Curriculum Aims and Purpose

The purpose of the IT Curriculum is to equip students with a comprehensive understanding of the dynamic and ever-evolving world of information technology. Rooted in the principles of computational thinking and digital literacy, our curriculum is designed to foster critical skills, knowledge, and attitudes necessary for success in the 21st-century digital landscape.

Our ambition is for students to develop a robust foundation in digital literacy, enabling them to evaluate and leverage digital resources effectively and responsibly. They will employ computational thinking skills to approach complex problems analytically, break them down into manageable components, and devise algorithmic solutions. Students will also cultivate an understanding of coding and programming proficiency, exploring the languages and structures that underpin software development.

Beyond technical skills, the curriculum places a strong emphasis on instilling a sense of digital citizenship, ethics, and e-safety. The overarching purpose of the IT and Computer Science curriculum is to prepare students for future academic pursuits and careers. Whether they choose to specialize in computer science, engineering, data science, or any other field, the skills and knowledge acquired in our program will serve as a solid foundation for success in an increasingly technology-driven world.

IT and Computer Science concepts are often complex and build upon one another. The curriculum design incorporates a spiral progression, where students revisit key concepts at increasing levels of complexity. This iterative approach ensures that foundational knowledge is reinforced, and students can deepen their understanding as they progress through the curriculum.

Our curriculum goes beyond the national standards by providing early exposure to practical skills, diverse programming languages, a focus on safety and ethics, and specialized courses in digital media and information technology. This ensures that students not only meet but exceed the expectations outlined in the national curriculum for Key Stages 3 and 4 in computing.

How our Curriculum inducts students into the discipline of the subject:

The curriculum effectively inducts students into the discipline of IT and Computer Science by providing a balanced mix of practical skills, theoretical understanding, progressive learning, creative projects. This approach helps students develop a comprehensive and applied understanding of the subject, fostering a strong foundation for future academic and professional pursuits in the field.

Year 7 Overview

In Year 7, students begin their IT and Computer Science journey by acquiring essential digital literacy skills through hands-on experiences in office applications and file management. They delve into the world of coding with Scratch games programming and explore the fundamentals of computer systems through engaging activities with Microbits. Additionally, they receive an early introduction to responsible digital citizenship, online safety, and the basics of PC operation, laying a solid foundation for their future exploration of the discipline.

Half Term	Focus
1	7.1 – Skills Lessons - Covering the basics of using the school systems along with core knowledge of how to use office-based applications (Word, PowerPoint, Excel).
2	7.2 – Online Safety - Review of the risks of the internet and how to avoid them. Covers topics such as grooming, cyber bullying, fake news, digital footprint, and social media.
3/4	7.3 – Scratch Games Design - Teaches the basic concepts of programming, testing, and developing games using a block-based coding system
4/5	7.4 – PC Basics - Teaches the theory behind input and output devices, types of computers, core components, viruses, computer networks and health/safety.
6	7.5 – Micro Bits - Teaches how basic programming concepts (constants, variables, selections), can be applied to control external hardware, and use sensors.

Homework
- Students revise key knowledge using the Carousel platform.
- Students are expected to spend 30 minutes per fortnight on their homework.

Assessment
- Students complete summative assessments at the end of each of the units. The assessments test a combination of the content taught in the term leading up to the assessment.
- Twice a year students sit a test that covers content from the previous term and from earlier in the year.

Year 8 Overview

In Year 8, students expand their IT and Computer Science knowledge by focusing on safe computer use and control concepts using Flowol and Logo. They develop proficiency in spreadsheet applications and delve into the fundamentals of programming with Small Basic, fostering logical reasoning and problem-solving skills. The curriculum further advances their understanding of technology by introducing HTML, providing a glimpse into web development, and broadening their computational skill set.

Half Term	Focus
1	8.1 - Using Computer Systems Safely - Review of the risks of sexting, social engineering, and digital apps along with how to use validity, reliability, and bias tools to verify information.
2	8.2 - Spreadsheets - Covers how to use simple formatting tools, applying formulas, applying functions, manipulating data to test scenarios, and creating suitable charts.
3/4	8.3 - Control - Reviews how instructions are sequenced to complete specific tasks and how flowcharts can show the flow of data and instructions within systems.
4/5	8.4 - Small Basic - Covers how to apply programming concepts (constants, variables, iterations, selections, sub programs) in a simple text-based language.
5	8.5 - HTML - Teaches how programming can be used to create visual product, such as a series of web pages, using tags and formatting tools.

Homework
- Students revise key knowledge using the Carousel platform.
- Students are expected to spend 30 minutes per fortnight on their homework.

Assessment
- Students complete summative assessments at the end of each of the units. The assessments test a combination of the content taught in the term leading up to the assessment.
- Twice a year students sit a test that covers content from across year 8 and 7

Year 9 Overview

In Year 9, students deepen their IT and Computer Science. They explore website development, gaining practical skills in creating and designing web content. They delve into computer science theory, drawing from sample lessons of GCSE computer science, providing them with a foundational understanding of advanced concepts. Additionally, students enhance their digital creativity by acquiring practical skills in digital graphics, using tools such as Photoshop, and further advance their programming proficiency with Python.

