

# KS4 Computing



There is an offer of both Computer science and BTEC IT within the options programme - around 25% of students study one of these courses.

We also have a universal offer to all students that covers the NC requirements. This is mapped against English, mathematics and science as these are subjects that all students take, however elements of the PoS are also covered in a number of optional subjects including design technology, engineering, enterprise, music (music technology), PE (fitness tracking) and art and design.

1. develop their capability, creativity and knowledge in computer science, digital media and information technology

Opportunities are mapped into a number of curriculum areas. This includes:

Within English:

- There is a focus on developing presentation skills. Pupils conduct their own presentation using ICT (e.g. google slides or powerpoint) to produce a well-structured, coherent presentation which will guide the reader. Mark scheme requires pupils to: Organises and structures his or her presentation using an effective range of strategies to engage the audience;
- Article writing homeworks - pupils use IT and develop digital media skills, including formatting;
- As part of Paper 2 question 5 - pupils are able to format an article appropriately. i.e use of columns, appropriate use of headline, bi-line, graphology, typology appropriate for purpose, audience and format. Built into homework at KS4;
- Research skills (e.g. during study on Macbeth and An Inspector Calls) - this is modelled and appropriate sources found online to gather information on context;

Within Science pupils will use technology to collect data. Mapped into the curriculum are opportunities (by the end of KS4) to:

- Use of data loggers to collect and process data (e.g.  $F=ma$  required practical / uniformly accelerated motion);
- Students will collect data and input into spreadsheets and created graphs;

2. develop and apply their analytic, problem-solving, design, and computational thinking skills

Within mathematics

- pupils are taught how to apply their mathematical knowledge and computational skills to solve problems of increasing complexity; these could incorporate algebraic manipulation, constructing scale diagrams, maps and accurate drawings as well as engaging with digital representations of data and statistics and the iterative processes. Pupils are taught how IT can support all of these processes. All pupils are taught how to use calculators effectively and efficiently.

This builds on the KS3 mathematics curriculum where there is a specific focus on building problem-solving skills. Pupils have experienced fortnightly problem-of-the-fortnight lessons.

3. understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to identify and report a range of concerns.

This is mapped into our PSHE programme (tutorial, assembly and dropdown):

Drop-downs:

|                 | Year 10  | Year 11  |
|-----------------|--|--|
| Internet safety | <ul style="list-style-type: none"> <li>• Body image, Body Shaming and keeping safe on Snapchat and TikTok</li> <li>• Cyberbullying-</li> <li>• Snapchat- keeping yourself safe</li> <li>• the impact of unhealthy or obsessive comparison with others online</li> <li>• how people may curate a specific image of their life online</li> <li>• over-reliance on online relationships including social media</li> </ul> | <ul style="list-style-type: none"> <li>• Pornography: information, stereotypes and pressure</li> <li>• Online Peer pressure and looking after friends</li> <li>• the risks related to online gambling and advertising</li> </ul> |
| AI              | <ul style="list-style-type: none"> <li>• What is AI</li> <li>• Use &amp; misuse - study skills</li> </ul>  |  |