COMPUTING

CURRICULUM OVERVIEW

Quality of Education
NOTTINGHAM ACADEMY

COMPUTING CURRICULUM- LONG TERM PLAN

CURRICULUM INTENT

The ICT curriculum at Nottingham Academy is designed to equip students with a comprehensive understanding of digital literacy and the essential skills required for the modern world. Through a structured program, students will explore the foundations of computer systems, network management, e-safety, programming, digital graphics, multimedia production, and spreadsheet modeling. Emphasizing disciplinary literacy, our curriculum fosters effective communication, critical thinking, and problem-solving abilities, preparing students to be informed and conscientious digital citizens. Importantly, our curriculum is inclusive and adaptable, with specific provisions to support students with SEND to ensure accessibility and engagement at all key stages.

We place a significant focus on programming and coding, from introductory platforms like Scratch and Kodu to more advanced concepts in multimedia and augmented reality. Students engage in hands-on projects that enhance their creativity, technical proficiency, and project management skills. By integrating diverse topics such as network and systems management, online safety, office productivity tools, and emerging technologies, our curriculum not only hones their technical abilities but also their capacity to convey complex ideas through various digital formats. This holistic approach ensures that students are well-versed in both the theoretical and practical aspects of ICT, paving the way for lifelong learning and adaptability in an ever-evolving technological landscape.

At Key Stage 4 (Years 10 and 11), students have the opportunity to specialise further by choosing between Creative iMedia and Cambridge Nationals IT (CNIT). Creative iMedia focuses on visual identity, digital graphics, and multimedia projects, while CNIT emphasizes spreadsheet modeling, augmented reality, and IT in the digital world. This allows students to pursue their interests and strengths, preparing them for a wide range of career pathways. Whether students aspire to careers in digital media, cyber security, software development, or IT management, the skills and knowledge they acquire will be invaluable. We aim to inspire students to pursue further education and careers in technology, equipping them with the tools to succeed in the digital economy. By embedding e-safety principles, fostering innovative thinking, and preparing students for the diverse opportunities in the ICT field, we are committed to developing the next generation of tech-savvy professionals ready to thrive in a digitally interconnected world. Through tailored support and resources, we ensure that all students, including those with SEND, can achieve their full potential and confidently step into their future careers.

KEY CONCEPTS

Network and Systems Management	Online Safety and Ethics	Office and Productivity Tools	Digital Graphics and Multimedia
• Understanding computer networks • Logging onto networks • File and folder management.	• Online safety and netiquette • Social networking risks and protections • Cyber security and computer crime	• Microsoft Office skills (Word, PowerPoint, Excel) • Financial and spreadsheet modeling	• Vector and bitmap graphics. • Graphic design principles • Multimedia projects and presentations
Programming and Coding	**Computer Hardware and Software**	**Project Management and Client Work**	**Emerging Technologies**
• Scratch programming. • Kodu Game Lab • Introduction to visual and interactive programming	• Parts of a computer • Hardware vs. software • Storage devices and memory	• Working to a brief • Pre-production documentation • Client-based projects	• Augmented Reality • Convergence and new technologies • Internet of Everything (IoE)

KEY CONCEPTS MAPPING

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 7	**Logging onto the network**	**Online Safety**	**Office Skills (Word and PowerPoint)**	**iMedia Project (Stacked Burger)**	**Scratch Programming** PG Online	**Parts of a Computer**
Year 8	**Using Computers Safely and Responsibly** PG Online	**Introduction to Digital Graphics**	**Multimedia Project (Pt 1)**	**Multimedia Project (Pt 2)**	**Working to a Brief**	**Computer Crime & Cyber Security** PG Online
Year 9	**Understanding Computers** PG Online	**Further Graphics**	**Spreadsheet Modelling** PG Online	**Interactive Multimedia**	**Video Editing**	**Coding with Kodu** PG Online
Year 10 Creative iMedia	**Introduction to Visual Identify and Digital Graphics (R094)**	**Planning Documentation & Pre-Production Skills (R094, Task 1)**	**Creating Visual Identities (R094, Task 2)**	**Finalising Visual Identities**	**Evaluation and Review of Visual Identity**	**Introduction to Characters & Comics (R095)**
Year 11 Creative iMedia	**Create Characters and Comics (R095, Task 2)**	**Completion of Characters and Comics (R095, Task 2)**	**Evaluate and Review Characters and Comics (R095, Task 3)**	**Revising for the Exam (R093, Topic Areas 1 and 2)**	**Revising for the Exam (R093, Topic Areas 3 and 4)**	**Home Revision and Completion of the Final Exam**
Year 10 CNIT	**Spreadsheet Skills Recap**	**Planning a Spreadsheet Solution**	**Creating a Spreadsheet Solution**	**Finishing the Spreadsheet Solution**	**Evaluating & Testing the Spreadsheet Solution**	**Introduction to Augmented Reality**
Year 11 CNIT	**Creating the Augmented Reality Prototype**	**Programming & Finalising the AR Prototype**	**Testing & Evaluating the AR Solution**	**Exam Revision- Topics Areas 1-3**	**Exam Revision- Topic Areas 4-6**	**Home Revision and Completion of the Final Exam**
Year 12	**Introduction to social media in Business**	**Advanced Social Media Strategies**	**Social Media Planning and Execution**	**Implementing Social Media Plans & Introduction to Databases**	**Database Management and Social Media Integration**	**Data Analysis and Advanced Database Concepts**
Year 13	**Introduction to IT Systems** / **Data Processing**	**Software** / **Emerging Technologies**	**Principles of Website Development**	**Website Design** / **Network Connectivity**	**Website Development** / **Network Security**	**Comprehensive IT Systems and Exam Preparation**

