|  |  |  |
| --- | --- | --- |
| Year 9(CS) | Intent | The IBC Faculty at Astrea Academy Dearne recognise that every child matters. We believe therefore, that an ambition curriculum for all should be provided so pupils can thrive in modern day Britain, whether that be today or in the future. The curriculum is designed to provide inclusive opportunities for all pupils irrespective of background with a focus on broadening experiences and knowledge of computer science, computer studies, business studies and ICT subjects.The aim of the curriculum is to expose students to as many fundamental aspects of computer science and ICT as possible in a safe and supportive environment. In addition, topics within the curriculum have been selected to support pupils with knowledge and experience to access the digital industries, should they decide this.By the end of year 9 students will be able to:understand how to use a range of technology, including how to protect themselves online* develop and understand how business studies can play a role with technology (spreadsheets)
* develop skills to build website using HTML and CSS
* evaluate and review programmes
* understand how to plan, design, and create video content.
 |
| Assessment strategy  | Formative (Sample Marking) and Summative assessments (End of topic)Classroom assessment. Questioning, |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Topic 1: Cyber Security** | **Topic 2: Spreadsheets** | **Topic 3: Animation** | **Topic 4: Website Development** | **Topic 5: Video Creation** |
| Year 9 Computer Studies | Disciplinary knowledgeto gain knowledge or skills being built | data privacy and the need for data protectionSocial Engineering Distributed Denial of Services attacksEthical and unethical hackingComputer Misuse ActBotnet and MalwareComputer threat - Prevention methods | Replication and Cell referencing Functions and basic and complex FormulaeIf statementsOperatorsGoal Seeking Formatting and graph creationApplication of skills to real life scenariosAssessment Feedback | Creating animations (flipbooks)Designing an animationFrame by frame Key frames and frames– (Animate in 2’s) Movement Shape morphing and riggingTextSymbols and TweensBrush tool Colours, gradients and effectsBackground and stage developmentSoundCameras and Parallaxing (Drama)Exporting Skills recapAssessment & Feedback | Introduction to Dreamweaver/Notepad – What is HTML and basic structures (Heading and Paragraphs)How and why do we use HTML to build websitesDeveloping Skills: Colour, Text, backgrounds, tables, hyperlinks, images and video embedding.What is CSS and how do we use it? Assessment Project: Develop a website for a specific purpose Feedback | Working in timelineRazor Tool and Ripple ToolAdding titlesSequencing (Drama -Slow motion)Transitions and fading (Drama – Panning and Zooming)Cuts and trimming (Drama – setting mood on a scene through use of colours)AudioAdjustment layers Effects and colour correctorImporting and Exporting |
| Substantive knowledgeSubstantive knowledgeprior knowledge or building blocks | What are the main cyber security threats?How do I protect my data online? What are the laws and legislation that supports safe computer use? What re the techniques people can use to exploit my personal accounts? What are the technical techniques to exploit computer systems? What is a penetration tester? And why are they ethical hackers? How do I protect computer systems from these threats?  | Students will learn: How to understand the basics of formula & formatting worksheets.Skills such as;formulae (basic IF, SUM, MAX, MIN, COUNT, Lookup) and decision making, | Pupils will learn how to: What is an animation and how can it be used?What are the techniques in animation for effective animations? What careers are available using the skills in animation? Skills:SymbolsTweensBrushBoneFrame by frame | Students will be able to draw on skills and knowledge from previous topics taught. Text based languages, such as; Y7 – Small Basic, Y8 – Python which will form a basic understanding around correct use of syntax.Student will also be able to use their animation skills to create web based graphics to help promote their website. Students will be able to use Photoshop skills taught in year 8 to edit and create images. And also use text to create a logo.Student will also be able to use their video creation skills to create a video as a promotion tool to help promote their website. | What is premiere pro?How can I create a sequential video in it?How can I use tools to support my video creation? – transitions and fading, important and editing, adding sound and titles.How to navigate through the software using both the mouse and keyboard shortcuts.How do I transition between scenes easily |
| Justification  | This unit takes learners on a journey of discovery of techniques that cybercriminals use to steal data, disrupt systems, and infiltrate networks. The learners will start by considering the value their data holds and what organisations might use it for. They will then learn about social engineering and other common cybercrimes, and finally look at methods to protect against these attacks. | The skills taught will support students with managing finances if they are self-employed in the future or are required to work in an office where they need to use Excel to track, sick days, numbers of staff and staff salary. For example, creating invoices and working out how much money to pay staff and how to calculate tax.  | Understanding how to plan, design and create an animation is an important digital skill in the IT sector. Many careers are available in this sector, and they can deepen visual understanding better than traditional diagramsAnimation omits unnecessary visuals.It can educate and engage audiences. | Web development is a skill that is important is the digital sector. It has a high demand for people to be able to build websites using HTML, CSS and PHP. It allows people to work more flexibly.It also provides students with the necessary building blocks to start building their own webpages or websites. Pupils also use websites and recognizing effective practice is vital in their future fields and most business and companies have their own digital website. | Understanding how to create content for any person is vital to their digital lives. Using videos to advertise business or products can support that of a small business. It can also support in the development of understanding how sequences are put together and how to work as part of a team when creating content. There are many careers that require video development and exposing pupils to these will support them with making a more informed choice.  |
| Keystone vocabulary | PrivacySocial EngineeringEthical and unethicalMalwarePrevention User PermissionComputer Misuse Act | FormulaDecisionLookupConcatenation | DevelopStop and Go AnimationFrame by Frame ToolsFrameSequence | HTMLTagsBodyHead< > | SequenceTransitionAudioLayersImport |
| Links to prior learning | Year 7 (unplugged curriculum) (2020-2021)Computer BasicsOnline safetyHow the Internet works(3.9, 4.3)NC: KS3: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 | (NC: 2.6, 3.1., 3.7)previously studiesSmall BasicPython**KS1**use logical reasoning to predict the behaviour of simple programsUse technology purposefully to create, organise, store, manipulate and retrieve digital contentRecognise common uses of information technology beyond schoolDesign, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems**KS2**Links to other Microsoft software applications they have used.The same skills such as font change, toolbars, save and open documents. | Use logical reasoning to predict the behaviour of simple programsuse technology purposefully to create, organise, store, manipulate and retrieve digital contentuse sequence, selection, and repetition in programs, work with variables and various forms of input and outputselect, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and informationstudents will 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 userscreate, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usabilityPreviously studied:How computers work | (NC: 1.1 1.2, 1.3, 2.1, 2.2,2.3, 3.1, 3.2, 3.3)KS3 NCuse 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 [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functionspreviously studiesSmall BasicPython | (NC: 1.4, 1.5, 2.6, 2.7, 3.7.3.8, 3.9)KS2select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information |
| Cross-curricular and careers links | Us of all devices across all subject should pupils need them and be able to recognise cyber security threats and be able to prevent or act on them is essential across all subjects should they use computers or devices to support their learning.  | Business at KS4 / 1.3 Finance: Revenues, costs and profits.Maths and science use formulae, graphs and charts to display dataMaths: Year 7- Autumn 2 PercentagesYear 8 – Summer term - Data representationLife Skills - ICT – Year 10 and 11Digital Information Technology – Creating a data dashboard.SMSC – Money and debt are discussed | (Art – using designs and storyboarding. Creating 3D character sprites and these are places in the software)Drama: Rule pf three (Sections of a frame) Ensuring grids are used to create space. | Art – digital portfolio for student work. Business – think about products to use to promote their website. Maths skills – operator < > / Inequalities (GCSE Skill) (Examples, 6 > 4, x > -3 and 5 < x) | Drama – editing videosMusic – creating of music videosPhotography –Stop and GO Animation can be created using video editing.**Drama:** Rule of three (Sections of a frame) Ensuring grids are used to create space. Adding titles, text and credits. |
| Links to future study | Links to Life Skills KS4Links to GCSE Computer Science & BTEC DIT**KS4 NC:**develop their capability, creativity and knowledge in computer science, digital media and information technologydevelop and apply their analytic, problem-solving, design, and computational thinking skillsunderstand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to report a range of concerns | **KS4**Like Skills – Year 10 & y11. Able to understand that this software is vital in most careers. Y10 & 11 DIT coursework requires Microsoft excel skills**KS4: NC:**develop their capability, creativity and knowledge in computer science, digital media and information technologydevelop and apply their analytic, problem-solving, design, and computational thinking skills | **KS4**Develop their capability, creativity and knowledge in computer science, digital media, and information technologyDevelop and apply their analytic, problem-solving, design, and computational thinking skills | **Links to Life skills y10 & 11**Creating a business website in life skills**KS4: NC:**develop their capability, creativity and knowledge in computer science, digital media and information technologydevelop and apply their analytic, problem-solving, design, and computational thinking skills | Sequences – Python programming (studied in Y8)**KS4: NC:**develop their capability, creativity and knowledge in computer science, digital media and information technologydevelop and apply their analytic, problem-solving, design, and computational thinking skills |
| Assessment  | Summative Assessment | Practical Project | Practical Project | Practical Project | Practical Project |
| Homework  | SAM Learnin | SAM Learning | SAM Learning | SAM Learning | SAM Learning |