VICTORIA COLLEGE
EST 1852

Computer Science A level Curriculum

	Autumn Term	Spring Term	Summer Term
Y12	**Computer Systems** The central processing unit Input, output, storage & memory **Data Types** Denary, binary & hexadecimal Images, sound & instructions **Computer Arithmetic** Adding & subtracting integers in binary Real number representation Normalisation of floating points **Logic Gates & Boolean Algebra** De Morgan's Rules Adder & Flip-flop circuits Karnaugh maps	**Types of Programming Language** Assembly language Object-oriented programming **Software** Applications Utilities Operating systems **Applications Generation** Translators **Software Development** Methodologies **Data Structures** Arrays, stacks and ques Linked lists Trees, graphs and hash tables	**Data Transmission** Network types & topologies Layering Protocols **The Internet** Client & server side processing Compression Encryption **Databases** Relationships & normalisation SQL **NEA – Programming Project**
Y13	**NEA – Programming Project** **Computational thinking** Decomposition Abstraction Problem solving Thinking logically **Programming techniques** Sequence Selection Iteration	**Algorithms** Sorts Searches Complexity Dijkstra's algorithm A* search **Legal, ethical, moral and social issues** Legislation Artificial intelligence Moral & social implications	**Revision & Exam Skills**