SMSC Overview for the Computer Science Curriculum

The Computer Science curriculum at King's Academy Easthampstead Park is designed to develop well-rounded, confident individuals who are prepared to navigate and shape the digital world.

In **Key Stage 3** (Years 7-9), students begin by mastering essential skills like online safety, malware awareness, and ethical technology use. The curriculum introduces programming, data representation, and cybersecurity, fostering moral awareness around privacy, data integrity, and responsible digital interaction. By learning programming languages and web development, students build resilience through debugging and problem-solving. These skills and values equip students to become thoughtful and ethical participants in the digital world.

In **Key Stage 4** (Years 10-11), the curriculum expands to cover advanced programming, systems architecture, cybersecurity, and ethical computing. Students engage deeply with the ethical, legal, and environmental aspects of computer science, discussing topics like data security, privacy rights, and the environmental impact of technology. This helps students understand the moral implications of technology and consider their responsibility in using digital tools wisely. Through computational thinking and algorithm design, they develop logical reasoning and resilience, tackling challenging tasks that prepare them for future academic and professional pursuits.

The Computer Science curriculum's integration of SMSC elements nurtures students' awareness of the digital landscape's broader impact. **Socially**, teamwork in project-based learning emphasizes collaborative skills vital for any workplace, while discussions on bias in data and algorithm design highlight the importance of ethical decision-making. **Spiritually**, students are encouraged to appreciate the transformative power of technology, considering how it impacts human creativity, knowledge sharing, and global connectivity. **Culturally**, the curriculum broadens students' perspectives by exploring the contributions of pioneers from diverse backgrounds and the worldwide impact of technological innovations. **Morally**, by embedding the values of honesty, faith, and courage throughout the Computer Science curriculum, students are empowered to become proactive, ethical, and adaptable individuals. They learn to use technology responsibly, striving to innovate with integrity and contribute positively to an interconnected world.

SMSC Overview for the Computer Science Curriculum

King's Academy Easthampstead Park

SMSC Key Elements:

Social: Collaborative digital projects promote teamwork and effective communication, fostering empathy and respect. As part of the computing curriculum students are taught to think and produce work that reflects the needs of diverse audiences within our community and the wider community.

Students justify the advantages of networking stand-alone computers into a local area network. Students make judgements about sources and accuracy of information and are able to select and manipulate information to support sound decision making. Students understand In any organisation it is important that employees know the constraints that impact on the use of information and students will consider issues such as data protection and other legislation.

Moral: Ethical considerations, including privacy, data security, and digital bias, instill a sense of responsibility and accountability. Through real life case studies, students consider issues surrounding the misuse and access rights to personal data. This encourages students to draw conclusions through evidence rather than their preconceptions whilst allowing the students the time to reflect on the origins of their own personal perceptions of a topic.

Students consider the effects of social networking and the consequences of cyber bullying; they also consider the legal aspects of ICT including the Data Protection Act, Computer Misuse Act and Copyright legislation. They consider the implications of file sharing and downloading illegally and the penalties for engaging in this type of activity. Students also consider the moral aspects of developments in technology including the use of CCTV cameras, Speed Cameras and Loyalty Cards to balance people's rights and responsibilities.

Computing helps students to explore aspects of real and imaginary situations and enables them to reflect on the possible consequences of different actions and situations. It can raise issues such as whether it is morally right to have computer games whose aim is killing and violence, and whether it is fair that some people in this country and in other countries cannot use the internet.

Other moral issues surrounding the topics of e-waste and the digital divide are also explored through case studies. The use of case studies in ICT encourages students to draw conclusions through evidence rather than their preconceptions whilst allowing the students the time to reflect on the origins of their own personal perceptions of a topic.

Spiritual: Appreciation for technology's role in human progress fosters curiosity and reflection on the positive impact of digital advancements. As part of the Computing curriculum students are taught to think and produce work that reflects the needs of diverse audiences within our community and the wider community.

Students are continually reflecting on their own lives and the lives of others as they look at various ICT/Computing case studies. Students debate and formulate their own set of values and beliefs through case studies as they share their own

experiences.

Computing provides opportunities for reflection of awe and wonder about the achievements in ICT today and the possibilities for the future. ICT lets students have the opportunity to reflect on how computers can sometimes perform better in certain activities than people. To promote students' spiritual development, their sense of self and their will to achieve, the computing department continually takes the opportunity to praise students for their contribution in lessons.

Cultural: Exposure to the global contributions and diversity in computing promotes cultural awareness and respect for diverse perspectives. Computational thinking encourages students to develop and explore their problem solving skills.

Computing Empowers students to apply their ICT and computing skills and to gain knowledge of how programming links between subjects for instance maths.

Students explore how developments in technology have changed our culture, particularly the rise in social networking sites and the ability to communicate instantly across National and International borders. Computing involves the breaking through of linguistic and cultural barriers. It is possible to e-mail or chat across the world and to word process in the mother tongue.

Whilst studying various aspects of computing students are asked to reflect on how different cultures are portrayed on the internet and why or who is portraying them in this way. Students are also challenged to think about how differing cultures access and use the internet and what implications this has on the individual and the culture.

School Values:

Honesty: Promoted through collaborative projects where students support and learn from each other.

Faith: Fostered by challenging students to develop complex solutions and continually improve their programming skills.

Courage: Developed by engaging students in problem-solving tasks that require persistence and adaptability in the face of challenges. This curriculum aligns with our school vision by equipping students to be thoughtful, skilled, and responsible digital citizens, ready to contribute meaningfully to the world.