DISCIPLINARY LITERACY- KEYWORDS & TERMINOLOGY

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 7	**Logging onto the network** Username, Password, Login, Credentials, Authentication, Security, Access, Network, Session, Interface	**Online Safety** Cyberbullying, Privacy, Malware, Firewall, Antivirus, Phishing, Encryption, Password, Secure, Internet	**Office Skills (Word and PowerPoint)** Document, Template, Font, Alignment, Presentation, Slide, Bullet, Format, Header, Footer	**iMedia Project (Stacked Burger)** Design, Layers, Graphics, Editing, Animation, Multimedia, Project, Creativity, Export, Software	**Scratch Programming** Sprite, Script, Block, Code, Sequence, Loop, Condition, Variable, Event, Debug	**Parts of a Computer** Monitor, Keyboard, Mouse, Processor, Memory, Hard drive, Motherboard, Graphics, USB, Software
Year 8	**Using Computers Safely and Responsibly** Cyberbullying, Supportive, Empathy, Report, Respect, Kindness, Intervention, Counselling, Awareness, Helpline	**Introduction to Digital Graphics** Graphics, Design, Editing, Layers, Vector, Raster, Resolution, Colour, Typography, Export	**Multimedia Project (Pt 1)** Marketing, Advertisement, Poster, Map, Layout, Layers, Colour Scheme	**Multimedia Project (Pt 2)** Multimedia, Animation, Audio, Video, Editing, Timeline, Graphics, Transition, Effects, Export	**Working to a Brief** Brief, Project, Client, Deadline, Requirements, Research, Design, Development, Feedback, Deliverable	**Computer Crime & Cyber Security** Cybercrime, Hacking, Phishing, Malware, Ransomware, Firewall, Encryption, Password, Antivirus, Secure
Year 9	**Understanding Computers** Hardware, Software, Processor, Memory, Storage, Input, Output, Network, Operating system, Peripheral	**Further Graphics** Illustration, Vector, Raster, Resolution, Layer, Filter, Mask, Gradient, Export, Typography	**Spreadsheet Modelling** Spreadsheet, Cell, Formula, Function, Chart, Data, Worksheet, Column, Row, Filter	**Interactive Multimedia** Planning, Storyboard, Prototype, Interaction, Navigation, Media, Animation, Audio, User interface, Testing	**Video Editing** Editing, Clip, Timeline, Transition, Effect, Audio, Export, Trim, Split, Overlay	**Coding with Kodu** Kodu, Programming, Code, Algorithm, Game, Logic, Debugging, Variable, Loop, Condition
Year 10 Creative iMedia	**Introduction to Visual Identify and Digital Graphics (R094)** Brand identity, visual identity, typography, colour systems, bitmap, vector, graphic design, brand values, stock libraries, file formats	**Planning Documentation & Pre-Production Skills (R094, Task 1)** Mood board, mind map, concept sketch, visualization diagram, planning, digital images, annotations, idea expansion, design concepts, layout	**Creating Visual Identities (R094, Task 2)** Canvas size, layout tools, drawing tools, editing tools, layers, opacity, typography, filters, effects, asset sourcing.	**Finalising Visual Identities** File formats, client requirements, quality retention, professional, finalizing, adjustments, graphic products, detail, saving, formats	**Evaluation and Review of Visual Identity** Peer assessment, feedback, evaluation, strengths, weaknesses, improvements, critical thinking, self-assessment, reflection, development	**Introduction to Characters & Comics (R095)** Storytelling, character tropes, design styles, colour use, iconic styles, genre depiction, typography, focal points, backgrounds, comics
Year 11 Creative iMedia	**Create Characters and Comics (R095, Task 2)** Character creation, digital tools, graphical assets, typographical styles, comic panels, speech bubbles, thought bubbles, narration, captions, story flow	**Completion of Characters and Comics (R095, Task 2)** Finalization, integration, high quality, print formats, digital formats, comic strip, professional, cohesive, export, publishing	**Evaluate and Review Characters and Comics (R095, Task 3)** Technical properties, resolution, design conventions, client requirements, target audience, strengths, weaknesses, constraints, development, sequels	**Revising for the Exam (R093, Topic Areas 1 and 2)** Media industry, sectors, job roles, product design, client requirements, audience demographics, research methods, media codes, meaning, engagement	**Revising for the Exam (R093, Topic Areas 3 and 4)** Pre-production, work planning, idea generation, design planning, legal considerations, intellectual property, regulation, distribution platforms, file properties, formats	**Home Revision and Completion of the Final Exam** pre-production, intellectual property, distribution platforms, legal considerations, audience demographics
Year 10 CNIT	**Spreadsheet Skills Recap** Financial Models, What If, Conditional Formatting, Validation, Macros, Charts, Graphs, Data Analysis, Client Specification, Data Presentation	**Planning a Spreadsheet Solution** Key words: Client Brief, Asset Analysis, Mindmaps, Moodboards, Pre-production, HCI, User Interface, Planning, Design, Solution	**Creating a Spreadsheet Solution** Spreadsheet, Formatting, HCI, User Interface, Assets, Client Requirements, Functionality, Interactive, Implementation, Solution	**Finishing the Spreadsheet Solution** Formulae, Functions, Client Specifications, Troubleshooting, Adjustments, Performance, Reliability, Finalization, Refinement, User-friendly	**Evaluating & Testing the Spreadsheet Solution** Testing, Evaluation, Documentation, Functionality, Accuracy, User Experience, Strengths, Weaknesses, Improvements, Client Specification	**Introduction to Augmented Reality** Augmented Reality, OCR Master Classes, Industry Applications, Planning, AR Solution, Mindmaps, Moodboards, App Design, Pre-production, Project
Year 11 CNIT	**Creating the Augmented Reality Prototype** Augmented Reality, Blippar, Adobe Aero, XR+, Prototype, Client Requirements, Assets, Scenes, Links, Design	**Finishing the AR Prototype** AR Prototype, Additional Content, Uniqueness, Audience, Purpose, Documentation, Screenshot, Video Recording, Narration	**Testing & Evaluating the AR Solution** Testing, Evaluation, Functionality, Quality, Evidence, User Interface, Strengths, Weaknesses, Development, Review	**Exam Revision- Topics Areas 1-3** Flow Charts, Mind Maps, Visualization Diagrams, Wireframes, HCI, Display, Resources, Data Types, Validation, Verification	**Exam Revision- Topic Areas 4-6** Cyber Threats, Malware, Social Engineering, Legislation, Digital Communication, Software, Digital Devices, Distribution Channels, IoE, Security	**Home Revision and Completion of the Final Exam** Mind Maps, Visualization Diagrams, Wireframes, Social Engineering, Distribution Channels, Cyber Threats, IoE, Validation, Verification, HCI
Year 12	**Introduction to Social Media in Business** Social Media, Business Promotion, Target Audience, Content Formats, Social Media Sites, Business Needs, Marketing Basics, Guest Speaker, Social Media Campaign, User Engagement	**Advanced Social Media Strategies** Campaign Research, Social Media Risks, Negative Comments, Time Investment, Cyber Security, Mock Assignment, Social Media Planning, Client Requirements, Content Strategy, Audience Interaction	**Social Media Planning and Execution** Timescales, Responsibilities, Social Media Sites, Target Audience, Content Planning, Keyword Research, Publishing Schedule, Social Media Tools, Content Engagement, Marketing Strategy	**Implementing Social Media Plans & Introduction to Databases** Online Community, Social Media Policy, Plan Review, Database Purpose, Relational Structures, Primary Keys, Data Integrity, Database Models, Entity Relationships, Data Manipulation	**Database Management and Social Media Integration** Account Creation, Profile Management, Content Adaptation, Cross-Platform Testing, Data Integration, Data Administration, User Security, SQL Statements, Data Validation, Database Security	**Data Analysis and Advanced Database Concepts** Content Automation, Data Analysis, Social Media Metrics, Audience Profiles, Click-Through Rates, Normalisation, Relational Algebra, Database Design, Entity Diagrams, Database Evaluation
Year 13	**Introduction to IT Systems and Data Processing - Unit 1 (Lessons 9-15)** Digital devices, Peripheral devices, Manual data processing, Automatic data processing, Accessibility devices, Emerging technologies, Storage media, Operating systems, Open-source, Proprietary software	**Software and Emerging Technologies - Unit 1 (Lessons 16-21)** Utility software, Application software, User interfaces, File formats, Data transmission, Protocols, Bandwidth, Latency, Emerging technologies, System requirements	**Principles of Website Development – Unit 6 (Learning Aim A)** Website development, Website evaluation, Design principles, User experience, Client requirements, Audience analysis, Website performance, Suitability, Comparison, Evaluation criteria	**Website Design and Network Connectivity - Unit 6 (Learning Aim B) + Unit 1 (Lessons 22-26)** Connectivity, Wired connection, Wireless connection, Network types, Network performance, User requirements, Visual design, Technical documentation, Justification, Compatibility	**Website Development and Network Security - Unit 6 (Learning Aim C) + Unit 1 (Weeks 23-26)** Website development, Functionality testing, Usability testing, User feedback, Optimization, Data security, Firewalls, Antivirus software, Data encryption, Network security	**Comprehensive IT Systems and Exam Preparation - Unit 1 (All remaining lessons)** Cloud storage, Cloud computing, Data reliability, Data accuracy, Data extraction, Data modeling, Data presentation, Online services, Transactional data, Targeted marketing

