



CURRICULUM – COMPUTER SCIENCE

Teacher in Charge: Luke Austin-Summers
Southchurch High School

Year Group	Half-term 1	Half-term 2	Half-term 3	Half-term 4	Half-term 5	Half-term 6
Year 7	Clear messaging in digital media Students will use different applications to create posters and slides on a given theme. Students will be assessed on their final piece of work.	Networks from semaphores to the Internet Students will learn about networks and the benefits of networking, before learning how data is transmitted across networks using protocols. Students will complete an end of unit assessment.	Programming essentials in Scratch – part I The main programming concepts in this unit are sequencing, variables, selection, and count-controlled iteration. Students will be assessed on their final program.	Modelling data using spreadsheets Students will be introduced to spreadsheets and the concept of cell referencing. They will collect, analyse, and manipulate data, before producing graphs and charts. Students will be assessed on their final spreadsheet.	Programming essentials in Scratch – part II Students will build upon their knowledge of sequence, selection and iteration, developing their problem-solving skills. Students will learn how to create subroutines, and to create and use lists. Students will complete an end of unit assessment.	Using media – gaining support for a cause Students will develop a deeper understanding of IT and digital literacy to create a blog post about a real world cause they are passionate about. Students will complete an end of unit assessment.
Year 8	Media – vector graphics Students will produce an illustration or logo using vector graphics. Students will use Inkscape which is a vector graphics editor. Students will complete an end of unit assessment.	Layers of computing systems Students will develop a concise overview of how computing systems operate, conveying the essentials. Contemporary topics of AI and open-source software are included in this unit. Students will complete an end of unit assessment.	Developing for the web Students will explore the technologies that make up the internet and the World Wide Web, including exploration of HTML and CSS. Students will complete an end of unit assessment.	Representations – from clay to silicon Binary digits will be introduced to students as the symbol's computers use to record, process and transmit information. Students will complete an end of unit assessment.	Mobile app development Students will learn through the design and development process of creating their own mobile app, using App Lab. Students will understand how hardware components can improve user experience and safety. Students will complete an end of unit assessment.	Introduction to Python programming Students will begin by writing simple programs that involve input and output, moving on through arithmetic operations, randomness, selection and iteration. Students will complete an end of unit assessment.
Year 9	Python programming with sequences of data Students will learn how data can be represented and processed in sequences, such as lists and strings. Students will complete an end of unit assessment.	Data science Students will be introduced to data science, and they will be empowered how to use data to investigate problems. Students will gain an understanding of how visualising data can help identify patterns and trends. Students will complete an end of unit assessment.	Representations – going audiovisual Students will focus on making digital media such as images and sounds, and discover how media is stored as binary code. GIMP and Audacity will be used to manipulate images and sounds. Students will complete an end of unit assessment.	Introduction to cybersecurity Students will learn the techniques that cybercriminals use to steal data, disrupt systems, and infiltrate networks. Students will also learn how to protect against these attacks. Students will complete an end of unit assessment.	Applying programming skills with physical computing Students' programming skills will be applied and enhanced in the context of physical computing, using the BBC micro:bit. Students will complete an end of unit assessment.	IT and the world of work Students will develop a deeper comprehension of the methods employed by organisations and the impact the use of IT in the working environment has on all stakeholders. Students will complete an end of unit assessment.

