IT / Computing @ Caedmon

National curriculum for IT/Computing: Purpose of study

A high-quality computing education equips students to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which students are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, students are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that students become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Aims of the National curriculum for IT/Computing

The national curriculum for computing aims to ensure that all students:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

Aims of our Caedmon curriculum for IT/Computing

Computers and ICT are a part of everybody's lives at work and in the home. Therefore, we aim to develop all students' digital literacy and computing skills to ensure they can function and thrive in an increasingly digitalised world.

Foundation learning – what the National Curriculum expects students to have studied in IT/Computing by the end of KS3

Students should build on their previous knowledge and skills through performing, composing and listening. They should develop their vocal and/or instrumental fluency, accuracy and expressiveness; and understand musical structures, styles, genres and traditions, identifying the expressive use of musical dimensions. They should listen with increasing discrimination and awareness to inform their practice as musicians. They should use technologies appropriately and appreciate and understand a wide range of musical contexts and styles.

Students should be taught to:

- play and perform confidently in a range of solo and ensemble contexts using their voice, playing instruments musically, fluently and with accuracy and expression
- improvise and compose; and extend and develop musical ideas by drawing on a range of musical structures, styles, genres and traditions
- use staff and other relevant notations appropriately and accurately in a range of musical styles, genres and traditions
- identify and use the inter-related dimensions of music expressively and with increasing sophistication, including use of tonalities, different types of scales and other musical devices
- listen with increasing discrimination to a wide range of music from great composers and musicians
- develop a deepening understanding of the music that they perform and to which they listen, and its history.

Year 7 IT / Computing @ Caedmon

Our aim in Year 7 is to ensure students' know how to be safe online. Introduce students to the core concepts of computer hardware and software. Develop an understanding of algorithms and a basic introduction to coding. Build on existing knowledge and understanding of software that helps students to produce good quality work across all subjects and to use the internet to find accurate and relevant information.

	Topics, themes and skills covered	Assessment
Autumn 1	General Organisation - File mgt, passwords, email, VLE, Google Docs, Homework DL - Office Documents & The Cloud DL - Web Research Unit - Local Heritage Webquest - web searches C - Matrix1 3.2 - 3.6 Data representation & binary	Yacapaca Baseline Assessment - ICT & Computing
Autumn 2	C - Matrix1 Computational Thinking 1.1 - 1.5 (see links below BBC Computation Thinking Learner Guides & Assessment) Algorithms, psuedocode, flowcharts, control software e.g. Logo DCT - Matrix1 5.5 -5.6 E-Safety Unit - booklet	
Spring 1	PC Basics - Input, output, storage, intro to internet C - Matrix1 4.1 - 4.6 Programming with BBC Microbit Python	Mid-year computing assessment
Spring 2	C - Matrix1 4.1 - 4.6 Programming with BBC Microbit Python DL - Word Processing DL & DC - DTP & Photoshop	
Summer 1	DL - Data Handling - intro to databases introduction & superheroes	
Summer 2	DL - Modelling Basic data entry, formatting, basic calculations, graph & questions.	End of year assessment - ICT & Computing

Year 8 IT / Computing @ Caedmon

Our aim in Year 8 is to develop student's knowledge and understanding of computer hardware and software that they were introduced to in Year 7. Students explore more complex algorithms and develop their coding skills using a programming language. Introduce more advanced features of software and searching techniques that allow students to produce great work across all subjects. Develop a more in-depth understanding of how to be safe online.

	Topics, themes and skills covered	Assessment
Autumn 1	General Organisation - File mgt, passwords, email, VLE, GoogleDocs, Homework DL - Matrix2 5.4 -5.6 Web Research Unit - advanced searches, reliability & bias DC - Adobe Premier Pro Film Editing	Yacapaca Baseline Assessment - ICT & Computing
Autumn 2	DL - Matrix2 6.6 Modelling Formatting, formulae, statistical functions, charts & questions. DCT - E-safety - Your Digital world	
Spring 1	DL - Data Handling - databases intermediate C - Matrix1 3.1, 5.1- 5.4 How computers and the Internet work	Mid-year computing assessment
Spring 2	C - Matrix2 4.1 - 4.6 Programming with Python DL - Wordprocessing	
Summer 1	C - Matrix2 6.1 - 6.5 HTML & Webpage design DCT - Matrix3 Esafety	
Summer 2	Computer Hardware - CPU, RAM, ROM, Storage C - Website Design Software	End of year assessment - ICT & Computing

Year 9 IT / Computing @ Caedmon

Our aim in Year 9 is to introduce students to the core concepts studied at GCSE and give them a realistic experience of what they will be doing in their GCSE. Students investigate in more depth computer hardware and software. Develop more independent coding skills and apply algorithmic thinking to their coding solutions. Students continue to develop core skills in other software and advanced searching techniques to help them produce great work that will be applied across all subjects.

	Topics, themes and skills covered	Assessment
Autumn 1	General Organisation - File mgt, passwords, email, VLE, GoogleDocs, Homework Searching the web & asset management inc. legal considerations (DL) ICT Literacy - email, WP,SS, Cloud storage & software C - Matrix3 Computer Hardware Pseudocode & algorithms (C) Python Programming Introduction (C) Booklet	Yacapaca Baseline Assessment - Computing
Autumn 2	C - Matrix3 Computer Hardware Psuedo Code & algorithms (C) Python Programming Introduction (C) Booklet DL - Spreadsheets DL - Databases	
Spring 1	C - Matrix3 Web Development HTML & CSS (C) DCT - Matrix3 Esafety	Mid-year computing assessment
Spring 2	C - Matrix3 How the internet works - networks & network hardware (C) DC - Sound Project using Audacity	
Summer 1	Legal & ethical computing issues (DCT) DC - Flash Animation	
Summer 2	C - Matrix3 Computer hardware & software DC - Web Graphics C - Code Academy SQL/PHP & Data Manipulation (C)	End of year assessment - Computing