A-Level Computer Science - Curriculum Journey

Computer Science Degree

WHAT NEXT?

IT Sector Higher Apprenticeship

DEADLINE

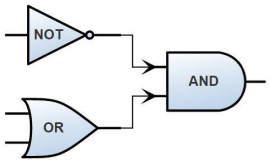
NEA Hand in

Isaac Computer Science

REVISION

A-Level Exams

MORE REVISION



NEA | Evaluation

P2 | 4.9 Fundamentals of communication and networking

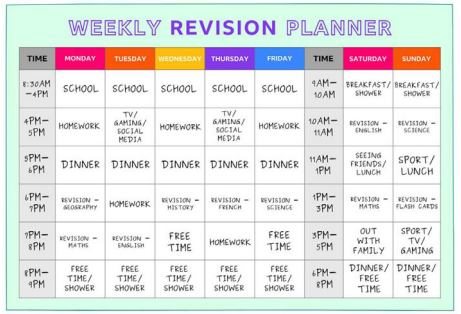
P2 | 4.12 Fundamentals of functional programming

P1 | 4.4 Theory of computation

P2 | 4.11 Big Data

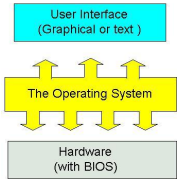
P2 | 4.8 Consequences of uses of computing

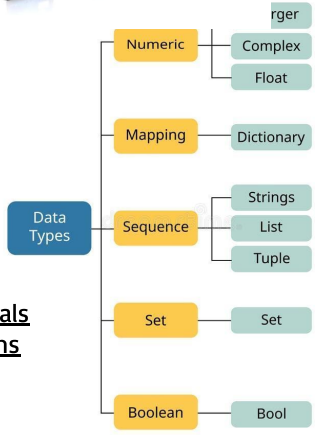
P2 | 4.7 Fundamentals of computer organisation and architecture

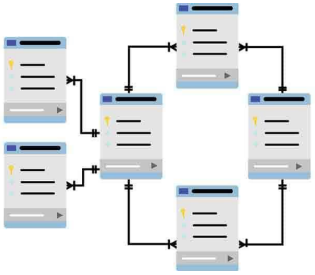


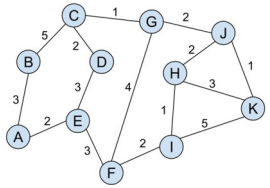
NEA | Implementation and Testing

P1 | 4.3 Fundamentals of algorithms









P2 | 4.6 Fundamentals of computer systems

NEA | Design

P2 | 4.5 Fundamentals of data representation

NEA | Analysis

P1 | 4.2 Fundamentals of data structures

P2 | 4.10 Fundamentals of databases

P2 | 4.13 Systematic approach to problem solving

P1 | 4.1 Fundamentals of programming

Year 13

Non Exam Assessment (NEA) Coding worth Project 20% of the course

python, Java, php, JavaScript, C++, Ruby, Scala, node, C#

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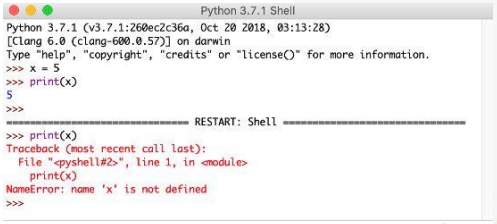

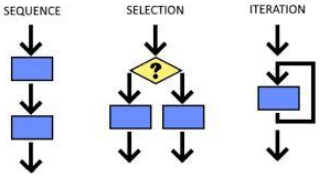

P2 | 3.7 Fundamentals of computer organisation and architecture
The stored program concept

P2 | 3.7 Fundamentals of computer organisation and architecture
Internal hardware components of a computer

P2 | 3.6 Fundamentals of computer systems
Logic gates

P2 | 3.6 Fundamentals of computer systems
Classification of programming languages

