Computer Science CURRICULUM JOURNEY

Assessment: sequence, selection, iteration

Programming Fundamentals

Producing Robust Programs

REVISION

REVISION & EXAMS

- A level Computing
- Cyber security analyst, game designer, machine learning engineer, web developer, forensic computer scientist
- System theory, design, development and application

Assessment: truth tables, combining operators

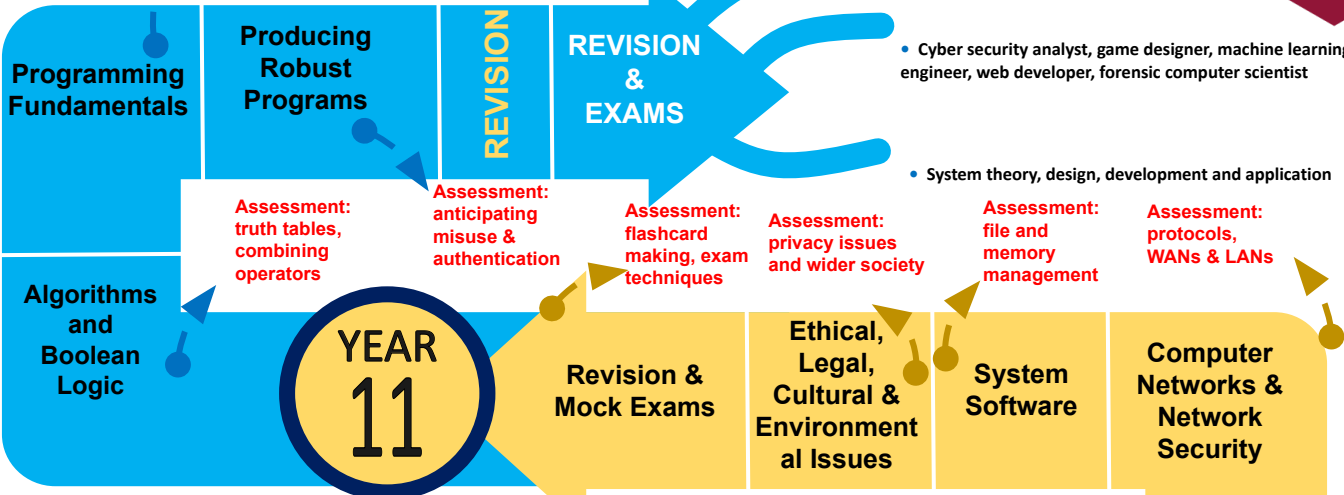Assessment: anticipating misuse & authentication

Assessment: flashcard making, exam techniques

Assessment: privacy issues and wider society

Assessment: file and memory management

Assessment: protocols, WANs & LANs

Algorithms and Boolean Logic

YEAR 11

Revision & Mock Exams

Ethical, Legal, Cultural & Environmental Issues

System Software

Computer Networks & Network Security

Assessment: machine learning, logic gates

Assessment: web design principles

Assessment: create a logo

Assessment: healthy online communication

Assessment: Von Neumann architecture

Assessment: optical, magnetic, solid state

Computing Systems
- General purpose computers.
- Hardware components.
- Operating systems.

Web Development
- HTML
- CSS
- Hyperlinks
- Formatting

Vector Graphics
- Manipulate objects.
- Draw paths.
- Combine paths.

E-Safety
- Healthy relationships.
- Online challenges.

YEAR 10

System Architecture

Memory and Storage Part 1&2

Race Car Programming
- Sequencing
- Test agent
- Events
- Loops
- Conditions

Cybersecurity
- Data protection
- Hacking
- Malware
- DoS & DDos

YEAR 9

E-Safety
- Respond to threats on the Internet.

Micro:bit
- Event driven programming.
- Selection to control the flow of a program.

Mobile App Development
- Block-based programming.
- Functions and expressions.

Intro to Python
- Executing algorithms and programs.
- Use of arithmetic expressions.

Assessment: development of a mobile app

Assessment: practical programming project

Assessment: practical programming task

Assessment: hacking, phishing, brute force attack

Assessment: practice new programming techniques

Assessment: knowledge of Internet Safety

Assessment: program a Micro:bit

Video Editing
- Use of different camera angles.
- Explain the purpose of a storyboard
- Effects and transitions.

Assessment: use of software to create & edit videos

Assessment: knowledge of flowchart symbols

Algorithms with Flowol
- Develop a control flowchart solution for a simple problem.
- Use decision systems in a flowchart.

Block Coding
- Define what a variable is.
- Modify a sequence.
- Define logical operators AND, OR & NOT.

E-Safety
- Describe safe ways to communicate with others online.

YEAR 8

Networks
- Define what a computer network is.
- Define what the Internet is.

Assessment: creation of a spreadsheet

Assessment: use of software to create online content

Assessment: knowledge of Internet safety

Assessment: binary conversion, RAM vs. ROM

Assessment: protocols, the Internet and the World Wide Web

Modelling Data
- Identifying, columns, rows and cell references.
- Explain the difference between data and information.

Using Media
- Identify the key features of a word processor.
- Construct a blog using appropriate software.

Understanding Computers
- Explain how a computer inputs, processes and outputs information.
- How the fetch - decode - execute cycle works.

YEAR 7

COMPUTING SKILL
Solving simple and complex problems

COMPUTING SKILL
Use of critical & analytical thinking

COMPUTING SKILL
Cope with rapid changes in technology

COMPUTING SKILL
Effective communicators and team workers