ADAPTATIONS FOR SEND STUDENTS IN COMPUTING LESSONS

GENERAL COMPUTING SEND STRATEGIES

READING SUPPORT

- **Reading Guides**: Offer reading guides to help students navigate and comprehend complex texts, breaking down reading tasks.
- **Microsoft Immersive Reader**: Utilize the Microsoft Immersive Reader tool to support students who need extra help with literacy, reducing cognitive load and enhancing clarity.
- **Extended Reading Material**: Print extended reading material with key words and phrases underlined or emboldened to help with comprehension.
- **Model Reading**: Teachers model how to read out loud with fluency and intonation.
- **Full Sentences**: All students must answer questions (verbally and written) in full sentences.
- **Pre-Taught Vocabulary**: The academic vocabulary is pre-taught, and students must use academic vocabulary when talking.
- **Thinking Time**: Provide plenty of 'thinking time' to rehearse what they are going to say and how they will say it.
- **Key Word Banks**: Key word banks and definitions are provided at the start of each unit.
- **Scaffolding**: Complex writing tasks are broken down with appropriate scaffolding.
- **'I do, We do, You do' Strategy**: Use the 'I do, We do, You do' strategy to model specific aspects of writing.
- **Editing Time**: Students are given time to read, edit, and improve pieces of extended writing.

EXAM PREPARATION

- **Practice Exams:** Provide practice exams in a similar format to the actual test, breaking down exam preparation into manageable tasks.
- **Extra Time:** Allow additional time for students who need it during assessments, ensuring the challenge is achievable.

ADDITIONAL SUPPORT

- **One-on-One Assistance**: Offer individualized support during lessons and projects, adapting materials and tasks to the student's needs.
- **Feedback and Encouragement:** Provide positive reinforcement and constructive feedback to build confidence and skills, reducing cognitive load and enhancing clarity.

SEND WITHIN COMPUTING KEY CONCEPTS

Network and Systems Management	Online Safety and Ethics	Office and Productivity Tools	Digital Graphics and Multimedia
Step-by-Step Guides: Provide detailed instructions for logging onto networks and managing files, breaking down tasks into manageable steps. **Visual Timers and Schedules**: Help students manage their time and tasks effectively, reducing the burden on working memory.	**Interactive Scenarios**: Use role-playing activities to teach online safety concepts, utilizing multiple learning modes to enhance clarity. **Simplified Language**: Break down complex terms and concepts into simpler language, ensuring materials are adapted for accessibility and good challenge.	**Assistive Technology**: Incorporate tools such as speech-to-text software and screen readers to reduce the burden on working memory and enhance clarity. **Templates and Examples**: Provide pre-made templates and examples to guide students in using office tools, breaking down tasks into smaller steps	**Hands-On Activities**: Engage students with tactile learning experiences, such as creating physical storyboards, using a combination of learning modes. **Simplified Software**: Use software with user-friendly interfaces designed for beginners, ensuring materials are adapted for achievable challenges.
Programming and Coding	**Computer Hardware and Software**	**Project Management and Client Work**	**Emerging Technologies**
Block-Based Coding: Start with visual programming environments like Scratch to introduce coding concepts, breaking down tasks and reducing cognitive load. **Pair Programming**: Encourage collaboration by pairing students with a partner for coding tasks, using supportive routines.	**Real-Life Models**: Use physical models of computer parts to provide a tangible understanding of hardware, enhancing clarity through multiple learning modes. **Interactive Demonstrations**: Conduct live demonstrations of software functions and features, breaking down complex tasks into simpler steps.	**Clear Expectations**: Provide rubrics and checklists to outline project requirements, reducing the burden on working memory by breaking down tasks. **Frequent Check-Ins**: Schedule regular progress meetings to offer guidance and support, using supportive routines.	**Simplified Explanations**: Break down complex ideas about emerging technologies into understandable segments, adapting materials for accessibility. **Interactive Learning**: Use virtual reality (VR) or augmented reality (AR) tools to make learning about new technologies engaging, using multiple learning modes.

