Curriculum Map: Computer Science (Comp 1)

THE KING'S ACADEMY
Emmanuel Schools Foundation

In Computer Science we want our students to be inspired, motivated and challenged by following a broad, coherent, practical, satisfying and worthwhile course of study. Our subject provides insight into, and experience of how computer science works, stimulating students' curiosity and encouraging them to engage with computer science in their everyday lives and to make informed choices about further study or career choices.

NEA/coursework deadline

Academy Exam

Other assessment

Unit Link

Year 13

Autumn

What is encryption and how is hashing used to aid encryption?

Design Deadline

Analysis Deadline

Characteristics of a variety of programming paradigms.

Understand the different software development methodologies.

What are linkers, loaders and libraries used for?

What are the stages of compilation?

How can a GPU impact the performance of a computer?

Progression Week

Year 12 Second Rehearsals

What factors can impact CPU performance? What is pipelining?

Summer

Begin Programming Project

How are websites represented in HTML, CSS & JavaScript?

How do computers use binary to represent negative & decimal numbers?

What is a logic gate? How can Karnaugh maps be used to simplify Boolean expressions?

Explain the legal implications of using computers & IT.

Discuss the different ethical issues we encounter when using computers.

Year 12

Spring

How do computers communicate? What advantages do networks have?

Year 12 First Rehearsals

How do databases store, validate & retrieve information?

What's the difference between an application & a utility program?

What's the role of the OS within a computer? What tasks does the OS manage.

Identify & explain different types of input / output devices.

Understand how the CPU functions and its role in your computer.

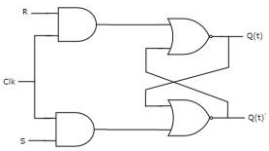
Autumn

Year 13 First Rehearsals

How are SQL statements formed?

How do search engines index results? What is the page rank algorithm?

What is De Morgan's Law?



What is the purpose of adder & flip-flop circuits?

Review characteristics of contemporary processors.

Spring

Implementation Deadline

Year 13 Final Rehearsals

Review Legal, Moral & Cultural and Ethical implications of IT.

Review Exchanging data.

Review Software & Software development.

Evaluation Deadline

Exams