

Year 11 Countdown Plan

PERSONAL LEARNING CHECKLIST – Computer Science

Exams & Dates

Paper 1 Wednesday
Paper 2 Tuesday

13th May – PM
19th May – PM

Exam Board: OCR

| Week | Curriculum Knowledge | Actions to take to secure knowledge | How secure? | | | Revisited |
|-------------------------------------|--|---|-------------|--|--|-----------|
| | | | | | | |
| Unit: Computer Systems – Paper 1 | | | | | | |
| Week 1 12/01 | Function of the CPU | The purpose of the CPU - The fetch-execute cycle PG Online Clear revise – Pages 1 - 4 | | | | |
| | Von Neumann Architecture | Von Neumann architecture PG Online Clear revise – Pages 1 - 4 | | | | |
| | CPU Characteristics | CPU components and their function PG Online Clear revise – Pages 1 - 4 | | | | |
| Unit: Computer Systems – Paper 1 | | | | | | |
| Week 2 19/01 | Memory | RAM and ROM PG Online Clear revise – Pages 4 - 10 | | | | |
| | Storage | The need for primary storage PG Online Clear revise – Pages 4 - 10 | | | | |
| | Algorithm Challenges | https://revissecs.csuk.io/algorithm-a-day/ Complete challenges 1, 2, 3 | | | | |
| Unit: Data representation – Paper 1 | | | | | | |
| Week 3 26/01 | Binary units | Units of data storage Converting between denary & 8 bit binary PG Online Clear revise – Pages 11 - 13 | | | | |
| | Binary Numbers | Adding two 8 bit binary integers Binary shifts PG Online Clear revise – Page 16 | | | | |
| | Hexadecimal numbers | Converting between denary and 2 digit hexadecimal PG Online Clear revise – Pages 14,15 | | | | |
| Unit: Data representation – Paper 1 | | | | | | |
| Week 4 02/02 | Characters | Representing characters PG Online Clear revise – Page 17 | | | | |
| | Images / Sound | Representing images Representing sound PG Online Clear revise – Pages 18 - 20 | | | | |
| | Compression | Compression PG Online Clear revise – Page 21 | | | | |
| Unit: Networks – Paper 1 | | | | | | |
| Week 5 09/02 | LAN's / WAN's | Star and mesh networks IP and MAC addressing LAN hardware PG Online Clear revise – Pages 23 - 25 | | | | |
| | Client Server, Peer to Peer and the internet | Client server, peer to peer The internet PG Online Clear revise – Pages 26 - 28 | | | | |
| | Programming challenge | Complete 2 of the programming challenges here | | | | |

| Week | Curriculum Knowledge | Actions to take to secure knowledge | How secure? | | | Revisited |
|--|---------------------------|--|-------------|--|--|-----------|
| | | | | | | |
| Unit: Networks – Paper 1 | | | | | | |
| Half Term 16/02 | Internet protocols | Standards Common protocols The concept of layers PG Online Clear revise – Pages 31 - 32 | | | | |
| | System security | Forms of attack Threats to networks PG Online Clear revise – Pages 34 - 35 | | | | |
| | Algorithm Challenge | https://revisecs.csuk.io/algorithm-a-day/ Complete challenges 4, 5, 6 | | | | |
| Unit: Networks – Paper 1 | | | | | | |
| Week 6 09/03 | Operating Systems | The purpose of operating systems Operating systems 1 Operating systems 2 PG Online Clear revise – Page 37 | | | | |
| | Utility software | Utility Software PG Online Clear revise – Page 38 | | | | |
| | Programming challenge | Complete 2 of the programming challenges here | | | | |
| 23/02 | Mock timetable TBC | | | | | |
| 02/03 | Mock timetable TBC | | | | | |
| Unit: Ethics, legal and moral issues – Paper 1 | | | | | | |
| Week 7 16/03 | CS Issues | Investigating technologies Cultural issues Impacts of technology on society Environmental issues PG Online Clear revise – Page 40 | | | | |
| | CS legislations | Privacy issues Legislation Open source vs proprietary PG Online Clear revise – Page 43 | | | | |
| | Algorithms | https://revisecs.csuk.io/algorithm-a-day/ Complete challenges 7, 8, 9 | | | | |
| Unit: Search Algorithms – Paper 2 | | | | | | |
| Week 8 23/03 | Computational thinking | Abstraction Decomposition Algorithmic thinking Structure diagrams PG Online Clear revise – Pages 47 - 52 | | | | |
| | Searching algorithms | Linear search Binary search PG Online Clear revise – Page 54 | | | | |
| Unit: Sorting Algorithms – Paper 2 | | | | | | |
| Week 9 30/03 | Bubble sort algorithm | Bubble sort PG Online Clear revise – Page 55 | | | | |
| | Merge sort algorithm | Merge sort PG Online Clear revise – Page 56 | | | | |
| | Insertion sort algorithm | Insertion sort PG Online Clear revise – Page 57 | | | | |

| Week | Curriculum Knowledge | Actions to take to secure knowledge | How secure? | | | Revisited |
|-----------------------------|------------------------|--|-------------|--|--|-----------|
| | | | | | | |
| | Easter holidays | | | | | |
| | Easter holidays | | | | | |
| Unit: Programming – Paper 2 | | | | | | |
| Week 10 20/04 | Variables & Data Types | Variables, constants, inputs, outputs & assignments Data types and casting PG Online Clear revise – Pages 61 - 63 | | | | |
| | Program Flow / Arrays | The 3 basic programming constructs The use of arrays PG Online Clear revise – Pages 64, 68 | | | | |
| Unit: Programming – Paper 2 | | | | | | |
| Week 11 27/04 | File Handling | The use of basic file handling The use of records to store data PG Online Clear revise – Page 72 | | | | |
| | Procedures & Functions | How to use sub programs PG Online Clear revise – Page 74 | | | | |
| | Databases and SQL | The use of SQL to search for data PG Online Clear revise – Page 71 | | | | |
| Unit: Programming – Paper 2 | | | | | | |
| Week 12 01/05 | Defensive design | Defensive design considerations 1 Defensive design considerations 2 Maintainability PG Online Clear revise – Page 78 | | | | |
| | Software testing | The purpose & types of testing How to identify syntax and logic errors PG Online Clear revise – Page 80 | | | | |