Introduction

This is a course that has real relevance in our modern world. While students will already have some

knowledge of computers and related areas, the course will give them an in-depth understanding of how

computer technology works and a look at what goes on 'behind the scenes'. As part of this, they will

investigate computer programming, which many learners find interesting. Computer Science counts towards

the EBacc science measure.

Course Structure

The course is divided into three units:

Component 1 Principles of Computer Science

Component 2 Application of Computational Thinking

Component 3 Computer Science Project

You will study:

Component 1 Principles of Computer Science and Component 2 Application of Computational Thinking will

cover:-

Understanding of what algorithms are, what they are used for and how they work; ability to

interpret, amend and create algorithms.

Understanding how to develop program codes and constructs, data types, structures, input /output,

operators and subprograms.

This component may also draw on:

Understanding of binary representation, data representation, data storage and compression,

encryption and databases.

Understanding of components of computer systems; ability to construct truth tables, produce logic

statements and read and interpret pseudo-code.

Understanding of computer networks, the internet and the worldwide web.

Awareness of emerging trends in computing technologies, the impact of computing on individuals,

society and the environment, including ethical, legal and ownership issues.

Component 3 Computer Science Project

Students will develop a computer program. The content for this component will draw on:

Algorithms, decomposition and abstraction

Design, write, test and refine a program

Data.

Assessment

Assessment is via two written examinations and a controlled assessment.

Board Qualification Module Mode of Assessment

Edexcel

Principles of Computer Science Written Examination (50%)

1 hour 40 minutes

Application of Computational Thinking Written Examination (50%)

2 hours