of a suspect system

Unit 4 Relational Database Development: This unit is internally assessed through a 15-hour PSAB, which will be marked by centres and verified by Pearson. Learners will examine relational database development principles and apply their skills to design and develop data storage solutions to meet a client's requirements.

Learners will build on the knowledge gained in Unit 1. For example, they learned about different sources of data, collection methods, the importance of ensuring data accuracy, methods for achieving data accuracy, and the legislation governing data use. This understanding will support them in designing and developing an effective database that meets client requirements.

Centres may deliver the qualification over a one-year period if required to provide flexibility to meet student or centre qualification planning needs.

Learning Aim	Topics
<p>A Understand how the principles of relational database models, data storage and normalisation are used to create effective relational database solutions</p>	<p>A1 Relational database management systems A2 Manipulating data structures and data in relational databases A3 Normalisation A4 Planning a relational database solution in response to a client brief</p>
<p>B Design a relational database solution to meet client requirements</p>	<p>B1 Relational database design techniques and processes B2 Design documentation B3 Reviewing and refining designs</p>
<p>C Develop a relational database solution to meet client requirements</p>	<p>C1 Producing a database solution C2 Testing the database solution C3 Reviewing the database solution C4 Optimising the database solution</p>