KS5 A-Level Computer Science Curriculum Map

Maths Faculty

Yr 13

Computational thinking
Abstraction
Thinking ahead
Thinking procedurally
Thinking logically
Thinking concurrently

Computational thinking skills
Abstract thinking skills
Problem Solving skills

Problem Solving and programming
-Programming techniques
-Recursion
-Object oriented programming
-Computational methods

Problem solving skills
What advanced programming techniques are there?

Algorithms
Design of algorithms
Efficiency
Big O notation
Standard algorithms

Mathematical skills
Programming skills

Decomposition skills
Report writing skills
Programming skills
Testing skills
Problem Solving

Programming Project (NEA)
Analysis
Design
Development
Evaluation

Programming skills
Problem Solving
Computational Thinking

Programming fundamentals
Selection
Iteration
Functions
Mini programming projects

Ethics
Computing related legislation
Moral and ethical issues

Maths skills (Boolean algebra)

Is technology always good?
What computing related legislation exists?

Data structures and algorithms
Data types
Data structures
Boolean algebra

Yr 12

Systems Architecture
-The CPU
-Types of processor
-Input, output and storage

How does my computer work?

Software
-Systems software
-Application generation
-Software development
-Programming languages

What are the different pieces of software?
What are the language paradigms?

Exchanging data
-Compression
-Encryption
-Databases
-Networks
-Web technologies

How does compression, encryption and hashing work?
How does the internet work?
How can I make an interactive website?

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