

St John's Senior School



Subject: Computer Science
Teacher: Mr. Zampekos

Form: 4th
Term: Autumn

WEEK	WEEK BEGINNING	TOPIC
1	7 th September	Fundamentals of algorithms: Algorithms (flowcharts – pseudocode)
2	14 th September	Programming recap: Python – IDLE – variables – operations
3	21 st September	Programming: Boolean logic, Programming structures
4	28 th September	Programming: Programming structures
5	5th October	MINI - TEST
6	12 th October	Programming: Programming structures
7	19 th October	Programming: Data structures
HALF TERM		
8	2 nd November	Programming: Data structures
9	9 th November	Programming: String handling operations in python
10	16 th November	Revision
11	23rd November	END OF TERM EXAM
12	30 th November	Programming: Subroutines (procedures and functions)
13	7 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	11 th January	Programming: Programming languages – translators
3	18 th January	Fundamentals of data representation: Numeric systems (decimal, binary, hexadecimal). Converting between number bases
4	25th January	MINI TEST
5	1 st February	Fundamentals of data representation: Binary arithmetic, Character encoding
6	8 th February	Fundamentals of data representation: Representing images, sound
HALF TERM		
7	22 nd February	Fundamentals of data representation: Data compression
8	1 st March	Fundamentals of data representation: Converting between number bases Programming: Putting it all together
9	8 th March	Computer systems: Hardware and software, Boolean logic + logic circuits
10	15 th March	Computer systems: Software classification, Systems architecture (CPU, memory, secondary storage, embedded systems)
11	22 nd March	Computer systems: Systems architecture (CPU, memory, secondary storage, embedded systems)

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WEEK	WEEK BEGINNING	TOPIC
1	19 th April	Fundamentals of computer networks: Computer networks – types, Network protocols
2	26 th April	Fundamentals of computer networks: Network security Programming: Putting it all together
3	3 rd May	Fundamentals of computer networks: TCP/IP model Programming: Putting it all together
4	10 th May	Fundamentals of cyber security: Security threats, Social engineering, Malicious code
5	17 th May	Fundamentals of cyber security: How to detect and prevent cyber security threats
6	24 th May	The concept of a database. The concept of a relational database Database concepts: table, record, field, primary key, foreign key.
HALF TERM		
7	7 th June	Revision
8	14th June	END OF YEAR EXAM
9	21 st June	Structured query language (SQL): SELECT, INSERT, UPDATE, DELETE statements
10	28 th June	Databases: Putting it all together