British International School
of Ljubljana
an Orbital Education School

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Curriculum Plans – Sixth Form Computer Science

Please find below a detailed outline of the curriculum covered in Computer Science through Year 12 in Sixth Form.

Year 12

	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7
	Ethics and Ownership This module focus on the impact of technology on society, the environment and the economy as well as the legal, moral, cultural and ethical implications that are considered in the computer science industry. There is an introductory look into AI and the security and ethical implications that AI will have in the future.	**Data types and Structures & Databases & Information representation and multimedia** This unit focuses on the limitations of a file-based approach to storing and retrieval of data. Entity-relationship diagrams, and how we produce a normalised database for a given set of data or tables. There will also be a look at SQL and how to write an SQL script.	**Communication & Security, Privacy and Data Integrity & Programming** This module looks at the benefits of networking devices, the characteristics of LAN and WAN, WLAN and other networks both cable and wireless. The use of URLs, DNS and IP addresses. The way we can protect our hardware and then leading on to the need for security and privacy in the computer science industry.	**Hardware, Processor Fundamentals & Programming** There is a recap of prior knowledge of storage and memory devices; with a look to emerging technologies in that area. The use of logic gates and truth tables. We will then begin to look at the Von Neumann model of a computer system, the purpose and role of registers and status registers, as well as ALU, CU and IAS. What is the relationship between assembly language and machine code?	**Algorithm design and problem-solving & Software development & Programming** This chapter begins with a look at computational thinking (abstraction and decomposition), how to write algorithms that provide solutions to problems, using structured English and flowcharts and the process of stepwise refinement. Then we will look at the purpose, types and stages of the program development lifecycle. Avoiding syntax and run-time errors and maintenance.	**REVISION / REVIEW & EXAMINATION**	
Assessment	Exam	Exam	Exam	Exam	Exam	Exam	