

# St. John's Senior School



**Subject: Computing**  
**Teacher: Evan Zampekos**

**Form: 4<sup>th</sup>**  
**Term: Autumn 2023**

<b>WEEK</b>	<b>WEEK BEGINNING</b>	<b>TOPIC</b>
1	4 <sup>th</sup> September	Fundamentals of algorithms: Algorithms (flowcharts – pseudocode)
2	11 <sup>th</sup> September	Programming recap: Python – IDLE – variables – operations
3	18 <sup>th</sup> September	Programming: Boolean logic, Programming structures
4	25 <sup>th</sup> September	Programming: Programming structures
5	2 <sup>nd</sup> October	<b>MINI-TEST</b>
6	9 <sup>th</sup> October	Programming: Programming structures
7	16 <sup>th</sup> October	Programming: Data structures
<b>HALF - TERM</b>		
8	30 <sup>th</sup> October	Programming: Data structures
9	6 <sup>th</sup> November	Revision
10	13 <sup>th</sup> November	<b>END OF TERM EXAMINATIONS</b>
11	20 <sup>th</sup> November	Programming: String handling operations in python
12	27 <sup>th</sup> November	Programming: Subroutines (procedures and functions)
13	4 <sup>th</sup> December	Programming: Random number generation

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**Term: Spring 2024**

WEEK	WEEK BEGINNING	TOPIC
1	3 <sup>rd</sup> January (Wednesday)	Programming: Structured programming, Robust and secure programming (data validation, authentication, test data)
2	8 <sup>th</sup> January	Programming: Programming languages – translators
3	15 <sup>th</sup> January	Fundamentals of data representation: Numeric systems (decimal, binary, hexadecimal). Converting between number bases.
4	22 <sup>nd</sup> January	<b>MINI- TEST</b>
5	29 <sup>th</sup> January	Fundamentals of data representation: Binary arithmetic, Character encoding.
6	5 <sup>th</sup> February	Fundamentals of data representation: Representing images, sound
<b>HALF - TERM</b>		
7	19 <sup>th</sup> February	Fundamentals of data representation: Data compression
8	26 <sup>th</sup> February	Fundamentals of data representation: Converting between number bases Programming: Putting it all together
9	4 <sup>th</sup> March	Computer systems: Hardware and software, Boolean logic + logic circuits
10	11 <sup>th</sup> March	Computer systems: Software classification, Systems architecture (CPU, memory, secondary storage, embedded systems)
11	18 <sup>th</sup> March	Computer systems: Systems architecture (CPU, memory, secondary storage, embedded systems)

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WEEK	WEEK BEGINNING	TOPIC
1	16 <sup>th</sup> April (Tuesday)	Fundamentals of computer networks: Computer networks – types, Network protocols
2	22 <sup>nd</sup> April	Fundamentals of computer networks: Network security Programming: Putting it all together
3	29 <sup>th</sup> April	Fundamentals of computer networks: TCP/IP model Programming: Putting it all together
4	7 <sup>th</sup> May	Fundamentals of cyber security: Security threats, Social Engineering, Malicious Code
5	13 <sup>th</sup> May	Fundamentals of cyber security: How to detect and prevent cyber security threats
6	20 <sup>th</sup> May	Revision
<b>HALF - TERM</b>		
7	3 <sup>rd</sup> June	<b>END OF TERM EXAMINATIONS</b>
8	10 <sup>th</sup> June	The concept of a database. The concept of a relational database Database concepts: table, record, field, primary key, foreign key.
9	17 <sup>th</sup> June	Structured query language (SQL): SELECT, INSERT, UPDATE, DELETE statements
10	24 <sup>th</sup> June	Databases: Putting it all together
11	1 <sup>st</sup> July	Databases: Putting it all together