



Digital communications Year 8

Curriculum Intent

The aim of the digital communication department is to introduce students to ICT and computer science and give them a flavour of what GCSE level study is like. We focus on developing a number of key skills across both disciplines, using application software to analyse data and create various multimedia products and enhancing algorithmic thinking with programming to strengthen our student's problem solving skills. We also strive to embed an understanding of how to utilise modern technology in a safe and responsible way. We want our students to be inquisitive and open to the possibilities our future pathways offer.

Project 1 Digital Communications | ICT

Students will learn:-

- Understands the concept of threats to data and networks and how to prevent these threats.
- Can identify different laws in relation to computing and understand the impacts of plagiarism including use of AI.
- Can collect meaningful data and use this to build a simple data base.
- Can create a simple relational database displaying useful skills like data validation, create queries, forms and reports.

Knowledge, understanding & Skills

- Identify the various threats to data and networks and how to mitigate against them.
- Describe the different laws in computing and who they could affect.
- Know what plagiarism is and learn advantages and disadvantages of using AI in education.
- Build a fully functional database explaining the different the steps taken to apply validation, run queries, create forms and reports
- Utilise a range of different research skills to find reliable information including the application of complex searches to filter down searches.

How is homework used to enhance learning?

- Lesson resources are all available through the shared area.
- After school and lunchtime clubs available on specific dates if students need to come back to complete project work.
- Software now installed in various locations around the school for students to utilise.
- Homework tasks extending skills learnt in lessons



What does excellence look like?

- Able to understand the threats to data, spot the threats and know how to avoid being a victim of a cyberattack.
- Able to differentiate the different laws in computing and accurately apply each to the right scenario.
- Able to create a fully functional relational database that links correctly and produces accurate results.
- Understand Boolean operators AND, OR and Not and how to apply them when carrying out complex searches.

How will we assess impact?

- Recapping knowledge with plenary and starter activities
- Peer and self-assessment
- End of half term socratic assessments

Project 2 | Digital Communications | Computer Science

Students will learn:-

- Able to differentiate between hardware and software and how these relate to computing
- Able to understand the binary, denary and hexadecimal numbering system
- Able to create simple algorithms using flow charts
- Able to create a code fragment that utilises sequencing, selection and iteration to create a program.
- Able to create and utilise variables to store data within a program
- Able to create, refine and modify code to meet a specific purpose
- Able to test and evaluate original code fragments to perform a specific action

Knowledge, understanding & Skills

- State the function of the three programming constructs
- Sequence basic code fragments together to create a program which performs specific actions
- Describe basic programming techniques such as variables, iteration and conditions
- Troubleshoot and modify code to meet the needs of a specific brief
- Able to identify the strengths and weaknesses of the project work that they have produced



What does excellence look like?

- Able to identify both syntax and logic errors in a program and being able to fix them.
- Create original code fragments to meet specific purposes.
- Add additional components, maintainability and sub programs to further develop the program.

How will we assess impact?

- Recapping knowledge with plenary and starter activities
- End of unit testing
- Peer and self-assessment
- Written evaluation of developed program

How is homework used to enhance learning?

- Lesson resources are all available through the shared area.
- After school and lunchtime clubs available on specific dates if students need to come back to complete project work.
- Students are invited to coding club once a week to enhance their coding skills and complete homework.
- Homework tasks are focused on reviewing programming techniques, identifying strengths and weaknesses of the program.

International Opportunities

Within the curriculum

- Students have free choice over the content of their programming task and may choose to base their work on an international theme. For example, they might base their project on a country, language, or travel destination.