What will I be studying?

This new and exciting GCSE gives students an excellent opportunity to investigate how computers work and how they’re used, and to develop computer programming and problem-solving skills. They will also do some fascinating in-depth research and practical work. For example, some of the current investigations look at Python, encryption and assembly language programming. This two-unit course is designed to give students an in-depth understanding of how computer technology works and a look at what goes on ‘behind the scenes’. They will have already studied what are widely considered to be the ‘toughest’ aspects of the course in Year 8 (systems architecture). All students should be able to use this as a springboard to go on to learn about computer programming and computational thinking. This not only develops students’ understanding of Computer Science but very much feeds into wider skills, helping improve their mathematical and scientific reasoning and application.

What other skills will I develop?

The course will help students learn about computational thinking, analysis and problem solving. Students will also gain a good understanding of the physical components which form the core of all computers in the 21st century, their storage and memory types, as well as range of other new physical technologies. We hope that students will find it a fun and interesting way to develop these skills, which can also be transferred to other subjects and even applied in day-to-day life. How will I be studying? Students in Computer Science can benefit from an entirely digitised curriculum experience. Every aspect of the course has an online video tutorial, automated lesson testing and homework videos with automated testing (the last two assisting students with the self-diagnosis of their subject knowledge). This is all available 24 hours a day, 7 days a week and 365 days of the year, helping students take greater ownership of their learning. These are available now at [www.tedwraggtrustmoodle.co.uk](http://www.tedwraggtrustmoodle.co.uk)

How will I be assessed?

Very recent changes to the qualification now mean that there will be no controlled assessment which contributes to the students’ final grade. The course now comprises of two units: • Component 1 – Computer Systems (50%). This unit will cover the theory about a wide range of issues including the Central Processing Unit (CPU), computer memory and storage, wired and wireless networks, network topologies, system security and system software. • Component 2 – Computational thinking, algorithms and programming (50%). This unit is hugely practical – using the world-renowned Code Academy resources – and covers algorithms and programming, learning about programming techniques, how to produce robust programs, computational logic, translators and facilities of computing languages and data representation.

Post 16 and future career pathways?

In recent years, the importance of computer science has been recognised by the government and industry across the UK and is highly sought after by employers and post 16 educators. There are a huge range of career choices available, many of which have very competitive wages and salaries. To name a few careers: IT consultant, Computer Engineer, Software Engineer, Analyst, Data Modeller, Systems Administrator, Network Administrator, Software Applications Developer, IT technician, Programmer, Hardware specialist, Software and Network Security, and Telecommunications.