Half Term	Focus
1	9.1 - Website Development - Students learn the tools and techniques needed to analyse a problem, create a suitable solution, test all features, and evaluate against set criteria.
2	9.2 - Computer Science Theory - Covers core concepts such as parts and features of the CPU (FDE, registers), types of memory and storage, searching/sorting algorithms, and binary representation/manipulation.
3/4	9.3 - Digital Graphics - Covers the tools and techniques needed to develop digital graphics using professional software as well as how graphics can be made suitable for different audiences and purposes.
4/5	9.4 - Python Programming - Covers how to apply programming concepts (constants, variables, data types, iterations, selections, arrays, files) in an industry standard programming language.
6	9.5 - Digital iMedia - Teaches how pre-production documents are used to plan digital products, how purpose and audience can impact the development of products, hardware, and software for development along with legislation.

Homework

- Students revise key knowledge using the Carousel platform.
- Students are expected to spend 30 minutes per fortnight on their homework.

Assessment

- Students complete summative assessments at the end of each of the units. The assessments test a combination of the content taught in the term leading up to the assessment.
- Twice a year students sit a test that covers content from across KS3.

Year 10 Overview

In Year 10, students undertake the iMedia course, specifically focusing on R093 and R094 units. R093 involves exploring pre-production skills, where students delve into the planning and preparation phases of digital media projects, developing an understanding of client needs and project requirements. In R094, students' progress to the production phase, applying their acquired skills to create a digital media product, demonstrating proficiency in graphic design.

Half Term	Focus
1	R093 Topic 1 - Review how media is used in a range of sectors (traditional and new media), the products created within each sector and the various job roles that can be found (technical, creative, senior roles). R093 Topic 2 - Review how purpose and audience can impact the styles, content, and layout of products along with the different methods of research and technical details needed for different projects.
2	R094 Topic 1 Practice Scenario- Research and review the purpose, elements and design contained with an organisations visual identity focusing on colour schemes, layout, content, and typography with clear links to brand type, style, and positioning. R094 Topic 2 Practice scenario - Research and review the different concepts of graphic design and how different conventions impact styles, design techniques and file formats (bitmaps, vectors, graphic properties) along with the impact of legislation.
3	R094 Skills development – Focus on enhancing skills obtained in KS3 IT to facilitate the development of their own digital graphic for a given brief. R094 Assessment - Develop a series of assets and resources that can be used to develop a digital graphic for a set scenario. Students will use this time to make sure they demonstrate a wide range of skills and detailed understanding of the requirements of a graphics project
4	Ro94 Assessment - Continued
5	Topic 3 - Review the planning, documentation, and legal considerations (data protection act, copyright, intellectual property, certification, etc.) for different products along with how designers can avoid breaking the different laws.
6	Topic 4 - Review how digital products are accessed and how properties of different file formats and compression settings can impact the method used for audience to access different content.

Homework
- Students revise key knowledge using the Carousel platform.
- Students are expected to spend 30 minutes per week on their homework.
- Homework will be suspended during controlled assessment. The expectation is that this time would be used for any research required to enhance skills or understanding for their assessment.

Useful resources:
Study iMedia – Free resources to study Creative iMedia

Assessment
Each topic will be subject to an end of unit test completed in class.
Controlled assessment is a strong feature of this course and will take place throughout term 2 and 3.

Year 11 Overview

In year 11 students will study R093 looking at legislation around the media industry and media standards. They will also complete their major controlled assessment unit R097, students will engage in the practical application of their digital media skills acquired throughout the course. They will create a final digital media product, demonstrating proficiency in planning, designing, and executing a project in line with industry standards. This unit serves as a comprehensive assessment, allowing students to showcase their abilities in graphic design, audio-visual production, and interactive media.

Half Term	Focus
1	R097 Topic 1 Practice scenario - Review the different formats of interactive digital media along with the content, resources and interaction methods. Designs for a suitable interactive digital media product will also be developed during this time based off the review.
2	R097 Topic 2 Practice scenario - Research and review the different assets (images, audio and video) that can be used in products along with the skills and techniques required to create the structure and content required by the scenario. R097 Topic 3 Practice Scenario- Review the interactive digital media product and test the product based upon success criteria and performance. Students will use the results and project requirements to evaluate the product and identify what went well, what could have gone better and any areas for improvement/development.
3	R097 Assessment- Culmination of the last two terms work. Apply understanding of a client brief to design and develop a multimedia product that incorporates various pieces of multimedia content that the student will develop.
4	R097 Assessment- Continued
5	R093 exam preparation – Revise and revisit the content delivered in year 10 in preparation for the final exam.
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Homework

- Students revise key knowledge using the Carousel platform.
- Students are expected to spend 30 minutes per week on their homework.
- Homework will be suspended during controlled assessment. The expectation is that this time would be used for any research required to enhance skills or understanding for their assessment.

Useful resources:

Study iMedia – Free resources to study Creative iMedia

Assessment

Each topic will be subject to an end of unit test completed in class.
Controlled assessment is a strong feature of this course and will take place throughout term 2 and 3.