P1 | 3.4 Theory of computation –
Finite state machines

P1 | 3.4 Theory of computation
Abstraction and automation

P1 | 3.1 Programming

P2 | 3.5 Fundamentals of data representation
Representing images, sound and other data

P2 | 3.5 Fundamentals of data representation
Binary number system

P2 | 3.5 Fundamentals of data representation
Number bases

P1 | 3.1 Fundamentals of programming –
Procedural-oriented programming

P1 | 3.1 Fundamentals of programming –
Programming

P1 | 3.1
Weekly Python Coding Lessons

P2 | 3.6 Fundamentals of computer systems
Boolean algebra

P2 | 3.6 Fundamentals of computer systems
Types of program translator

P2 | 3.6 Fundamentals of computer systems
Hardware and Software

P2 | 3.5 Fundamentals of data representation
Information coding systems

P2 | 3.5 Fundamentals of data representation
Units of information

P2 | 3.5 Fundamentals of data representation
Number systems

P2 | 3.7 Fundamentals of computer organisation and architecture
Structure and role of the processor and its components

P2 | 3.7 Fundamentals of computer organisation and architecture
External hardware devices

P2 | 3.8 Consequences of uses of computing
Individual, social, legal and cultural issues

P1 | 3.3 Systematic approach to problem solving
Aspects of software development

P2 | 3.9 Fundamentals of communication and networking
Communication

P2 | 3.9 Fundamentals of communication and networking
Networking

REVISION

Summer Mock Exams

Introduction to OO Programming

Introduction to SQL Lite in Python

Year 12

A-Level Computer Science – Full Curriculum

Paper 1

4.1 Fundamentals of programming

4.1.1 Programming

4.1.2 Programming paradigms

4.2 Fundamentals of data structures

4.2.1 Data structures and abstract data types

4.2.2 Queues

4.2.3 Stacks

4.2.4 Graphs

4.2.5 Trees

4.2.6 Hash tables

4.2.7 Dictionaries

4.2.8 Vectors

4.3 Fundamentals of algorithms

4.3.1 Graph-traversal

4.3.2 Tree-traversal

4.3.3 Reverse Polish

4.3.4 Searching algorithms

4.3.5 Sorting algorithms

4.3.6 Optimisation algorithms

4.4 Theory of computation

4.4.1 Abstraction and automation

4.4.2 Regular languages

4.4.3 Context-free languages

4.4.4 Classification of algorithms

4.4.5 A model of computation

Paper 2

4.5 Fundamentals of data representation

4.5.1 Number systems

4.5.2 Number bases

4.5.3 Units of information

4.5.4 Binary number system

4.5.5 Information coding systems

4.5.6 Representing images, sound and other data

4.6 Fundamentals of computer systems

4.6.1 Hardware and software

4.6.2 Classification of programming languages

4.6.3 Types of program translator

4.6.4 Logic gates

4.6.5 Boolean algebra

4.7 Fundamentals of computer organisation and architecture

4.7.1 Internal hardware components of a computer

4.7.2 The stored program concept

4.7.3 Structure and role of the processor and its components

4.7.4 External hardware devices

4.8 Consequences of uses of computing

4.8.1 Individual (moral), social (ethical), legal and cultural issues and opportunities

4.9 Fundamentals of communication and networking

4.9.1 Communication

4.9.2 Networking

4.9.3 The Internet

4.9.4 The Transmission Control Protocol/Internet Protocol (TCP/IP) protocol

4.10 Fundamentals of databases

4.10.1 Conceptual data models and entity relationship modelling

4.10.2 Relational databases

4.10.3 Database design and normalisation techniques

4.10.4 Structured Query Language (SQL)

4.10.5 Client server databases

4.11 Big Data

4.11 Big data

4.12 Fundamentals of functional programming

4.12.1 Functional programming paradigm

4.12.2 Writing functional programs

4.12.3 Lists in functional programming

4.13 Systematic approach to problem solving

4.13.1 Aspects of software development