KESTEVEN AND SLEAFORD HIGH SCHOOL

Computer Science Scheme of Learning

Year 11 – Term 2

Intent – Rationale

Term 2 focuses on the ethical, legal and moral implications of technology and the role of system software.

Sequencing – what prior learning does this topic build upon?	Sequencing – what subsequent learning does this topic feed into?
• Year 9 Topic 2 (system software) and Year 9 Topic 6 (legal)	• A-Level Computer Science Chapters 7 and 18

What are the links with other subjects in the curriculum?	What are the links to SMSC, British Values and Careers?
• N/A	• M1, M2, M3, BV2

What are the opportunities for developing literacy skills and developing learner confidence and enjoyment in reading?	What are the opportunities for developing mathematical skills?
• 97 Things about Ethics Everyone in Data Science Should Know: Collective Wisdom from the Experts by Bill Franks • Operating Systems: Three Easy Pieces by Remzi H Arpaci-Dusseau and Andrea C Arpaci-Dusseau	• N/A

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Intent – Concepts

What knowledge will students gain and what skills will they develop as a consequence of this topic?

Know

- **Impacts of digital technology on wider society including:** Ethical issues, Legal issues, Cultural issues, Environmental issues and Privacy issues.
- **Legislation relevant to Computer Science:** The Data Protection Act 2018, Computer Misuse Act 1990, Copyright Designs and Patents Act 1988 and Software licences (i.e. open source and proprietary)
- **The purpose and functionality of operating systems:** User interface, Memory management and multitasking, Peripheral management and drivers, User management and File management
- **The purpose and functionality of utility software:** Encryption software, Defragmentation and Data compression

Apply

- **Technology ethical, legal, cultural, environmental and privacy issues:** be able to discuss a variety of examples of digital technology and how these impact on society, an ability to discuss the impact of technology based around the issues listed. Be able to name and briefly describe the purpose of each piece of legislation and the specific actions it allows or prohibits.
- **Software Licensing:** Be able to describe the need to license software and the purpose of a software licence, features of open source (providing access to the source code and the ability to change the software), features of proprietary (no access to the source code, purchased commonly as off-the-shelf) and be able to recommend a type of license
- **Operating System and Utility Software:** be able to describe what each function of an operating system does (features of a user interface, memory management, user management functions, file management). Be able to identify and describe the role of common utilities such as defrag, backup, etc.

Extend

- TBC

What subject specific language will be used and developed in this topic?	What opportunities are available for assessing the progress of students?

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• Ethical • Legal • Moral • Cultural • Environmental • Privacy • Legislation • Data Protection • Computer Misuse • Copyright • License • Open Source • Proprietary •	• Operating System • User Interface • Scheduling • Peripheral • Drivers • Utilities • Backup • Encryption • Defragmentation • Compression	• Class Notes and in-lesson observation • Kahoot starters/plenaries and verbal questioning • Formal assessment in scheduled weeks

Intent – Concepts

Lesson title	Learning challenge	Higher level challenge	Suggested activities and resources
			See P drive for lesson presentations/resources