Course Details

Content overview:

Paper 1 – Principles of Computer Science

· Topic 1: Computational thinking – understanding of what algorithms are, what they are used for and how they work; ability to follow, amend and write algorithms; ability to construct truth tables.

· Topic 2: Data – understanding of binary, data representation, data storage and

compression.

· Topic 3: Computers – understanding of hardware and software components of computer systems and characteristics of programming languages.

· Topic 4: Networks – understanding of computer networks and network security.

· Topic 5: Issues and impact – awareness of emerging trends in computing technologies, and the impact of computing on individuals, society and the environment, including ethical, legal and ownership issues.

Paper 2 – Application of Computational Thinking

This paper will assess Topic 6: Problem solving with programming.

The main focus of this paper is:

· understanding what algorithms are, what they are used for and how they work in relation to creating programs understanding how to decompose and analyse problems ability to read, write, refine and evaluate programs.

Skills required to be successful:

This course is most suitable for students that have applied themselves in Mathematics. Acceptance on this course will be based on maths assessments and we recommend having at least an A3 in maths with E1 being desirable.

· Apply mathematical skills relevant to computer science

· Analyse problems

· Logical thinking

· Have the fundamental understanding of computational thinking

· Critical thinking

· “Don’t give up approach” – essential for problem solving and programming