The Wilnecote School: Our Curriculum

Key Stage 4

Year group:	Topics covered:
Year 10	**ICT** The coursework elements of the course covered in Year 10 covers the concepts of interface design and how a range of different devices are used in the real world. It allows students the chance to analyse existing interfaces, plan out a project to develop an interface of their own against a given scenario, then create, test and analyse the interface they've produced. This uses skills taught throughout Key Stage 3, both in terms of the design skills and the creation/evaluation of the systems produced. In the theory elements of the course, students learn about modern technologies and remote learning, as well as the impact of these technologies in terms of the real world and people's working conditions and experiences. This brings in knowledge learnt during the Year 8 Bigger Picture unit and combines it with new learning to deepen understanding and provide further input on the real world of working with computers. They also look at threats to data and how these are managed and prevented. **Computer Science** Throughout Years 10 and 11 students will learn programming skills alongside the theory content. They will be using Python, which follows their work on text-based programming in Year 9. This goes into a lot of depth and detail, and while the level of skill required is significantly higher than previously, the skills and knowledge they have learn throughout KS3 in terms of programming concepts and methods will continue to apply here. The theory work focusses on data representation (understanding and using binary, knowing how images and sounds are stored and reproduced) and computer hardware and software; both of these will have been covered previously in the Year 7 Intro to Computers unit, as well as the data representation unit which immediately follows. They also learn about networks and the Internet (which they have experience of following the Year 8 unit about networks).
Year 11	**ICT** The second component of the coursework builds on spreadsheet work done during Years 7 and 9 by asking students to take a large set of data and manipulate it using a range of tools and techniques within the spreadsheet software. This naturally goes into more depth and more advanced areas of spreadsheet use than would be covered in KS3, but the basis of understanding formulas and the presentation of graphs will have been picked up during the previous units of work. The theory work looks at the responsible use of computers, both in terms of the ethics of shared data and environmental concerns, but also the legal side to computer use (again, all topics drawing from the Bigger Picture unit). They also learn about different types of notation and diagrams, looking at flow charts and data flow diagrams. **Computer Science** In Year 11 the programming continues with additional skills and a wider range of challenges and tasks to solidify understanding and ensure students are ready for their programming exam in May. Theory topics include environmental, ethical and legal issues (again, following the Year 8 Bigger Picture unit) as well as cybersecurity and protecting networks. There is also work based around computational thinking, including work on algorithms (which was also looked at in Year 7), binary logic and decomposition.

Assessment:	How Will I be assessed at Key Stage 4?
	ICT Assessment is carried out in several ways. There are six pieces of official coursework to be completed which are marked internally, returned to the students once for them to carry out improvements in the following 4 weeks. Being a BTEC the time periods for this are outlined in the specification. These components are spread across years 10 and 11 as outlined above. Verbal feedback is allowed throughout, and whole-class suggestions are used to provide generalised feedback without giving more specific individual help than is allowed. In terms of the theory work, unit tests are carried out throughout KS4, as well as a range of lesson and homework tasks to ensure understanding. Mock exams are carried out to give students the chance to experience a full exam before their actual externally assessed exam. Formative assessment is carried out regularly during lessons and following marking of individual pieces of work, and more summative feedback is provided after unit tests. **Computer Science** Similar to ICT, units of theory work are tested using end of unit summative tests, allowing us to see where gaps are in students' knowledge or understanding and carry out early intervention as a result. This is in addition to formative feedback throughout lessons, as well as using student difficulties to lead further teaching opportunities during both new skills and recapping previous learning both in the theory content and programming lessons. There is no coursework in Computer Science, but the programming will be assessed through a range of regular tasks that build on the skills being learnt throughout the two years. With the programming carrying a high degree of difficulty, accurate assessment throughout is important and necessary to ensure students are grasping the basics before attempting the more advanced concepts and skills.