

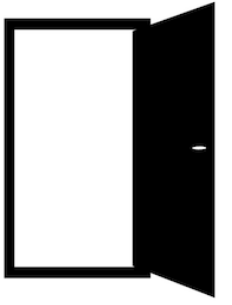


# Shipston High: Curriculum Document 2



This curriculum map is being phased into the department with projected completion due 2020-2021 – some areas subject to change

**OCR**  
RECOGNISING ACHIEVEMENT  
**GCSE Examination season:**  
Computer Science



**Year 11**

**Unit 2 Revision:**  
Recap of all unit 2 content, focusing on exam technique..

**Final Examinations:**  
Unit 1 (Computer Systems) & Unit 2 (Computational Thinking and Algorithms).

**Programming Project:**  
Students complete the 20 hour programming task set by OCR.

**Unit 1 Revision:**  
Recap of all unit 1 content, focusing on exam technique..

**Year 10**

**Programming Revision:**  
Students to practice key programming techniques before embarking on independent programming work.

**Algorithms**  
Students practice creating algorithms for a range of problems including major sort and search concepts.

**Programming Techniques**  
Students learn to program using python covering a range of techniques (sequence, selection and iteration)

**Legal, Ethical and Moral**  
Students build upon the work that they have done in year 9 looking at the implications installing systems can have.

**Computational Thinking**  
Students discover the benefits of decomposition and abstraction when developing solutions.

**Network Topologies and Layers**  
Students start to look at the ways we can communicate and how protocols are essential within communication.

**Robust Programs**  
Students realise the importance of maintainable programs and build upon the work that they have done previously on testing,

**Systems Architecture**  
Students look in depth at the processor including the roles of registers and units needed.

**Storage**  
Students revise the work they have done on storage and build upon this to calculate data capacity requirements.

**Systems Security**  
Students look at the types of threats we might encounter and how to prevent vulnerabilities.

**Wired & Wireless Networking**  
Students revise the types of networks and consider what hardware would be required to create a network.

**The Campaign**  
Students work on a cross curricular project with Art in producing campaign materials for a chosen issue.

**Year 9**

**Programming Project**  
Students complete an exam board set programming task to include documentation, algorithms coding and testing .

**Memory**  
Students look at the need for and difference between the types of memory we use (including virtual memory)

**Compression**  
Students realise the need for compression of data.

**Systems Software**  
Students build upon the work they have done previously looking at operating systems and a range of utility software.

**Logic**  
Students start to consider logic within computing and how the gates effect the data.

**Year 8**

**Algorithms**  
Students return to creating algorithms to show how to solve a problem.

**Coding a solution**  
Students use their development documentation and algorithms in order to code a solution.

**Testing**  
Students are introduced to the different types of testing required to prove a system is functional.

**Components**  
Students revise the components needed to run a computer system and begin to understand how they work together.

**Systems Software.**  
Students study the need for systems software to keep the systems running safely and efficiently .

**Data Representation**  
Students look at how binary numbers can be manipulated.

**Welcome to Computer Science at Shipston High – the adventure starts here!**

**Year 7**

**What is a network?**  
Students realise what a computer network actually is, how to use one safely including effective communication via email.

**Algorithms**  
Students are introduced to creating algorithms to show how to solve a problem.

**Systems Software.**  
Students realise the difference between applications and systems software and the need for systems software.

**Health and Safety**  
Students learn how to be safe within an ICT environment.

**The Computer System**  
Students revise what makes up a computer system and find out the need for memory .

**Spreadsheets**  
Students learn what spreadsheets are used for and have practical experience of producing a spreadsheet for a given purpose.



**Coding a solution**  
Students practice putting their instructions into action.

**The Computer System**  
Students study what makes up a computer system.

**Data Representation**  
Students investigate how all data is presented as binary and how this links to electrical circuitry.

**Social Media**  
Students consider how they might use social media, and how content might influence them in future decision making.

**Moral and Legal.**  
Students realise some of the implications of implementing computer systems.

**Types of Network.**  
Students consider the difference between the types of network that they use at home and school and begin to consider the need for security within networks.

**Applications Software.**  
Students look at the range of software that could be used across the curriculum and outside of school.

**Data Representation**  
Students revise the binary number system and investigate how characters can be presented using this system..

**Program Development**  
Students realise what is required to produce a program, and put together their first example of development documentation.