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# Computer Science

## OCR

### Getting Ready for KS4 (GCSE)

#### Getting Ready for KS4 (GCSE) Computer Science

Getting Ready for KS4 (GCSE)	GRF-01-001			
Embedded Systems	COMP-36-003			
Number Bases	COMP-39-001			
Data Types	COMP-49-001			
LAN and WAN	COMP-41-001			
Network Security	COMP-41-010			
Network Threats 1	COMP-41-008			
Computational Thinking	COMP-45-003			
Logic Diagrams & Operations	COMP-05-002			
What is Encryption?	COMP-21-001			
Software and Ethics	COMP-78-001			

### Computer Systems

#### 1.1 Systems Architecture

Purpose of a CPU	COMP-04-001			
Fetch, Decode & Execute	COMP-04-002			
Parts of a CPU	COMP-63-001			
CPU Characteristics	COMP-63-002			
Von Neumann Architecture	COMP-36-002			
Von Neumann Architecture (Part 2)	COMP-111-001			
Embedded Systems	COMP-36-003			

#### 1.2 Memory and Storage

Memory	IT-01-003			
RAM and ROM	COMP-37-001			
Use of Secondary Storage	COMP-08-001			
Types of Secondary Storage	COMP-38-001			

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Secondary Storage Devices Decisions	COMP-112-001		
Units of Data Storage	COMP-113-001		
Data Capacity Requirements	COMP-61-001		
Sampling	COMP-50-001		
Denary to Binary	COMP-16-001		
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Adding Binary	COMP-16-003		
Denary & Hexadecimal	COMP-16-005		
Number Bases	COMP-39-001		
Why we use Binary and Hexadecimal	COMP-68-001		
Types of Binary Shift	COMP-81-001		
Binary Shifts	COMP-39-002		
Character Sets	COMP-114-001		
Representing Images	COMP-70-001		
Storing Sound	COMP-71-001		
Data Compression	COMP-62-002		

### 1.3 Computer Networks, Connections and Protocols

LAN and WAN	COMP-41-001		
Factors that Affect the Performance of Networks	COMP-41-005		
Client-Server and Peer-to-Peer Networks	COMP-33-001		
Network Hardware	COMP-41-002		
The Internet, the Web and the Cloud	COMP-42-001		
How does the Internet Work?	COMP-42-002		
Hosting	COMP-115-001		
Web Servers and Clients	COMP-116-001		
Common Topologies	COMP-74-002		
Internet Technologies	COMP-75-001		
Modes of Connection: Wired	COMP-117-001		
Modes of Connections: Wireless and Bluetooth	COMP-118-001		
What is Encryption?	COMP-21-001		
Addressing and Protocols	COMP-41-003		

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Protocols	COMP-41-004			
Layers	COMP-41-007			

### 1.4 Network Security

Network Threats 1	COMP-41-008		
Network Threats 2	COMP-41-009		
Network Security	COMP-41-010		
Network management and security	COMP-24-007		
What is Encryption?	COMP-21-001		
Computer Security	COMP-13-001		

### 1.5 Systems Software

Functions of an Operating System	COMP-11-001		
Functions of an Operating System 2	COMP-12-001		
System Maintenance	COMP-67-001		

### 1.6 Ethical, Legal, Cultural and Environmental Impacts of Digital Technology

Approaching Complex Issues	COMP-48-001		
Privacy Issues	COMP-119-001		
Computer Law	COMP-48-002		
The Data Protection Act 2018	COMP-120-001		

































































## Computational Thinking, Algorithms and Programming

### 2.1 Algorithms

Computational Thinking	COMP-45-003			
What are Algorithms?	COMP-28-001			
What are Algorithms? (Part 2)	COMP-28-002			
Pseudocode	COMP-28-005			
Flow Diagrams	COMP-28-006			
Types of Error	COMP-31-002			
Trace Tables	COMP-31-005			
Searching 1	COMP-30-003			
Bubble Sort	COMP-49-004			
Merge Sort	COMP-45-001			

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Insertion Sort	COMP-45-002			
<b>2.2 Programming Fundamentals</b>				
Variables & Constants	COMP-29-001			
Sequences, Selection & Iteration	COMP-28-007			
Arithmetic and Logic Operations	COMP-49-002			
What are Algorithms? (Part 2)	COMP-28-002			
Data Types	COMP-49-001			
String Operations	COMP-49-003			
Records	COMP-51-001			
Database Fundamentals	IT-09-001			
Basic File Handling Operations	COMP-100-001			
SQL 1	IT-09-012			
SQL & Logical Operators	COMP-22-006			
Queries and SQL	COMP-73-002			
Arrays	COMP-29-005			
Procedures & Functions	COMP-28-003			
Procedures & Functions (Part 2)	COMP-28-004			
Random Number Generation	COMP-101-001			
<b>2.3 Producing Robust Programs</b>				
Defensive Design Considerations: Anticipating Misuse	COMP-102-001			
Defensive Design Considerations: Authentication	COMP-103-001			
Data Validation	COMP-79-001			
Maintainability: Use of Sub Programs	COMP-104-001			
Naming Conventions, Indentation and Commenting	COMP-105-001			
How & Why We Test	COMP-31-001			
Types of Testing: Iterative	COMP-106-001			
Types of Testing: Final Terminal	COMP-107-001			
Test Plans	IT-20-006			
Tests & Expected Outcomes	COMP-31-003			
Test Data	COMP-46-001			
Types of Error	COMP-31-002			

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Refining Algorithms COMP-108-001 

## 2.4 Boolean Logic

Logic Diagrams & Operations COMP-05-002  

Logic Diagrams & Operations 2 COMP-64-002  

Truth Tables COMP-05-003  

Combining Boolean Operators Using AND, OR & NOT COMP-109-001 

## 2.5 Programming Languages and Integrated Development Environments

Programming Levels COMP-09-001  

Compiling and Interpreting COMP-44-001  

Integrated Development Environments COMP-47-002  



## Getting Ready for KS5 (A Level)

### Getting Ready for KS5 (A Level) Computer Science

Getting Ready for KS5 (A Level) GRF-01-002   

Von Neumann Architecture COMP-36-002   

Computational Thinking COMP-45-003   

Sequences, Selection & Iteration COMP-28-007   


Flat Files & Relational Databases COMP-22-002   


Procedures & Functions COMP-28-003   

Programming Levels COMP-09-001   

What is a data structure? COMP-29-009   

Bubble Sort COMP-49-004   

Approaching Complex Issues COMP-48-001   

Searching 1 COMP-30-003   

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