A-Level Computer Science

Full course title and Exam Board	OCR Computer Science	Specification QR
Teacher(s)	Mr N Applewhaite napplewhaite@enfieldgrammar.org Ms A Nachwa anachwa@enfieldgrammar.org	
Introduction	This qualification is relevant to the modern and changing world of computing, and is also relevant to the higher education community. Computer Science is a practical subject where students can apply the academic principles learned in the classroom to real-world systems. It's an intensely creative subject that combines invention and excitement. The course values computational thinking, helping students to develop the skills to solve problems, design systems and understand the power and limits of human and machine intelligence. It is designed to inspire and challenge students to apply the knowledge they gain with the creative and technical skills they acquire. This OCR A level is aimed at students who desire to learn about key technical and theoretical topics in computer Science and are looking forward to continue at university, apprenticeship or a future career in the computer industry.	
What is the course about?	This course is centred in exposing all students to computational thinking and in-depth understanding of computer science. You will be studying these units over the 2 years: Programming techniques, data structures, algorithms , software development , data representation , operating systems, Types of processors, function of processors , CPU , computing , Fundamentals of communication and networking , Fundamentals of databases , computational thinking, web technologies, Boolean Algebra and Karnaugh Maps. It is a very intense course. It will require a lot of self-study to succeed. The course prepares you very well to have a head start at university. The course covers the latest changes in the computing world.	
How will I be assessed and what will I be studying?	The A level has 2 written papers and non-exam assessment (NEA). Paper 1 and Paper 2, both, equate to 40% each of the final mark. The NEA is worth 20% and is begun in the final half term of Yr 12 and completed in Yr 13. Paper 1 consists of computer systems, computer architecture, programming concepts, relational databases, CPU, web technologies and data representation. NEA projects can range from developing a program to control and manipulate drones or a robot to an interactive website or an educational 2D/3D game. Paper 2 focuses on problem solving, computational thinking, algorithm design and implementation and programming understanding and how it is applied.	
Current Textbook and further Reading	OCR AS and A Level Computer Science Textbook by PM Heathcote and RSU Heathcote ISBN: 978-1-910523-05-6 AS/A Level Computer Science for OCR Student Book by Alistair Surrall and Adam Hamfleet	
Future Career Directions	This course will allow you to enrol on any degree course on computer science and leads to many roles in the industry, which include software engineer, developer, analyst, project manager, software architect, tester and operational manager; career development opportunities are almost unlimited within the industry.	
Entry Requirements	Grade 6 in Computer Science	