Ormiston Shelfield Community Academy

OUTCOMES VALUES CHOICES

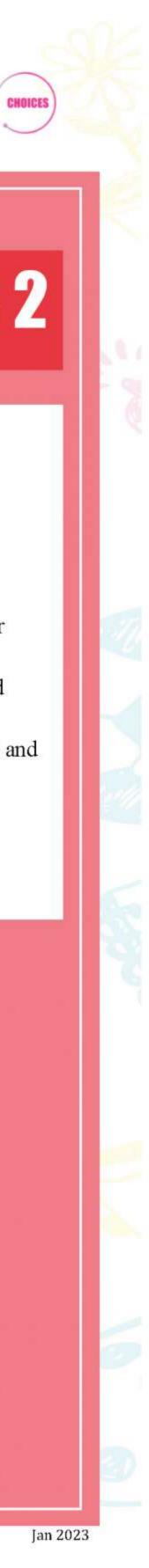|	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 10	**Fundamentals Of Algorithms** • Algorithmic design and construction. • Searching and sorting algorithms. • Algorithm mechanics & efficiency.	**Programming** • Pseudocode and flowcharts. • Theoretical and practical application of programming. • Programming concepts; assignment, selection and iteration in Python. • Sub-routines (procedures and functions). • Structured approach to programming.		**Relational Databases & SQL** • Database terminology • Introduction to SQL (structured query language) • Relational databases.	**Fundamentals Of Data Representation** • Mechanics of data representation. • Converting between number bases. • Binary arithmetic. • Image and sound representation theory. • Data compression techniques.	**Computer Networks & Cyber Security** • Network types and topologies. • Network protocols. • Fundamentals of cyber security. • Social engineering and malware. • Prevention of network and cyber threats.
YEAR 11	**Computer Systems** • Computer systems theory. • Boolean logic and logic circuits. • Classifying software. • Systems architecture. • Von Neumann architecture.	**Programming** • Complex programming concepts. • Coding solutions to practical problems. • Programming arithmetic and relational operators.	**Ethical, Legal & Environmental Impact** • Ethical impacts of technology. • Legal impacts of technology. • Environmental impacts of technology. • Exploring privacy. • Twenty-first century technology issues.	**Paper 1 & Paper Review & Recap** *May examination series*		