LONG TERM PLAN- A CURRICULUM OVERVIEW

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 7	**Logging onto the network** In this term, students will be introduced to the foundational aspects of ICT by exploring what a computer network is and understanding its significance. They will learn the essential skill of logging onto the school network and navigating the various resources available. A key focus will be on accessing and utilizing Microsoft Teams for schoolwork, ensuring that students can effectively communicate and collaborate online. Additionally, they will develop organizational skills by creating folders and files to store their work systematically.	**Online Safety** This term centres around the critical topic of online safety. Students will delve into the concept of netiquette and strategies to reduce their digital footprint, emphasizing responsible and ethical behaviour online. They will explore the advantages and potential dangers of social networking, learning how to protect their personal data from online threats. As a practical application, students will use PowerPoint tools to create an informative leaflet on online safety, reinforcing their understanding through a creative project.	**Office Skills (Word and PowerPoint)** Students will enhance their proficiency in key office software during this term. They will learn to identify the appropriate software for various tasks, focusing on Microsoft Word for letter writing and PowerPoint for presentations. The curriculum includes advanced formatting techniques to make presentations visually appealing and impactful. Additionally, students will use vector graphics in PowerPoint to design logos, integrating creative skills with technical knowledge to produce professional-quality documents and presentations.	**iMedia Project (Stacked Burger)** This term introduces students to multimedia project development through the creation of a project themed around "Stacked Burger." They will learn to obtain high-quality images for mood boards, create effective mind maps, and use visualisation diagrams to plan their projects. Students will explore branding by designing logos and visual identities, culminating in the creation of an advertisement or an app for Stacked Burger. This project-based approach helps students apply their skills in a real-world context, fostering creativity and project management abilities.	**Scratch Programming (PG Online Unit)** In this exciting term, students will dive into the world of programming using Scratch. They will start by understanding what a sprite is and then proceed to create their own games. The games will include elements such as movement, lives, scoring, adding levels, shooting, jumping, and incorporating sounds. This hands-on experience with Scratch will develop their coding skills and encourage problem-solving and logical thinking, making learning both engaging and interactive.	**Parts of a Computer** The final term focuses on understanding the components of a computer. Students will distinguish between hardware and software, identify various examples of each, and create block diagrams showing CPU, input, output, and storage devices. They will learn about different types of permanent storage devices and suggest suitable input and output devices for specific scenarios. Additionally, students will explore the functions of RAM and ROM and understand how numbers and text are represented in binary. This comprehensive overview equips students with a solid understanding of computer fundamentals, preparing them for more advanced studies in ICT.

Year 8	**Using Computers Safely and Responsibly (PG Online Unit)** In this term, students will focus on essential skills for using computers safely and responsibly. They will begin with file management, learning how to organize and store their digital work effectively. The curriculum will cover social networking, where students will discuss the benefits and risks associated with social media platforms. They will also learn strategies for keeping their data safe online. Lessons on email usage will teach them how to communicate professionally and securely. Finally, they will develop skills in searching the web, ensuring they can find reliable and accurate information while staying safe online.	**Introduction to Digital Graphics** This term introduces students to the world of digital graphics. They will start with vector graphics, understanding how these images are created and manipulated. Next, they will explore bitmap graphics, learning the differences between vector and bitmap formats. Students will then focus on conveying meaning through images, using graphic design principles to communicate effectively. They will apply various effects and enhancements to their graphics to make them more engaging. The term concludes with lessons on adding text to graphics, integrating typography with visual design to create compelling images.	**Multimedia Project (Pt 1)** Students will embark on a multimedia project centered around the theme of "Sunbeat Summer Jam," a summer music festival. They will work to meet the requirements of a client brief, beginning with the design of a logo for the festival. This project will also involve creating marketing and promotional materials, such as posters and flyers. Through this project, students will apply their graphic design skills in a real-world context, learning how to develop a cohesive visual identity and effectively promote an event.	**Multimedia Project (Pt 2)** Continuing the "Sunbeat Summer Jam" project, students will develop an interactive multimedia presentation. This presentation will provide detailed information about the festival, including the lineup of artists, event dates and times, and ticket purchasing information. Students will use advanced PowerPoint tools such as hyperlinks, action buttons, animations, transitions, and graphics to create an engaging and interactive product. The term will culminate in the creation of a 30-second teaser trailer video using Microsoft Clip Champ, promoting the festival through TV and social media.	**Working to a Brief** In this term, students will take on a project for the BBC, designing graphic concepts for a new children's TV show. They will begin by preparing pre-production documentation, including mood boards and mind maps. Using PowerPoint and vector tools, they will design characters, backgrounds, and imagery for the show. The project will also involve using AI audio generators to create a client pitch, where students will present their concepts and ideas in a professional manner.	**Computer Crime & Cyber Security (PG Online Unit)** Students will learn about various aspects of computer crime and cyber security. Lessons will cover email scams and malware, teaching students how to recognize and avoid these threats. They will explore the topic of hacking, understanding how it occurs and ways to protect against it. The curriculum will also address protecting personal data and copyright issues, emphasizing the importance of legal and ethical behaviour online. Health and safety will be covered to ensure students understand safe practices when using technology. The term will conclude with an online test to assess their understanding of the topics covered.

