St. John's Senior School

Subject: Computing **Form: 4th**

Teacher: Evan Zampekos **Term: Autumn 2024**

WEEK	WEEK BEGINNING	TOPIC
1	3rd September (Tuesday)	Fundamentals of algorithms: Algorithms (flowcharts – pseudocode)
2	9th September	Programming recap: Python – IDLE – variables – operations
3	16th September	Programming: Boolean logic, Programming structures
4	23rd September	Programming: Programming structures
5	30th September	Programming: Programming structures
6	7th October	**MINI-TEST**
7	14th October	Programming: Data structures
8	21st October	Programming: Data structures
HALF - TERM		
9	4th November	Revision
10	11th November	**END OF TERM EXAMINATIONS**
11	18th November	Programming: String handling operations in python
12	25th November	Programming: Subroutines (procedures and functions)
13	2nd December	Programming: Random number generation

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14	9th December	Programming: Structured programming,

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Teacher: Evan Zampekos **Term: Spring 2025**

WEEK	WEEK BEGINNING	TOPIC
1	6th January	Programming: Structured programming, Robust and secure programming (data validation, authentication, test data)
2	13th January	Programming: Programming languages – translators
3	20th January	Fundamentals of data representation: Numeric systems (decimal, binary, hexadecimal). Converting between number bases.
4	27th January	**MINI- TEST**
5	3rd February	Fundamentals of data representation: Binary arithmetic, Character encoding.
6	10th February	Fundamentals of data representation: Representing images, sound
		HALF - TERM
7	24th February	Fundamentals of data representation: Data compression
8	3rd March	Fundamentals of data representation: Converting between number bases Programming: Putting it all together
9	10th March	Computer systems: Hardware and software, Boolean logic + logic circuits
10	17th March	Computer systems: Software classification, Systems architecture (CPU, memory, secondary storage, embedded systems)

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11	24th March	Computer systems: Systems architecture (CPU, memory, secondary storage, embedded systems)
12	31st March	Fundamentals of computer networks: Computer networks – types, Network protocols

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WEEK	WEEK BEGINNING	TOPIC
1	28th April	Fundamentals of computer networks: Computer networks – types, Network protocols
2	6th May (Tuesday)	Fundamentals of computer networks: Network security Programming: Putting it all together
3	12th May	Fundamentals of computer networks: TCP/IP model Programming: Putting it all together
4	19th May	Revision
		HALF - TERM
5	2nd June	**END OF TERM EXAMINATIONS**
6	9th June	Fundamentals of cyber security: Security threats, Social Engineering, Malicious Code
7	16th June	Fundamentals of cyber security: How to detect and prevent cyber security threats
8	23rd June	The concept of a database. The concept of a relational database Database concepts: table, record, field, primary key, foreign key.
9	30th June	Structured query language (SQL): SELECT, INSERT, UPDATE, DELETE statements

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10	7th July	Databases: Putting it all together
11	1st July	Databases: Putting it all together