

A Level Computer Science Y12 Exam Revision Timetable

Student Name:

We will be asking you to revise different topics each week using weekly revision activities via a Showbie class to be completed as homework and during revision lessons. [Ask your teacher for the class code.](#)

Resources

- Diagnostic Questions Online, Seneca Assignments, Craig n Dave Online Videos (YouTube), Isaac Computing web site.
- Quizlet <https://quizlet.com/join/6mPgbfnVY>

Exam

You will have 2 exam papers to do. They will each be 1 hour 30 minutes in length and will take place in your Computer Science classroom.

Date	Unit 1	Revised & Tested?
Week 1 19 th Feb	Structure and function of the processor <ul style="list-style-type: none"> • ALU, CU, Registers, Buses, data, address and control and how they relate to assembly language. • FDE Cycle and its effects on the registers. • CPU performance, pipelining and architectures. 	
Week 2 26 th Feb	Programming techniques <ul style="list-style-type: none"> • Variables vs Constants • Programming Constructs (Selection, Sequence, Iteration) • Scope of variables (Local vs Global) • Data types • Modularity (Function vs Procedure) • Passing by value vs passing by reference • Arrays • Files • IDE Tools • Type of errors and suitable test data • Programming Standards and maintainability 	
Week 3 4 th March	Types of Processors CISC and RSIC, GPUs and Multicore and Parallel systems.	
Week 4 11 th March	Input, output and Storage <ul style="list-style-type: none"> • Different types of devices, Magnetic, flash and optical storage, RAM and ROM, Virtual Storage 	
Week 5 18 th March	Algorithms 2.3.1 Algorithms Analysis and design of algorithms for a given situation. <ul style="list-style-type: none"> • Bubble Sort • insertion sort • merge sort • quick sort Binary search and linear search.	

Week 6 25th March Easter Hols	Systems Software <ul style="list-style-type: none"> • Operating Systems Types <ul style="list-style-type: none"> ○ Real time ○ Distributed ○ Embedded ○ Multi-tasking ○ Multi-user • Memory Management 	
Week 7 1 st April Easter Hols	Elements of computational thinking <ul style="list-style-type: none"> • Thinking abstractly • Thinking ahead • Thinking procedurally • Thinking logically • Thinking concurrently 	
Week 8 8 th April	Systems Software <ul style="list-style-type: none"> • Interrupts • Scheduling • BIOS • Device Drivers • Virtual Machines. 	
Week 9 15 th April	Data Types <ul style="list-style-type: none"> • Binary calculations • sign and magnitude • two's complement • Hexadecimal • Character Sets (ASCII AND UNICODE CHARACTER SETS) • Addition and subtraction of binary 	
Week 10 22 nd April	Boolean Algebra <ul style="list-style-type: none"> • Logic gates • Karnaugh maps 	
Week 11 29 th April	Types of Programming Language <ul style="list-style-type: none"> • Need for and characteristics of a variety of programming paradigms. • Procedural, Assembly, Object-oriented languages. • LMC • Modes of address memory 	
Week 12 6 th May	Data types <ul style="list-style-type: none"> • Floating point numbers • Normalisation 	
Week 13 13 th May	Programming techniques <ul style="list-style-type: none"> • Procedural vs OO programming • Class, objects, attributes, constructor method, getter/setter methods encapsulation, inheritance, polymorphism 	
Week 14 20 th May	Software Development methodologies <ul style="list-style-type: none"> • Waterfall lifecycle, agile methodologies, extreme programming, the spiral model and rapid application development. • Merits and drawbacks of each methodology 	
Week 15 27 th May Holiday	Algorithms Stacks & Queues <ul style="list-style-type: none"> • Explain how stacks and queues work as dynamic, linear data structures. 	

	<ul style="list-style-type: none"> • Algorithms for stack push and pop • Algorithms for queues dequeue and enqueue for both linear and circular queues • Use of pointers 	
Week 16 3 rd June	Applications Generation <ul style="list-style-type: none"> • Application software • Utilities • Open source vs closed source. • Translators: Interpreters, compilers and assemblers. 	
Week 17 10 th June	Mock Exam	
Week 18 17 th June	Mock Exam	