

KS3 Computing Curriculum Map

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| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|----------------------|---|----------|--|---|---|--|
| Start of Year 7 Test | Discovery Linked to IT | | Computational Thinking Linked to GCSE Computer Science | Control Systems (Flowol) Linked to Computer Science | Building a game (Kodu) Linked to Computer Science | Python (Turtle) Linked to Computer Science |

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|----------------------|--|--|--|-----------|--|---|
| Start of year 8 test | Data Representation Linked to Computer Science | Building a game (Scratch) Linked to Computer Science | Using technology safely, securely and responsibly Linked to IT Linked to Computer Science | Databases | Project (Music Festival) Linked to IT | Python Linked to Computer Science |
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|----------------------|---|--|---|---|---|---|
| Start of year 9 test | Python Linked to Computer Science | | User Interfaces Linked to IT | Computer Systems Linked to Computer Science | Computer systems Linked to Computer Science | Fireworks Linked to IT |
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Year 7

Links to the National Curriculum from the DFE website

Discovery
[Linked to IT](#)

- understand simple Boolean logic [for example, AND, OR and 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 [for example, binary addition, and conversion between binary and decimal]
- 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

Computational Thinking
[Linked to Computer Science](#)

- design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems

Control Systems (Flowol)
[Linked to Computer Science](#)

- design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems
- understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem

Building a game
(Kodu)
[Linked to Computer Science](#)

- understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem

Python (Turtle)
[Linked to Computer Science](#)

- understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem
- 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 [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions

Year 8

Links to the National Curriculum from the DFE website

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|---|--|
| Data Representation Linked to Computer Science | <ul style="list-style-type: none">• understand simple Boolean logic [for example, AND, OR and 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 [for example, binary addition, and conversion between binary and decimal]• 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 |
| Building a game (Scratch) Linked to Computer Science | <ul style="list-style-type: none">• understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem• 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 [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions |
| Using technology safely, securely and responsibly Linked to IT Linked to Computer Science | <ul style="list-style-type: none">• 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• 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 |
| Databases | <ul style="list-style-type: none">• understand simple Boolean logic [for example, AND, OR and 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 [for example, binary addition, and conversion between binary and decimal] |
| Project (Music Festival) Linked to IT | <ul style="list-style-type: none">• 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 |
| Python Linked to Computer Science | <ul style="list-style-type: none">• understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem• 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 [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions |

Year 9

Links to the National Curriculum from the DFE website

Python

[Linked to Computer Science](#)

- understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem
- 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 [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions

User Interfaces

[Linked to IT](#)

- 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
- create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability

Computer Systems

[Linked to Computer Science](#)

- understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems
- 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

Fireworks

[Linked to IT](#)

- 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

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| Component 1 – Exploring User Interface Design Principles and Project Planning Techniques (Internally Assessed) |
| Component 2 - Collecting, Presenting and Interpreting Data (Internally Assessed) |
| Component 3 – Effective Digital Working Practices (External Synoptic) |

**KS4 BTEC Level 1/Level2
Tech Award in Digital
Information Technology**

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|----|---|---|---|---|---|---|--|
| 10 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 | |
| | <p>Component 1 – Exploring User Interface Design Principles and Project Planning Techniques</p> <p>Learning Aim, A – investigate user interface design for individuals and organisations</p> | <p>Component 1 – Exploring User Interface Design Principles and Project Planning Techniques.</p> <p>Learning Aim B – use project planning techniques to plan and design a user interface</p> | <p>Component 1 – Exploring User Interface Design Principles and Project Planning Techniques.</p> <p>Learning Aim C – Develop and review a user interface</p> | <p>Component 1 – Exploring User Interface Design Principles and Project Planning Techniques.</p> <p>Learning Aim C – Develop and review a user interface</p> | <p>Component 3 – Effective Digital Working Practices (External Synoptic)</p> | <p>Component 3 – Effective Digital Working Practices (External Synoptic)</p> | |
| | <p>Component 3 – Effective Digital Working Practices (External Synoptic)</p> <p>Taught discreetly as links to the internal assessment (homework's given to expand to external assessment)</p> | | <p>Component 3 – Effective Digital Working Practices (External Synoptic)</p> <p>Taught discreetly as links to the internal assessment (homework's given to expand to external assessment)</p> | | <p>Component 3 – Effective Digital Working Practices (External Synoptic)</p> | | |

| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|--|----------|---|----------|----------|---|
| <p>Progress Beauty Coursework</p> <p>Learning Outcome 2: To be able to initiate and plan a solution to meet an identified need.</p> <p>Learning Outcome 5: To be able to import and manipulate data to develop a solution to meet an identified need (Database).</p> <p>Learning Outcome 7: To be able to select and present information in the development of the solution to meet an identified need (PowerPoint and Webpages).</p> <p>Learning Outcome 8: To be able to iteratively review and evaluate the development of the solution.</p> | | Coursework Hand-In (Friday 10 th January) | Revision | Revision | Exam (Monday 11 th May AM). <i>Some pupils may resit</i> |