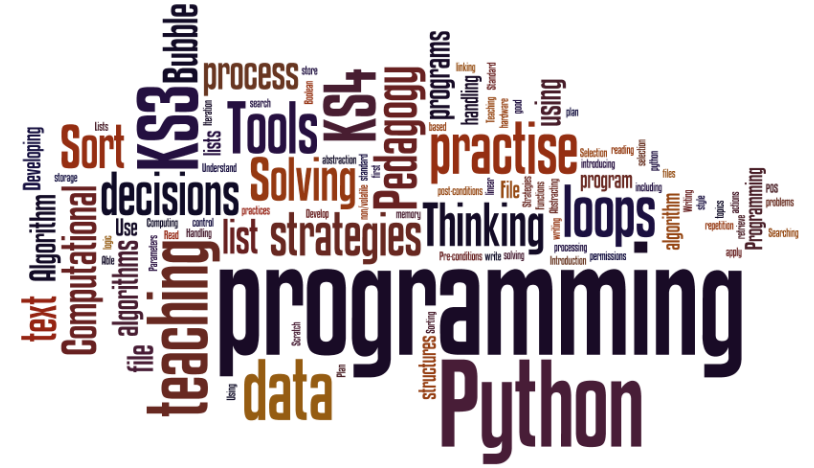


KS4 Overview

Computer Science 2019-2020

Years 10 & 11



Our intention is to provide a varied, challenging and engaging Computer Science & ICT curriculum, which ensures that our students of Computer Science & ICT will:

- understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- be able to evaluate and apply information technology, including new or unfamiliar technologies
- become responsible, competent, confident and creative users of information and communication technology

Year 10 Computer Science (J276) Overview – Lesson 1 of 2 Cambridge Elevate (Theory)

Chapter One:
Algorithms
Chapter Five:
Searching & Sorting

Chapter Two:
Iteration
Chapter Six:
Input & Output

Chapter Three:
Boolean Logic
Chapter Seven:
Problem Solving

Chapter Four:
Data types & Structures
Chapter Eight:
Binary & Hexadecimal

Term		Autumn Term 1 (8 weeks)		Autumn Term 2 (7 weeks)		Spring Term 1 (6 weeks)		Spring Term 2 (6 weeks)		Summer Term 1 (5 weeks)		Summer Term 2 (7 weeks)
1	02/09	GCSE INTRODUCTION & RESOURCE ACCESS	04/11	Chapter 3: Boolean Logic (Cambridge Elevate)	06/01	Chapter 5: Searching & Sorting Algorithms (Cambridge Elevate)	24/02		20/04	Denary to Binary Conversion Binary Addition Hexadecimal Binary / Denary / Hexadecimal Conversion	01/06	Yr. 10 Exam Preparation
2	09/09	Chapter 1: Algorithms (Cambridge Elevate)	11/11	Logic Gates AND/OR/NOT Gate Truth Tables Logic Circuits NAND/NOR Circuit Truth Tables	13/01	Bubble Sort Insertion Sort Merge Sort Linear Search Binary Search	02/03	Chapter 7: Problem Solving (Cambridge Elevate)	27/04	Computational Thinking Abstraction Decomposition Top Down /Bottom Up Procedures	08/06	Yr. 10 Exam Preparation
3	16/09	Algorithms Sequence Selection	18/11		20/01	Searching Sorted Lists Searching Unsorted Lists	09/03		04/05	Chapter 9: Binary Representation (Cambridge Elevate)	15/06	Yr. 10 Exam Preparation
4	23/09	Iteration Flowcharts Pseudocode Variables Operators Conditional Statements	25/11	Chapter 4: Data Types & Structures (Cambridge Elevate)	27/01		16/03		11/05	ASCII Images Sound File Sizes	22/06	ENRICHMENT WEEK
5	30/09		02/12	Data Types String/Integer/Float Boolean/Character String Manipulation String Length String Concatenation Lists Arrays Multi-dimensional Arrays	03/02	Chapter 6: Input & Output (Cambridge Elevate)	23/03	Chapter 8: Binary & Hexadecimal (Cambridge Elevate)	18/05	Yr. 10 Exam Preparation	29/06	WORK EXPERIENCE
6	07/10	Chapter 2: Iteration (Cambridge Elevate)	09/12		10/02	User Input Data Validation Output Working with Text Files	30/03	Binary Binary to Denary Conversion			06/07	YR 10 EXAM FEEDBACK
7	14/10	Definite Iteration Infinite Iteration For Loops While Loops Nested Loops	16/12								13/07	
8	21/10	Do Until Trace Tables										

<https://www.ocr.org.uk/qualifications/gcse/computer-science-j276-from-2016/>



Year 10 Computer Science (J276) Overview – Lesson 2 of 2 Python Programming Skills