Year 9	**Understanding Computers (PG Online Unit)** Students will gain a comprehensive understanding of computer systems, starting with the basic elements of a computer, including hardware and software components. They will dive deep into the functionality of the CPU, learning how it processes data and instructions. The curriculum will introduce binary number systems, teaching students how to convert between binary and decimal systems and perform binary addition. Lessons will cover various storage devices, explaining the differences between volatile and non-volatile memory. The term will conclude with an exploration of convergence and new technologies, highlighting the evolution and future trends in computing.	**Further Graphics** In this term, students will advance their graphic design skills. They will build upon their previous knowledge, learning more sophisticated techniques in both vector and bitmap graphics. Students will explore advanced concepts in graphic design, such as layering, masking, and blending modes. They will work on projects that require conveying complex ideas through visual means, using a variety of effects and enhancements. The term will also cover the integration of text with graphics, ensuring that students can create balanced and visually appealing designs. Specific lesson details will be confirmed, but the focus will be on enhancing their digital artistry.	**Spreadsheet Modelling (PG Online Unit)** Students will explore the powerful tool of spreadsheets for modelling and data analysis. They will start by understanding computer models and their applications. Lessons will focus on creating financial models, teaching students to use formulas and functions to manage and analyse financial data. They will explore "What if?" scenarios to understand the impact of different variables on their models. The curriculum includes conditional formatting and data validation to ensure accuracy and readability of their spreadsheets. Finally, students will learn to create macros, charts, and graphs to automate tasks and visually represent data, enhancing their analytical skills.	**Interactive Multimedia** Students will embark on a comprehensive project to promote "Summer at Greenwood," a summer camp for 10–16-year-olds. They will begin by analysing the client brief and planning their project, creating mind maps, mood boards, and visualisation diagrams or wireframes. Using PowerPoint, students will develop an interactive multimedia product that includes hyperlinks, action buttons, animations, transitions, and graphics. The focus will be on creating an engaging and informative presentation that markets the summer camp effectively. This project will teach students project management skills and advanced multimedia techniques.	**Video Editing** Building on their multimedia skills, students will delve deeper into video editing using Microsoft Clipchamp. They will learn to import media into a new project, organize their timelines, and add text-to-speech elements. Lessons will cover adding video effects, transitions, and other enhancements to create polished videos. The term culminates in a project where students produce a promotional video for the "Summer at Greenwood" summer camp. They will use provided assets to create a compelling and professional-quality video, applying their video editing skills in a practical context.	**Coding with Kodu (PG Online Unit)** Students will be introduced to programming concepts through Kodu Game Lab, a visual programming environment. They will start by understanding the basics of how programs work and navigate the Kodu interface. Lessons will cover creating landscapes, navigating paths, and using clones and creatables to add complexity to their games. Students will learn about pages and selection, allowing for more interactive and engaging gameplay. The term will emphasize game depth and complexity, encouraging students to think critically and creatively as they design their own games, fostering their problem-solving and coding skills.
Year 10 Creative iMedia	**Introduction to Visual Identify and Digital Graphics (R094)** Students begin by exploring the concept of visual identity and its importance in communicating the essence of brands and services. They study the components and elements of visual identity, including how it relates to brand identity and is influenced by business type and values. The term covers the significance of graphic design, typography, and colour systems, as well as understanding the limitations and benefits of different file formats. Students also learn about the use of image stock libraries and the importance of obtaining rights and permissions for assets.	**Planning Documentation & Pre-Production Skills (R094, Task 1)** In this term, students focus on creating detailed planning documentation for their visual identity projects. They develop both physical and digital mood boards to gather and organize ideas. Mind maps are created to expand these ideas, while concept sketches and visualization diagrams help in presenting design concepts and possible layouts. This planning phase is critical for setting a strong foundation for their coursework projects.	**Creating Visual Identities (R094, Task 2)** Students start the hands-on creation of their visual identities. They learn how to set canvas sizes and use layout tools effectively. Various drawing and editing tools are introduced, including techniques for managing layers, adjusting typography, and applying effects to enhance their designs. Students also focus on sourcing and creating image assets, ensuring they manage files properly to retain quality and meet project requirements.	**Finalising Visual Identities** This term is dedicated to refining and finalizing the visual identities created in the previous term. Students ensure that their work is saved in the correct formats and meets the specific requirements of the client briefs. This phase emphasizes the importance of attention to detail and producing professional-quality graphic products.	**Evaluation and Review of Visual Identity** Students participate in peer assessments, providing and receiving constructive feedback on their visual identity projects. They write detailed evaluations discussing the strengths and weaknesses of their work and suggest areas for improvement. This reflective process encourages critical thinking and helps students understand how they could further develop their projects given more time and resources.	**Introduction to Characters & Comics (R095)** In the final half term of Year 10, students are introduced to the Characters and Comics coursework. They explore the role of storytelling through images and characters, learning about various design styles, colour use, and character tropes. The term also covers iconic visual styles and genre depiction, focusing on how to use typography, focal points, and backgrounds effectively in comic creation. This introductory phase sets the stage for the more detailed work they will undertake in Year 11.

