

Computing BTEC AAQ Extended Certificate - Preparatory Work 2025

This course provides you with an opportunity to study in the field of Computer Science focusing on *Programming & Network Security*. Cybercrime is often in the news and there is a recognised need for security specialists to be trained to enter this industry.

Throughout the course you will be expected to use skills that are highly sought after and valued by employers, such as organisation, planning, problem-solving and independent study.

This qualification is a two-year vocational course and is equivalent to one A Level (e.g. the Distinction* is worth 56 points: the same UCAS tariff points as the A* grade at A Level).

There are four units studied over two years; *Programming Fundamentals (examined unit year 1)*, *Human Computer Interaction - HCI (internally assessed, year 1)*, *Computer Network Security and Encryption (examined unit year 2)* and *Practical Programming (internally assessed, year 2)*.

- 66% is assessed through external assessment involving two written examinations.
- 34% of the work is assessed through internal assessment of (project-based) exam board set briefs.
- Final grades of Pass, Merit, Distinction or Distinction* are awarded.

To start off and give you an insight into the course content you are required to complete the following tasks and submit your document in the first lesson. We will submit the document/photo of the document electronically in the lesson.

Preparatory Tasks

The use of AI in assessments is not permitted by exam boards. You must always correctly reference sources of information. Look up the correct way to reference your research.

Task 1: Why do you think referencing is important? (list all you can think of) *Remember to reference your sources for all tasks.*

Task 2: In your project-based assessments, you are required to **Describe, Explain, Analyse, Evaluate, Produce, Employ (strategies), and Develop**. These are referred to as **Command Verbs** and it is **essential** that you have a very clear understanding of the differences to maximise your grade potential.

1. Research and give clear definitions of the assessment verbs listed above.
2. How will you show documented evidence of employ, produce and develop?

Task 3: Write a short paragraph explaining HCI, with examples, and your opinion on what makes a good HCI experience and why.

Please turn over.

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Learning to program

There is no expectation for you to have programmed before, but any experience helps. We focus on Python 3.

There are lots of free tutorials on **Python** available. If you have not programmed before, do investigate these so that it's not so unfamiliar when you start the course.

Through all units in this course, you will need to use computational thinking techniques.

Task 4: State the four key techniques of computational thinking

Network Security and Encryption – Unit 2 (assessed by external exam)

Task 5: This unit focuses on computer security. What do you think are the main threats to computer security?

Research and make brief notes on 3 threats and ways to mitigate them.

Based on your findings, write a short paragraph on advice that you may pass on to the college or a company to help them be secure?

(Important – where are you making notes? Where will you make your notes next year?)

Your teachers will not say “Please make notes on this”, but they will expect you to do so. You will not be able to remember everything that is said so please, please get in the habit of making notes!

N.B. Remember to make a note of any website/article or publication that you use for research.

We will have electronic copies of the textbook that supports the course when it is released by the exam board, currently the older version is available and covers most of the course, the details are: ‘BTEC National Information Technology Student Book for the 2016 specification’ Pearson ISBN 978-1-292-14041-4