Courses at Key Stage 4

Students who are unlikely to achieve their end of year 9 target grade may be guided into BTEC Digital Information Technology in year 10.

Subject Title	OCR GCSE (9 – 1) in Computer Science (J276)
Assessment	**Examination**: • Component 01 – Computer Systems, exam paper 1:30 hours, **50%** • Component 02 – Computational thinking, algorithms and programming, exam paper 1:30 hours, **50%** Programming Project - 20 timetabled hours. Formally required to consolidates the learning across the specification through practical activity but the work produced does not form part of the final marks. Learners must take Component 01 and Component 02 to be awarded the OCR GCSE (9–1) in Computer Science
Expectations outside of classroom	Pupils are required to independently learn different programming techniques and languages by complete programming challenges to further develop their programming skills since all techniques cannot be taught in class.
Course description	Computer technology continues to advance rapidly and the way that technology is consumed has also been changing at a fast pace over recent years. The growth in the use of mobile devices and web-related technologies has exploded, resulting in new challenges for employers and employees. For example, businesses today require an ever-increasing number of technologically-aware individuals. This is even more so in the gaming, mobile and web related industries and this specification has been designed with this in mind. Students studying this specification will learn how to create applications that: • Run on mobile devices • Operate in a web enabled environment. In addition, they will: • Learn how to create simple computer games • Gain an understanding of the fundamental concepts around creating software applications • Have the opportunities to work collaboratively. **Component 01 – Computer Systems** Systems Architecture; Memory; Storage; Wired and wireless networks; Network topologies, protocols and layers; System security; System software; Ethical, legal, cultural and environmental concerns **Component 02 – Computational thinking, algorithms and programming** Algorithms (Algorithm questions are not exclusive to Component 02 and can be assessed in either component.); Programming techniques; Producing robust programs; Computational logic; Translators and facilities of languages and Data representation. **Programming Project** Programming techniques; Analysis; Design; Development; Testing and evaluation and conclusions