Chapter One:
Algorithms
Chapter Five:
Searching & Sorting

Chapter Two:
Iteration
Chapter Six:
Input & Output

Chapter Three:
Boolean Logic
Chapter Seven:
Problem Solving

Chapter Four:
Data types & Structures
Component 03:
Programming Project

Term		Autumn Term 1 (8 weeks)		Autumn Term 2 (7 weeks)		Spring Term 1 (6 weeks)		Spring Term 2 (6 weeks)		Summer Term 1 (5 weeks)		Summer Term 2 (7 weeks)
1	02/09	GCSE INTRODUCTION & RESOURCE ACCESS	04/11	Data Types Casting Converting Data Types	06/01		24/02		20/04		01/06	Yr. 10 Exam Preparation
2	09/09	Chapter 1: Numbers & Basic Operation in Python	11/11	Chapter 4 Functions Procedures Parameters Arguments	13/01	Chapter 6 Lists Arrays List Methods	02/03	Component 03 Programming Project	27/04	Component 03 Programming Project	08/06	Yr. 10 Exam Preparation
3	16/09		18/11		20/01		09/03		04/05		15/06	Yr. 10 Exam Preparation
4	23/09		25/11		27/01		16/03		11/05		22/06	ENRICHMENT WEEK
5	30/09		02/12		03/02		23/03		18/05		29/06	WORK EXPERIENCE
6	07/10	Chapter 2: Assigning Values Variables Expression in Python	09/12	Chapter 5: For Loops While Loops Count-Controlled Condition- Controlled	10/02	Working with Data Files Text Files Read / Write / Append SQL Databases SQL & Python	30/03	Python Task Lessons 1-5			06/07	YR 10 EXAM FEEDBACK
7	14/10		16/12									13/07
8	21/10	Chapter 3:										

<https://www.ocr.org.uk/qualifications/gcse/computer-science-j276-from-2016/>

Year 11 Computer Science (J276) Overview Lesson 1 of 2

Term		Autumn Term 1 (8 weeks)		Autumn Term 2 (7 weeks)		Spring Term 1 (6 weeks)		Spring Term 2 (6 weeks)		Summer Term 1 (5 weeks)		
1	02/09	Programming Project Introduction	04/11	1.3 Storage	06/01	Python Programming Project Code Development Continued Testing Evaluation	24/02	01 Components CPU & Memory System Performance	20/04	01 Networks The Internet Network Security		
2	09/09	Python Programming Project Analysis Design Code Development	11/11	1.5 Network Topology Protocols & Layers	13/01		02/03	01 Components Secondary Storage Storage Methods	27/04	01 Issues Ethical Cultural		
3	16/09		18/11	1.7 System Software	20/01		09/03	01 Components System Software OS & Utilities	04/05	01 Issues Environmental Legal		
4	23/09		25/11	Sample Paper 02	27/01		16/03	01 Networks LANs & WANs Hardware	11/05	Sample Paper 01		
5	30/09		02/12	Yr.11 Mock Exams	03/02		23/03	01 Networks Client-Server/ Peer- Peer Network Topologies	18/05	Sample Paper 02		
6	07/10		09/12	Mock Exam Feedback	10/02		30/03	01 Networks Network Protocols Layers				
7	14/10		16/12									
8	21/10		1.1 System Architecture									

<https://www.ocr.org.uk/qualifications/gcse/computer-science-j276-from-2016/>



Year 11 Computer Science (J276) Overview Lesson 2 of 2

Term		Autumn Term 1 (8 weeks)		Autumn Term 2 (7 weeks)		Spring Term 1 (6 weeks)		Spring Term 2 (6 weeks)		Summer Term 1 (5 weeks)		
1	02/09	Programming Project Introduction	04/11	1.4 Wired & Wireless Networks	06/01	Python Programming Project Code Development Continued Testing Evaluation	24/02	O2 Algorithms Writing algorithms	20/04	O2 Data Representation Logic Units of Data		
2	09/09	Python Programming Project Analysis Design Code Development	11/11	1.6 System Security	13/01		02/03	O2 Algorithms Search/Sort algorithms	27/04	O2 Data Representation Binary & Hexadecimal Character Sets		
3	16/09		18/11	1.8 Ethical/Legal/Moral/ Environmental Issues	20/01		09/03	O2 Programming Data Types Constants & Variables	04/05	O2 Data Representation Images & Sound Compression		
4	23/09		25/11	Sample Paper O2	27/01		16/03	O2 Programming Lists/Arrays	11/05	Sample Paper 01		
5	30/09		02/12	Yr.11 Mock Exams	03/02		23/03	O2 Programming File Handling Storing/Searching Data	18/05	Sample Paper 02		
6	07/10		09/12	Mock Exam Feedback	10/02		30/03	O2 Design Design & Testing Translators & IDE's				
7	14/10		16/12									
8	21/10	1.2 Memory										

<https://www.ocr.org.uk/qualifications/gcse/computer-science-j276-from-2016/>

