Computer Science A Level

A Level Units

01 Computer Systems (40%)

This component will be a traditionally marked and structured question paper with a mix of question types: short-answer, longer-answer, and levels of response mark-scheme-type questions. It will cover the characteristics of contemporary systems architecture and other areas including the following:

The characteristics of contemporary processors, input, output and storage devices

Software and software development

Exchanging data

Data types, data structures and algorithms

Legal, moral, cultural and ethical issues

02 Algorithms and Programming (40%)

This component will be a traditionally marked and structured question paper with two sections, both of which will include a mix of question types: short-answer, longer-answer, and levels of response mark-scheme-type questions.

SECTION A

Traditional questions concerning computational thinking:

Elements of computational thinking

Programming and problem solving

Pattern recognition, abstraction and decomposition

Algorithm design and efficiency

Standard algorithms

SECTION B

There will be a scenario/task contained in the paper, which could be an algorithm or a text page-based task, which will involve problem solving.

03 Programming Project (20%)

Students select their own user-driven problem of an appropriate size and complexity to solve. Students choose their own programming language ranging from Python, Java to C Sharp and any other non-scripting language. This will enable them to demonstrate the skills and knowledge necessary to meet the Assessment Objectives. Students will need to analyse the problem, design a solution, implement the solution and give a thorough evaluation.