Subject: Computer Science

Year group:10

Head of Department: Ms Y. Khanum

Examination Board: OCR

AIMS OF THE COMPUTING DEPARTMENT

To develop, maintain and stimulate an interest and enjoyment in the use of ICT

software and equipment;

To develop appropriate ICT skills, principles, methods and terminology and the

ability to communicate and interpret information and concepts relevant to

computing;

To assess and monitor students’ progress and ensure progression and continuity in

the acquisition of ICT skills;

To enable all pupils to have equal access to ICT and experience success in their

work;

To use ICT to improve the learning experiences of all students, including those

with learning difficulties or disabilities;

To encourage and allow students to adapt to the rapid technological changes in

society;

To develop an awareness of social, economic and political consequences of the

use of ICT for individuals and society;

COURSE DESCRIPTION - UNITS/MODULES

Computer Science is about problem-solving. A good Computer Scientist needs to have a

passion for finding solutions, an ability to use mathematics and to work creatively.

If you like to solve games and puzzles, then Computing is for you!

Pupils studying this specification will learn the fundamentals of a computer system,

computing hardware, software, representation of how data in stored in a computer

system, databases, and networking. Students will also have the opportunity to develop

and use programming skills to solve problems.

There are 2 exams which are externally set and marked. Each exam makes up 40% of the

GCSE grade.

There is one Non-Exam Assessment which is a programming project worth 20% of the

GCSE grade. The project is a controlled assessment and it requires 20 hours of guided

learning in class with teacher supervision.

Below is a more detailed breakdown of the course:

Part 1: 40%, External examination on the following topics…

Computer systems

Topics covered are: Systems Architecture, Memory, Storage, Wired and wireless

networks, Network topologies, protocols and layers, System security, System software,

Ethical, legal, cultural and environmental concerns.

Part 2: 40%, External examination on the following topics…

Computational thinking, algorithms and programming

Topics covered are: Algorithms, Programming techniques, Producing robust programs,

Computational logic, Translators and facilities of languages, Data representation

Part 3: 20%, Externally set tasks

Programming project

The project includes the following: Programming techniques, Analysis, Design,

Development, Testing and evaluation and conclusions

Pupils who study this course will learn to program using Python which is a high level

programming language.

STUDENT GROUPING

Mixed ability groups

HOW IT WILL BE ASSESSED

Part 1 and Part 2 are externally assessed.

HOW IS THE COURSE TAUGHT

The course is taught using a range of different strategies including student led activities,

group work, paired work and whole class interactive activities.

HOMEWORK

Homework will be set in line with the school homework policy.

TEXT BOOKS/MATERIALS/VISITS

Visits will happen throughout the year.