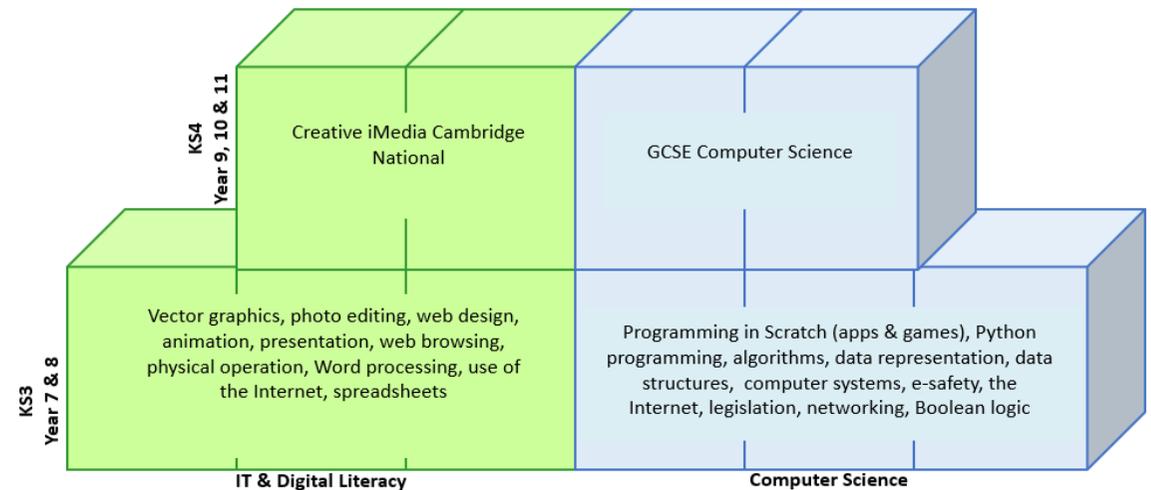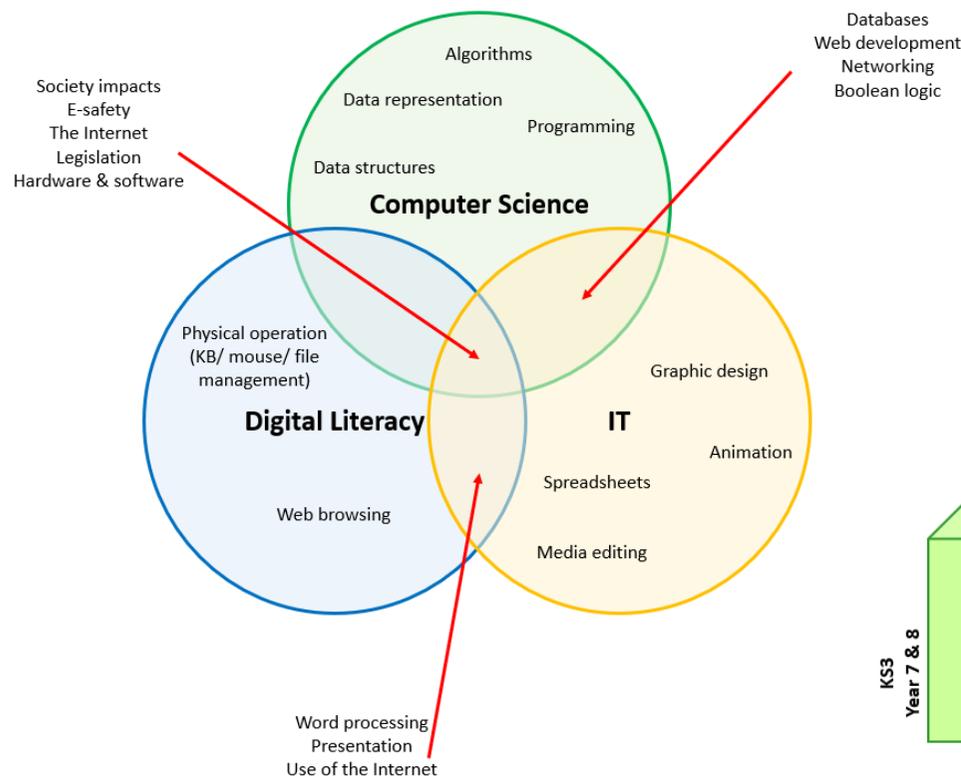# Computing Curriculum Map

## Curriculum intent

A broad and balanced Computing curriclum has been designed to provide students with learning opportunities in Computer Science, IT and Digital Literacy.

- Distinct Computing provision is new to Stalham High School (September 2021).
- The aim of the Computing department is to develop young people who are digitally literate, resilient and have problem solving skills. Students will develop transferable skills to use across the curriculum and into the wider world.
- The curriculum is designed in line with the National Curriculum Program of Study for Computing and provides opportunities for progression between and throughout year groups.