Year 11 Creative iMedia	**Create Characters and Comics (R095, Task 2)** Students focus on creating characters and comics, utilizing digital tools for character creation and editing. They learn to use various software tools, including drawing, colour, and arrangement tools. Techniques for sourcing, preparing, and creating graphical assets are covered, along with creating typographical styles. Students integrate these elements into comic panels, ensuring effective story flow using speech bubbles, thought bubbles, narration, and captions.	**Completion of Characters and Comics (R095, Task 2)** During this term, students finalize their comic strips, ensuring all characters and elements are well-integrated and polished. They save and export their work in suitable formats for different uses, maintaining high quality for both print and digital distribution. This phase emphasizes the importance of producing a cohesive and professional comic product.	**Evaluate and Review Characters and Comics (R095, Task 3)** Students focus on reviewing and evaluating their completed comics. They check technical properties such as resolution and design conventions, ensuring that their work meets client requirements and is suitable for the target audience. Students identify strengths, weaknesses, and areas for improvement, considering constraints like time and resources. They also explore opportunities for further development, such as creating sequels or themed editions.	**Revising for the Exam (R093, Topic Areas 1 and 2)** Students begin intensive revision for their final exam, covering the media industry sectors, products, and job roles. They learn about the different sectors in the media industry, types of media products, and various job roles within these sectors. Additionally, students study factors influencing product design, client requirements, audience demographics, and research methods. This includes understanding how media codes convey meaning and engage audiences.	**Revising for the Exam (R093, Topic Areas 3 and 4)** Revision continues with a focus on pre-production planning and legal considerations in media. Students study work planning, including phases, tasks, activities, and resource management. They also learn about documents used to support idea generation and design planning, such as mind maps, mood boards, storyboards, and scripts. Legal considerations, including intellectual property rights, regulation, certification, classification, and health and safety in media production, are also covered. Additionally, students explore distribution platforms, file properties, and formats.	**Home Revision and Completion of the Final Exam** In the final term, students engage in intensive home-revision to prepare for their exam, ensuring they are well-prepared to demonstrate their understanding of the media industry and the skills developed throughout the course. This term culminates with the completion of their final written exam on Creative iMedia in the Media Industry.
Year 10 CNIT	**Spreadsheet Skills Recap** Students will refresh their knowledge from Year 9 on computer models and financial modeling using spreadsheets. They will explore "What if?" scenarios to predict outcomes based on variable changes and apply conditional formatting to highlight data based on specific criteria. Validation techniques will be used to ensure data accuracy, and students will learn to automate tasks using macros. They will create charts and graphs to present data visually and effectively. This term will conclude with an introduction to the coursework specifications and requirements, ensuring students understand the scope and objectives of their projects.	**Planning a Spreadsheet Solution** In Task 1, students will start by writing an interpretation of the client brief to demonstrate their understanding of the project requirements. They will analyse the provided assets, discussing how these can be used within their spreadsheet. Planning their solution involves creating mindmaps and moodboards to visualize their ideas and strategies. Additionally, students will design the Human-Computer Interaction (HCI) and User Interface for their spreadsheet, focusing on user experience and functionality.	**Creating a Spreadsheet Solution** Students will use the assets provided and their planning from Task 1 to create a functional spreadsheet solution for the client. This task will require them to implement all the client's requirements. The focus will be on formatting the spreadsheet to ensure clarity and professionalism, and on developing an effective HCI and user interface that enhances usability. Students will apply various spreadsheet features, such as complex formulae, functions, and data validation techniques, to build a robust and interactive solution.	**Finishing the Spreadsheet Solution** This term will concentrate on completing the spreadsheet solution. Students will ensure all necessary formulae and functions are correctly implemented, making sure the solution meets all the client's specifications. They will refine their work to ensure the spreadsheet is fully functional and user-friendly. This includes troubleshooting any issues and making adjustments to improve performance and reliability.	**Evaluating & Testing the Spreadsheet Solution** Students will conduct thorough testing of their spreadsheet solutions to identify and fix any errors. They will create detailed testing documents that outline their testing process and results. This includes testing for functionality, accuracy, and user experience. Following the testing phase, students will evaluate their spreadsheets, providing in-depth comments on strengths, weaknesses, and areas for improvement. They will link their evaluations back to the original client specification, demonstrating how well their solution meets the project's objectives.	**Introduction to Augmented Reality** Students will participate in a series of online master classes hosted by OCR to learn about Augmented Reality and its applications in various industries. They will explore the fundamentals of AR, including how it can be used to present information interactively. As part of this introduction, students will begin planning their AR project for Year 11. This includes creating pre-production documentation such as mindmaps and moodboards, and designing the AR app. By the end of the term, students will have completed the initial planning phase of their AR project, laying a strong foundation for their Year 11 coursework.

Year 11 CNIT						
	Creating the Augmented Reality Prototype Students will begin by selecting their chosen AR software (Blippar, Adobe Aero, or XR+) to create a prototype that meets the client's requirements as outlined in their planning documentation from Task 1. They will use provided assets to develop their prototype, ensuring that scenes are set up correctly and links between scenes are effectively established. The prototype should reflect their initial designs and incorporate all necessary elements to create a cohesive AR experience.	**Finishing the AR Prototype** In this term, students will finalize their AR prototypes, focusing on refining the content and adding additional features to enhance the user experience. They will ensure that their prototypes are unique and tailored to the target audience and purpose. Students will document their creation process either through a screen-shotted report or by recording a video of their screen with narration. This documentation will demonstrate the steps taken to develop their AR solution and highlight any challenges they overcame.	**Testing & Evaluating the AR Solution** Students will test their AR solutions to ensure all features function as intended. They will create comprehensive testing documents that evidence how they tested the functionality and quality of their prototypes. This includes validating the user interface and overall user experience. Following the testing phase, students will evaluate their AR solutions, discussing strengths, weaknesses, and areas for further development. Their evaluations should be detailed and provide insights into how the solution meets or exceeds the client's requirements.	**Exam Revision- Topics Areas 1-3** Students will begin preparing for their final exam (R050: IT in the Digital World), which covers various aspects of IT in modern contexts. During this term, they will focus on the first three topic areas: 1. **Design Tools**: Students will learn about different design tools such as flow charts, mind maps, visualization diagrams, and wireframes. They will understand the components, advantages, disadvantages, and suitable software for each tool. Additionally, they will practice creating original documents using these tools. 2. **Human Computer Interface (HCI) in Everyday Life**: This topic covers the purpose and importance of HCI in various application areas (e.g., banking, entertainment, home appliances). Students will explore hardware and software considerations, including display types, operating systems, and user interaction methods like gesture and touch. 3. **Data and Testing**: Students will understand the relationship between data and information, different data types, validation and verification methods, data collection methods, and the importance of testing. They will learn about various storage locations and	**Exam Revision- Topic Areas 4-6** Continuing their exam preparation, students will cover the remaining topic areas: 4. **Cyber-Security and Legislation**: This topic includes understanding various cyber threats (e.g., malware, social engineering), their impacts, and prevention measures. Students will learn about relevant legislation such as the Data Protection Act and Computer Misuse Act. 5. **Digital Communications**: Students will study different types of digital communication (e.g., social media, VoIP), the software used to create them, digital devices, distribution channels, and audience demographics. They will assess the suitability of each method for different contexts. 6. **Internet of Everything (IoE)**: This topic explores the concept of IoE, its four pillars, and how it is applied in areas like energy management, health, and smart devices. Students will understand the advantages, disadvantages, and security issues related to IoE.	**Home Revision and Completion of the Final Exam** Students will focus on final preparations for the R050: IT in the Digital World exam. This is a written paper, 1 hour and 30 minutes in length, which will assess their knowledge and understanding of all previously covered topic areas. Successfully completing this exam will conclude the course.

