COMPUTING & ICT

INTENT STATEMENT

Gunnersbury's Catholic School Mission Statement

"Gunnersbury Catholic School strives to educate all its pupils within an environment where the Catholic traditions of learning, truth, justice, respect and community are promoted."

'Ad Altiora' - 'To Higher Things.'

- Every Catholic school has a mission statement that encapsulates its distinctive job or core purpose.
- The mission statement **puts faith at the heart of all we do at school** and incorporates our school motto.
- It speaks of inclusivity and respect, that we understand as important Gospel values.
- It reminds us that Christ is at that centre of all that we do and by extension, as his creations we are all obligated to treat every member of our community with respect and love.
- It speaks of our aspirations for all in our community and our will to do all we can to make these a reality

INTENT

The Computing & ICT Department at Gunnersbury Catholic School provides a broad, well-balanced computing curriculum mapped to the National Curriculum for Computing at Key Stage 3 and 4. We believe that every pupil, regardless of ability or approach to learning, has the right to expect the same consistently high-quality education.

We believe that it is essential for students to develop computational thinking inside and out of the classroom in order to fully master programming and solve problems. Students should, during their learning experience, explore, wonder, question, conjecture, experiment, challenge themselves and make theories in order to guide their own journey and solve problems.

We believe that students should be encouraged to use technical vocabulary throughout their learning to deepen their understanding of computers and the programs and algorithms that they run.

We believe that it is important for students to develop a systematic approach to their work and problem-solving solutions.

Students can learn from their mistakes so that they become confident basic programmers, checking that the code that they input completes the task and/or solves the problem.

The Computing syllabus has been designed to cover the three main areas of Digital Literacy, Computer Science and Information Technology. The students will be introduced to the IT skills they will need to support other subjects across the curriculum and will be introduced to programming, algorithms, some more complex elements of software packages and an understanding of computer hardware and how it works.

The intent is to develop the student's interest and knowledge of several aspects of technology, including creativity, logic, coding hardware and software. Schemes of work apply a creative learning approach that meets the needs of our diverse pupils, the lessons are carefully planned and resourced combining theory with hands -on practical work allowing for experimentation and 'trial and error'.

At KS5, our students study the OCR A Level Computer Science syllabus. Students are introduced to the internal workings of the (CPU), data exchange, software development, data types and legal and ethical issues. There is significant emphasis on computational thinking and problem-solving. Students are also expected to apply the principles of computational thinking to a practical coding programming project. They will analyse, design, develop, test, evaluate and document a program written in a suitable programming language. The project is

designed to be independently chosen by the student and provides them with the flexibility to investigate projects within the diverse field of computer science.

IMPLEMENTATION

The Schemes of Work at Gunnersbury are designed to be taught as a series of connecting topics which develop each year by broadening and building a depth of programming knowledge and skills.

The topics are designed to be delivered to the students in a creative way, using a broad range of approaches including group work, paired exercises and solo work.

Across the curriculum students will have opportunities to explore the application of technology in the world, learning coding with programs such as Scratch, Python and C++.

Students also will have opportunity to experiment with HTML, CSS and JavaScript in web technology development.

IMPACT

The Computing Department at Gunnersbury believes that all our students have a right to access a contemporary, relevant and fun curriculum that furnishes them with a strong understanding of Computing (principles, approaches and applications) so they can maximise their opportunities as members of our increasingly digital society.

Computers are now part of everyday life and, for most of us, technology is essential to our lives, at home and at work. 'Computational Thinking' is a skill that all pupils must learn if they are to be ready for the workplace and able to participate effectively in the world.

The National Curriculum for Computing has been developed to equip young people with the foundational skills, knowledge and understanding of computing they will need for the rest of their lives. Through the programme of study for computing, they will learn how computers and computer systems work, they will design and build programs, they will develop their ideas using technology, and create a range of digital content.

Students will be able to develop algorithms and create code thereby developing a good grounding in problem solving.

On leaving Gunnersbury, students will have developed the confidence to work with a wide range of technologies. These skills will be invaluable for later life either in employment or further study.