

Why this subject?

In Computing you will learn about Key Principles of Computer Science, Fundamentals of Computer Systems, IT Systems Security and Encryption and the principles of Website Development. This qualification is designed to support learners who are interested in learning about the computing sector alongside other fields of study, with a view to progressing to a wide range of higher education courses, not necessarily in the computing sector, or selecting a suitable career that relies heavily on computers.

Course Outline

Year 12

Unit 1: Principles of Computer Science

Topics included; Computational thinking, Standard methods and techniques used to develop algorithms, Programming paradigms, Types of programming and mark-up languages.

Unit 2: Fundamentals of Computer Systems

Topics included; Hardware and software, Computer architecture, How data is represented by computer systems, How data is organised on computer systems, How data is transmitted by computer systems, The use of logic and data flow in computer systems.

Year 13

Unit 7: IT Systems Security & Encryption

Topics included; Understand current IT security threats, Information security and the legal requirements affecting the security of IT systems, Investigate cryptographic techniques and processes used to protect data, Examine the techniques used and implement strategies to protect an IT system from security threats.

Unit 15: Website Development

Topics included; Understand the principles of website development, Design a website to meet client requirements, Develop a website to meet client requirements.



Key Information

Exam Board	Pearson
Qualification Type	BTEC Level 3 Nationals
Entry Requirements	Applied BTEC Pathway Level 5 & above in Computer Science
Head of Department	Mr Hall

Assessment Outline

Unit 1: Principles of Computer Science — Exam

Mandatory unit for Extended Certificate, 2 hour examination where learners will be assessed on their ability to apply their computational-thinking skills to solve problems. 90 Marks (120 Guided Learning Hours — 33% weighting).

Unit 2: Fundamentals of Computer Systems — Exam

Mandatory unit for all Applied General qualifications. 1 hour 45 minute written examination where learners will be assessed on their knowledge and understanding of how computer systems work. 80 Marks (90 Guided Learning Hours — 25% weighting).

Unit 7: IT Systems Security & Encryption — Coursework - Report

Learners will provide comprehensive evidence that they have fully investigated & considered how effective security protection measures are likely to be in defending the IT systems of organisations against the security threats that they have been examining. Internally Assessed Coursework Unit (90 Guided Learning Hours — 25% weighting).

Unit 15: Website Development — Coursework - Website

Learners will design & produce their own Website in line with certain specific client requirements. Internally Assessed Coursework Unit (60 Guided Learning Hours — 17% weighting).



Careers and next steps

In recent years, over 25% of students that got into university did so with a BTEC qualification. Students will develop the confidence, skills and knowledge that are valued by employers. In the modern world, computers are an essential component of virtually every job on the market and having a good understanding of them opens many doors to career opportunities that often people haven't even considered. Programmers, game designers, web developers, graphic designers, systems analysts, computer technicians, CAD designers, cyber security and business leaders are just a few.