				devices, and how to apply testing to different contexts.		
Year 12	**Introduction to Social Media in Business** In this term, students will begin with Unit 3, focusing on the impact of social media on business promotion. They will learn about various social media websites, their features, structures, and target audiences. The term includes exploring how businesses use social media to meet their aims and needs, with insights from a guest speaker. Students will also look at different content formats and how to develop business contacts through social media. This foundational knowledge will set the stage for more in-depth exploration of social media strategies.	**Advanced Social Media Strategies** The second half term continues with Unit 3, delving deeper into social media campaigns. Students will research and present on their favourite social media campaigns, gaining insights into effective strategies. They will also explore the risks and issues associated with social media use. This term includes a mock assignment to assess their understanding of learning aim A. Following this, students will develop social media planning processes, establishing the necessary skills for effective social media management.	**Social Media Planning and Execution** In the third half term, students will further develop their social media planning skills. They will focus on establishing timescales and responsibilities, selecting appropriate social media websites, and planning content. The term will also cover researching keywords and creating publishing schedules to optimize social media engagement. This comprehensive planning phase ensures students are well-prepared for implementing social media strategies in real-world scenarios.	**Implementing Social Media Plans & Introduction to Databases** During the fourth half term, students will begin to implement their social media plans from Unit 3, while also starting Unit 2 on creating systems to manage information. They will develop online communities, establish social media policies, and refine their plans through review sessions. The term will then shift focus to Unit 2, where students will learn about the purpose of databases, relational data structures, and keys. This combination of practical social media skills and foundational database knowledge equips students with a versatile skill set.	**Database Management and Social Media Integration** The fifth half term will see students continue with the implementation phase of Unit 3, focusing on creating and managing social media accounts, content adaptation for different platforms, and integrating social media with business websites. Concurrently, they will progress in Unit 2, covering data manipulation, user administration, and security measures in databases. This term bridges practical social media implementation with advanced database management techniques.	**Data Analysis and Advanced Database Concepts** In the final half term, students will wrap up Unit 3 by learning about tools and techniques for automating social media content posting, data gathering, and analysis. They will review their performance and refine their strategies based on gathered data. Simultaneously, they will delve deeper into Unit 2, focusing on advanced database concepts like normalisation, relational algebra, and the application design process. This comprehensive term ensures students are well-prepared for both social media management and database development, culminating their Year 12 ICT studies with a robust and practical skill set.

Year 13	**Introduction to IT Systems and Data Processing - Unit 1 (Lessons 9-15)** In this half term, students will explore the use of IT systems for creative tasks, manual and automatic data processing, and the selection of IT systems. They will also learn about accessibility devices, emerging technologies, and the characteristics and implications of storage media. The unit will cover the types and roles of operating systems, including the principles and implications of open-source and proprietary software. The formative assessment will focus on research and group discussions, while the summative assessment will evaluate their understanding through a written exam.	**Software and Emerging Technologies - Unit 1 (Lessons 16-21)** Students will delve into utility and application software, the factors affecting the choice and use of user interfaces, and the features of common file formats and data transmission protocols. They will also investigate emerging technologies and how to choose appropriate IT systems. Formative assessments will include individual research presentations on emerging technologies and user interfaces, with a summative written exam to assess their knowledge on these topics.	**Principles of Website Development – Unit 6 (Learning Aim A)** This half term is dedicated to understanding the principles of website development. Students will evaluate two different websites, comparing how design principles are applied to create effective and high-performance websites. The formative assessment will involve group evaluations, and the summative assessment will be a written evaluation comparing the design principles used in the selected websites.	**Website Design and Network Connectivity - Unit 6 (Learning Aim B) + Unit 1 (Lessons 22-26)** Students will focus on designing a website to meet client requirements, including creating detailed visual designs, technical documentation, and justifications for their design choices. Additionally, they will study connectivity, network types, and issues related to data transmission in Unit 1. Formative assessments will include the design and justification of a website, with the summative assessment being a practical task where students design a website with detailed documentation.	**Website Development and Network Security - Unit 6 (Learning Aim C) + Unit 1 (Weeks 23-26)** In this half term, students will develop and test a website, optimizing it based on user feedback and testing results. They will also cover network security, data security, including firewalls, antivirus software, and data encryption. Formative assessments will focus on testing and optimizing website designs, and the summative assessment will be a practical assessment of developing a functional website and documenting the testing process.	**Comprehensive IT Systems and Exam Preparation - Unit 1 (All remaining lessons)** The final half term will see students completing all remaining Unit 1 topics, including cloud storage and computing, ensuring data reliability and accuracy, data extraction, modeling, and presentation, and the impact of online services on organizations. There will be continuous formative assessments through quizzes, group tasks, and peer reviews. The summative assessment will be a comprehensive final exam covering all Unit 1 topics, ensuring students have a thorough understanding of the entire curriculum.

