Our vision and philosophy

“The best way to predict the future is to create it”- Peter Drucker

At Harris Academy Ockendon we recognise that students need a vast arsenal of skills for the modern world. Computing is the key to this. We are committed to developing student’ digital literacy, computing competency and exposing them to high level coding and IT skills to prepare them to lead happy and successful lives.

KS4: Developing Competence, Building Mastery

For students curious about computing and its ability to change the world, students are invited to take a GCSE in Computer Science. Students will be able to further their understanding and application of the core concepts in Computer Science. Through practical experience they will design, write and debug programs to solve problems. They will also engage in discussions to understand the impacts of digital technology in our society to best prepare them for the digital workplace and changing world.

Year 10

During Year 10, students study two lessons of Computer Science theory alongside one lesson of programming per week. Students start by being introduced to system architecture. This builds upon their knowledge of hardware and allows students to look deeper at the CPU, and Von Neumann’s revolutionary design of computer systems. Students then revisit memory and data representation and are able to make connections between binary and other computing concepts, such as representing images and sound. Students build on their knowledge of networks by learning about the different types of networks and topologies that can be formed. They also delve deeper into their understanding of the internet by gaining a broader awareness of how websites are hosted, and the network security threats that can be encountered. Keeping data safe is an important skill for students as data breaches are becoming more prevalent, with the increases in technological capabilities. During the last term, students will focus on developing their programming skills. They will work on converting algorithms to Python, with the introduction of pseudocode. Students will

also practice iterative programming concepts, as an additional way of sequencing their programs.

Year 11:

We start Year 11 by building competence in computational thinking. Students spend the term

creating algorithms in both pseudocode and flowcharts, which they later convert into Python code. Students are introduced to design, testing and integrated development environments, which ensures students can create programs with validation. They are taught how to effectively design and test their programs and how to protect them from misuse. Students spend the rest of the year developing their exam skills and revising previously taught topics so that they are able to perform to the best of their abilities in their exams.

Computer Science is an ever-expanding career field with many opportunities. Technology roles are one of the fastest growing careers due to the role technology now has in both our professional and personal lives. From programming to game design to forensic computing, Computer Science is an exciting field that will impact on the world.