

Computing – BTEC National (AAQ) Extended Certificate

Exam board & Specification Number	Pearson – BTEC Level 3 National Extended Certificate in Computing (Alternative Academic Qualification), 360 GLH
Qualification Accreditation Number (QAN)	Qualification Number: 610/3963/9
Link to Course Details Webpage	Click Here
Duration, Delivery and Study Mode	Two Years Full Time
Start Date (not flexible) and Campus	01 September from Stanley Avenue Campus

Course Details: Who is this Course for?

This course is for students progressing from GCSE into Level 3 (A Level or Equivalent) studies, with a view to study this subject or related subjects at degree level.

Course Details: What Will You Learn?

Year 1	Unit 1: Principles of Computer Science: Develop computational thinking and problem-solving through algorithms, flowcharts and pseudocode. Learn programming techniques, data types and structures, searching and sorting algorithms, file handling, testing and debugging. Explore software development and how to create code that is efficient, readable and maintainable. Unit 2: Fundamentals of Computer Systems: Explore how computers represent data, processor architecture, memory and storage, operating systems and networks. Learn about Boolean logic, internet technologies, cyber security threats and protection measures. Consider the legal, ethical and environmental issues associated with computer systems and their use.
Year 2	Unit 3: Planning and Management of Computing Projects: Learn how to interpret client briefs, gather requirements and plan projects using methodologies such as agile and waterfall. Develop skills in managing time, resources, risks and stakeholders, monitoring progress and evaluating project outcomes. Unit 4: Software Design and Development Project: Complete a substantial practical project in response to a client brief. Design, develop, test and refine a working software solution, documenting key decisions and evaluating the final product against client requirements

Course Details: How will you be Assessed?

These are the units, how each one is assessed, and their weighting towards the overall qualification grade:

Unit 1: Principles of Computer Science [25% of overall grade] Unit 2: Fundamentals of Computer Systems [25% of overall grade] Unit 3: Planning and Management of Computing Projects [25% of overall grade] Unit 4: Software Design and Development Project [25% of overall grade]	Assessed by an external written examination, sat in Year 12. Assessed by an external written examination, sat in Year 13. Assessed by internally marked and externally verified assignments across Year 13. Assessed by an externally set and externally marked task, completed under supervised conditions in Year 13. The qualification is graded Pass, Merit, Distinction and Distinction*. AAQs must include at least 40% external assessment. Confirm the exact weightings, paper codes and assessment windows against the Pearson specification.
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Course Details: Entry Requirements

Please see our [webpage](#) for details of our course entry requirements.

Students must achieve a D grade or higher at the end of Year 12 in order to progress into Year 2 of this course.

Progression Information and Useful Links on Page 2

Additional Course Information

Course Details: How will you Learn?

- Classroom based teaching
- Flipped Learning based independent study
- Practical programming sessions in the computing suite
- Assignment workshops, with individual feedback and formal review points
- Independent project work in response to client briefs
- Examination technique lessons and practice on past and sample papers
- Enrichment through guest speakers, employer visits and computing competitions

Course Details: Equipment / Materials you will need

- A USB memory stick, or your school cloud storage, for code files and coursework evidence
- Access to a computer and the internet at home for flipped learning and coursework
- Free software you can also install at home: Python and Visual Studio Code
- The recommended course textbook
- All other equipment will be provided to you by the school

How can I prepare for and explore this course further?

- **Glossary of Technical Terminology** – build your own glossary as you go, starting with abstraction, algorithm, iteration, data structure, protocol, encryption and validation
- **Recommended Text Books** – the Pearson BTEC National Computing student book and revision guide; check the edition matches the AAQ specification
- **Past Exam Papers** – available from the Pearson qualifications website; where AAQ papers are not yet available, use the sample assessment materials published with the specification
- **Related Articles** – BBC News Technology, Computer Weekly, Wired and the BCS (Chartered Institute for IT) website
- **Other Sources** – Isaac Computer Science, Teach Computing, freeCodeCamp, Codecademy, Harvard CS50 (free on edX) and the Raspberry Pi Foundation project library
- **Start coding before you arrive** – work through a short introductory Python course over the summer, and try the Bebras Computational Thinking Challenge or Advent of Code
- **Wider enrichment** – NCSC CyberFirst activities, university computing outreach and open days, and coding clubs or hackathons in London

Careers & Progression (Where Next)?

Career ideas and Progression route:

This qualification carries the same UCAS tariff points as an A Level and supports progression to degrees and apprenticeships in Computer Science, Software Engineering, Cyber Security, Data Science, AI, Networking and related fields. Career pathways include software developer, cyber security analyst, data analyst, network engineer and games developer. Some university courses also require A Level Mathematics.

For more information on careers in computing and digital technology:

National Careers Service – nationalcareers.service.gov.uk

Institute for Apprenticeships and Technical Education – instituteforapprenticeships.org

BCS, The Chartered Institute for IT – bcs.org

Tech She Can – techshecan.org

UCAS subject guides – ucas.com/explore