COMPUTING AT PRIMARY PHASE- AT A GLANCE

Early Years Foundation Stage (EYFS)

- Introduction to using Interactive Whiteboards (IWB)
- Understanding the purpose of Information and Communication Technology (ICT) in school and at home

Year 1

- **Half Term 1:** Programming with Beebots (Moving a Robot)
- **Half Term 2:** Creating Media (Digital Writing)
- **Half Term 3:** Data and Information (Grouping Data using Pictograms)
- **Half Term 4:** Health and Wellbeing (Online Bullying, Self-Image and Identity)
- **Half Term 5:** Managing Online Information
- **Half Term 6:** Copyright and Ownership

Year 2

- **Half Term 1:** Programming with Beebots (Moving a Robot)
- **Half Term 2:** Creating Media (Digital Writing)
- **Half Term 3:** Data and Information (Grouping Data using Pictograms)
- **Half Term 4:** Health and Wellbeing (Online Bullying, Self-Image and Identity)
- **Half Term 5:** Managing Online Information
- **Half Term 6:** Copyright and Ownership

Year 3

- **Half Term 1:** Programming with Beebots (Moving a Robot)
- **Half Term 2:** Creating Media (Digital Writing)
- **Half Term 3:** Data and Information (Grouping Data using Pictograms)
- **Half Term 4:** Health and Wellbeing (Online Bullying, Self-Image and Identity)
- **Half Term 5:** Managing Online Information
- **Half Term 6:** Copyright and Ownership

Year 4

- **Half Term 1:** Connecting Computers
- **Half Term 2:** Desktop Publishing
- **Half Term 3:** Programming (Sequencing sounds using Scratch)
- **Half Term 4:** Branching Databases
- **Half Term 5:** Stop Frame Animation
- **Half Term 6:** Copyright and Ownership

Year 5

- **Half Term 1:** Sharing Information
- **Half Term 2:** Video Editing
- **Half Term 3:** Programming (Selection in physical computing)
- **Half Term 4:** Flat File Databases
- **Half Term 5:** Vector Drawing
- **Half Term 6:** Programming (Selection in quizzes)

Year 6

- **Half Term 1:** Variables in Games (Education Minecraft)
- **Half Term 2:** Webpage Creation
- **Half Term 3:** Introduction to Spreadsheets
- **Half Term 4:** Advanced Spreadsheets
- **Half Term 5:** Internet Communication
- **Half Term 6:** 3D Modelling (Education Minecraft)

COMPUTING KEY CONCEPTS

Network and Systems Management	**Online Safety and Ethics**	**Office and Productivity Tools**	**Digital Graphics and Multimedia**
Programming and Coding	**Computer Hardware and Software**	**Project Management and Client Work**	**Emerging Technologies**

NOTTINGHAM ACADEMY COMPUTING & NATIONAL CURRICULUM COMPLIANCE

1. Design, Use, and Evaluate Computational Abstractions Design, use, and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems.	2. Key Algorithms and Logical Reasoning Understand several key algorithms that reflect computational thinking (e.g., sorting and searching); use logical reasoning to compare the utility of alternative algorithms for the same problem.	3. Programming Languages and Data Structures Use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures (e.g., lists, tables, or arrays); design and develop modular programs that use procedures or functions.
Nottingham Academy Curriculum Alignment: • **Year 9 Half Term 6**: Coding with Kodu involves designing and evaluating games, which includes modeling the behaviour of game elements. • **Year 10 Creative iMedia**: Students create visual identities and evaluate their projects, applying computational abstractions in design.	**Nottingham Academy Curriculum Alignment:** • **Year 9 Half Term 6**: Introduction to basic programming concepts and logical reasoning through Kodu Game Lab. • **Year 11 CNIT Half Term 6**: Comprehensive IT Systems and Exam Preparation includes topics that cover logical reasoning and problem-solving.	**Nottingham Academy Curriculum Alignment:** • **Year 7 Half Term 5**: Introduction to Scratch Programming, a visual programming language. • **Year 9 Half Term 6**: Coding with Kodu. • **Year 10 CNIT**: Spreadsheet skills and planning solutions involve using data structures and modular design.
4. Boolean Logic and Binary Numbers Understand simple Boolean logic (AND, OR, NOT) and some of its uses in circuits and programming; understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers (e.g., binary addition, and conversion between binary and decimal).	**5. Computer Systems and Communication** Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems.	**6. Data Representation and Manipulation** Understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds, and pictures) can be represented and manipulated digitally, in the form of binary digits.
Nottingham Academy Curriculum Alignment: • **Year 7 Half Term 6**: Parts of a Computer covers understanding binary representation and basic operations. • **Year 9 Half Term 1**: Understanding Computers includes an introduction to binary numbers and basic Boolean logic.	**Nottingham Academy Curriculum Alignment:** • **Year 7 Half Term 1**: Logging onto the network and basic understanding of computer systems. • **Year 9 Half Term 1**: Understanding Computers covers hardware and software components.	**Nottingham Academy Curriculum Alignment:** • **Year 7 Half Term 6**: Parts of a Computer includes understanding data representation. • **Year 11 CNIT Half Term 6**: Exam preparation includes understanding data storage and manipulation.
7. Creative Projects and Data Analysis Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users.	**8. Digital Artefacts and Usability** Create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability.	**9. Safe, Respectful, Responsible, and Secure Use of Technology** Understand a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting their online identity and privacy; recognise inappropriate content, contact, and conduct, and know how to report concerns.
Nottingham Academy Curriculum Alignment: • **Year 8 Half Terms 3-4**: Multimedia Projects (Sunbeat Summer Jam) involve combining multiple applications for a creative project. • **Year 9 Half Term 4**: Interactive Multimedia project involves creating a promotional presentation.	**Nottingham Academy Curriculum Alignment:** • **Year 8 Half Term 5**: Working to a Brief involves creating digital content for a BBC project. • **Year 10 Creative iMedia**: Various tasks involve creating and refining visual identities and multimedia content.	**Nottingham Academy Curriculum Alignment:** • **Year 7 Half Term 2**: Online Safety covers digital footprint, responsible behaviour, and protecting personal data. • **Year 8 Half Term 1**: Using Computers Safely and Responsibly includes discussions on social networking risks and safe practices.