

St John's Senior School



Subject: Computer Science
Teacher: Evan Zampekos

Form: 4th
Term: Autumn

WEEK	WEEK BEGINNING	TOPIC
1	6 th September	Fundamentals of algorithms: Algorithms (flowcharts – pseudocode)
2	13 th September	Programming recap: Python – IDLE – variables – operations
3	20 th September	Programming: Boolean logic, Programming structures
4	27 th September	Programming: Programming structures
5	4 th October	Programming: Programming structures
6	11 th October	MINI TEST WEEK
7	18 th October	Programming: Data structures
HALF – TERM		
9	1 st November	Programming: Data structures
10	8 th November	Revision
11	15 th November	END OF TERM EXAM
12	22 nd November	Programming: String handling operations in python
13	29 th December	Programming: Subroutines (procedures and functions)
14	6 th December	Programming: Random number generation

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Term: Spring

WEEK	WEEK BEGINNING	TOPIC
1	4 th January	Programming: Structured programming, Robust and secure programming (data validation, authentication, test data)
2	10 th January	Programming: Programming languages – translators
3	17 th January	Fundamentals of data representation: Numeric systems (decimal, binary, hexadecimal). Converting between number bases.
4	24 th January	Fundamentals of data representation: Binary arithmetic, Character encoding.
5	31 st January	MINI TEST WEEK
6	7 th February	Fundamentals of data representation: Representing images, sound
HALF - TERM		
7	21 st February	Fundamentals of data representation: Data compression
8	28 th February	Fundamentals of data representation: Converting between number bases Programming: Putting it all together
9	7 th March	Computer systems: Hardware and software, Boolean logic + logic circuits
10	14 th March	Computer systems: Software classification, Systems architecture (CPU, memory, secondary storage, embedded systems)
11	21 st March	Computer systems: Systems architecture (CPU, memory, secondary storage, embedded systems)
12	28 th March	Fundamentals of computer networks: Computer networks – types, Network protocols

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WEEK	WEEK BEGINNING	TOPIC
1	25 th April	Fundamentals of computer networks: Network security Programming: Putting it all together
2	2 nd May	Fundamentals of computer networks: TCP/IP model Programming: Putting it all together
3	9 th May	Fundamentals of cyber security: Security threats, Social engineering, Malicious code
4	16 th May	Fundamentals of cyber security: How to detect and prevent cyber security threats
5	23 rd May	The concept of a database. The concept of a relational database Database concepts: table, record, field, primary key, foreign key.
HALF - TERM		
7	6 th June	Revision
8	13 th June	Structured query language (SQL): SELECT, INSERT, UPDATE, DELETE statements
9	20 th June	END OF TERM EXAMS (2nd, 3rd, 4th forms)
10	27 th June	Databases: Putting it all together
11	4 th July	Databases: Putting it all together