Curriculum maps

Computing

Students receive 1 hour of Computing per timetable cycle.

| Term | Year 7 | Year 8 |
|---|---|---|
| Autumn | **Unit:** Collaborating online respectfully & cyberbullying.<br>Students will explore how to stay safe online. These lessons provide students with an opportunity to discuss emerging issues they may have encountered online.<br><br>**National Curriculum links:** Using technology safely, respectfully, responsibly & securely. Including recognising inappropriate content, contact & conduct and know how to report concerns.<br><br>**Assessment:** Students will be asked to create an interactive digital media product to inform about cyberbullying. This will be assessed on both its technical capabilities and suitability for the target audience. | **Unit:** Digital creativity – bitmap graphics.<br>Students will learn how to use the tools available in Adobe Photoshop to retouch, edit and manipulate images. Students will be provided with the opportunity to discuss the impact of "Photoshopping" images on young people.<br><br>**National Curriculum links:** Undertaking creative projects that involve selecting & using applications. Create, re-use, revise and re-purpose digital artefacts for a given audience.<br><br>**Assessment:** Students will be assessed through a 45 minute online assessment consisting of multiple choice and short answer questions based on the skills, tools and knowledge learned through this unit. |
| Spring | **Unit:** Problem solving; introduction to Scratch.<br>Students will learn about how to structure program code using Scratch. Students will learn about key programming constructs (sequence, selection & iteration) and will use each of these tools to create a series of applications and games.<br><br>**National Curriculum links:** Introduction to block programming (Scratch). Key programming concepts including sequencing, iteration & variables. | **Unit:** Introduction to Python programming.<br>Students will learn about the Python programming language. Key programming concepts will be revisited and applied in this text-based programming language.<br><br>**National Curriculum links:** Using text-based programming language (Python) to solve computational problems.<br><br>**Assessment:** Students will be assessed through a 45 minute online assessment consisting of multiple choice and short |

| | | |
|---|---|---|
| | **Assessment:** Students will be assessed through a 45 minute online assessment consisting of multiple choice and short answer questions based on the conversions and applications learned through this unit. | answer questions based on the conversions and applications learned through this unit. |
| Summer | **Unit:** Digital creativity – vector graphics.<br>Students will learn how to use lines, shapes and curves Adobe Illustrator to create vector-based illustrations.<br><br>**National Curriculum links:** Undertaking creative projects that involve selecting & using applications. Create, re-use, revise and re-purpose digital artefacts for a given audience.<br><br>**Assessment:** Students will be asked to create an illustration of a character for a specific audience and purpose. This will be assessed on both its technical capabilities and suitability for the target audience. | **Unit**:* Under development<br><br>**National Curriculum links:**<br><br>**Assessment:** |

GCSE Computer Science

Students who choose Computer Science as a pathway will be undertaking the OCR GCSE Computer Science syllabus. Year 9 students are undertaking schemes of work that are mapped to the National Curriculum programs of study, in addition to being provided with opportunities to extend their knowledge in preparation for the relevant exam board specification they will complete in years 10 & 11.

| Term | Year 9 | Year 10 | Year 11 |
|---|---|---|---|
| Autumn | **Algorithms:** computational thinking <br> **Programming fundamentals:** programming fundamentals, data types | **Memory and storage:** units, data storage, compression <br> **Algorithms:** searching & sorting algorithms | **Systems software:** operating systems, utility software <br> **Programming languages & integrate development environments:** languages, the IDE |
| Spring | **Systems architecture:** architecture of the CPU, CPU performance, embedded systems <br> **Programming fundamentals:** additional programming techniques | **Boolean logic:** Boolean logic <br> **Computer networks, connections and protocols:** network topologies, wired & wireless networks, protocols & layers <br> **Network security:** threats to computer systems & networks, identifying and preventing vulnerabilities | **Ethical, legal, cultural and environmental impact of digital technology** |
| Summer | **Memory and storage:** primary storage (memory), secondary storage <br> **Algorithms:** designing, creating & refining algorithms | **Programming fundamentals**: defensive design, testing <br> **Practical programming task** | **Revision** |

<u>Creative iMedia</u>

Students who choose Creative iMedia as a pathway will be undertaking the OCR Cambridge National in Creative iMedia syllabus. Year 9 students are undertaking schemes of work that are mapped to the National Curriculum programs of study, in addition to being provided with opportunities to extend their knowledge in preparation for the relevant exam board specification they will complete in years 10 & 11.

| Term | Year 9 | Year 10 | Year 11 |
|---|---|---|---|
| Autumn | **Digital creativity:** revisiting vector and bitmap graphics<br>**R094:** Purpose, features, elements and design of visual identity. Graphic design concepts and conventions. Properties of digital graphics and use of assets. Techniques to plan visual identity and digital graphics. Tools and techniques to create visual identity and digital graphics. | **R094:** NEA Assessment (Working on and submit**Error! Bookmark not defined.** for moderation).<br>**R097:** Types of interactive digital media, content & associated hardware. | **R097:** NEA assessment (working on and submit for moderation).<br>**R093:** Distribution platforms and media to reach audiences. |
| Spring | **R093:** Media industry sectors and products. How style, content and layout are linked to the purpose. Client requirements and how they are defined. Audience demographics and segmentation. Media codes used to convey meaning, create impact and/or engage audiences. Work planning and documents used to support ideas generation. Documents used to design/plan media products. | **R097:** Features & conventions of interactive digital media. Resources required to create interactive digital media products. Pre-production & planning documentation & techniques for interactive digital media. Technical skills to create & or edit & manage assets for use within the interactive digital media product. | **R093:** Properties and formats of media files. Research methods, sources of research and types of research data. The legal issues that affect media. |
| Summer | **R094:** Technical skills to source, create and prepare assets for use within digital graphics. Techniques to save and export visual identity and digital graphics (with | **R097:** Technical skills to create interactive digital media. Techniques to save & export/ publish interactive digital media. Techniques to test/ check & review | **R093:** Job roles in the media industry. Revision. |

| | integrated **R093** TA4 distribution considerations and file formats). NEA Assessment practice tasks | interactive digital media. NEA Assessment practice tasks | |
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