

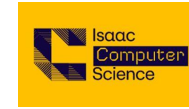
A-Level Computer Science - Curriculum Journey



Computer Science Degree

WHAT NEXT?

IT Sector Higher Apprenticeship



REVISION

A-Level Exams

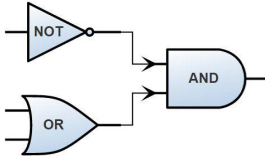
DEADLINE

NEA Hand in

P2 | 4.9 Fundamentals of communication and networking

P2 | 4.12 Fundamentals of functional programming

NEA | Evaluation

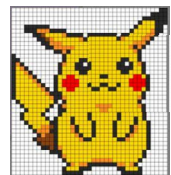
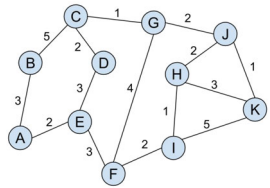


P1 | 4.4 Theory of computation

P2 | 4.7 Fundamentals of computer organisation and architecture

NEA | Implementation and Testing

P1 | 4.3 Fundamentals of algorithms



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

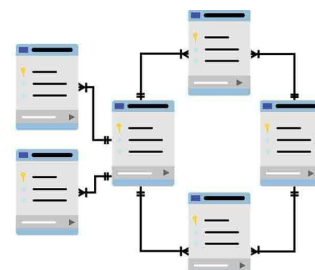
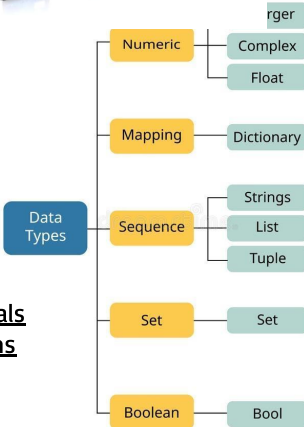
P2 | 4.11 Big Data



P2 | 4.8 Consequences of uses of computing



WEEKLY REVISION PLANNER								
TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	TIME	SATURDAY	SUNDAY
8:30AM - 4PM	SCHOOL	SCHOOL	SCHOOL	SCHOOL	SCHOOL	8AM - 10AM	BREAKFAST/SHOWER	BREAKFAST/SHOWER
4PM - 5PM	HOMEWORK	TV / GARDENING / SOCIAL MEDIA	HOMEWORK	TV / GARDENING / SOCIAL MEDIA	HOMEWORK	10AM - 11AM	REVISION - ENGLISH	REVISION - SCIENCE
5PM - 6PM	DINNER	DINNER	DINNER	DINNER	DINNER	11AM - 1PM	SEEKING FRIENDS / LUNCH	SPORT / LUNCH
6PM - 7PM	REVISION - GEOGRAPHY	HOMEWORK	REVISION - HISTORY	REVISION - FRENCH	REVISION - SCIENCE	1PM - 3PM	REVISION - MATHS	REVISION - FLASH CARDS
7PM - 8PM	REVISION - MATHS	REVISION - ENGLISH	FREE TIME	HOMEWORK	FREE TIME	3PM - 5PM	OUT WITH FAMILY	SPORT / TV / GARDENING
8PM - 9PM	FREE TIME / SHOWER	FREE TIME / SHOWER	FREE TIME / SHOWER	FREE TIME / SHOWER	FREE TIME / SHOWER	6PM - 8PM	DINNER / FREE TIME	FREE TIME

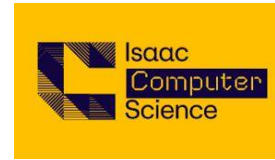


Non Exam Assessment (NEA) Coding worth Project 20% of the course



Year 13

A-Level Computer Science - Curriculum Journey



Introduction to SQL Lite in Python

Introduction to OO Programming

Summer Mock Exams

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



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

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

P2 | 3.9 Fundamentals of communication and networking
Networking

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

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

P2 | 3.9 Fundamentals of communication and networking
Communication

REVISION

P2 | 3.6 Fundamentals of computer systems
Logic gates

P2 | 3.6 Fundamentals of computer systems
Boolean algebra



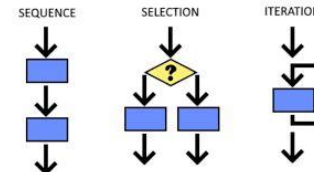
```
Python 3.7.1 Shell
Python 3.7.1 (v3.7.1:260ec2c36a, Oct 20 2018, 03:13:28)
[Clang 6.0 (clang-600.0.57)] on darwin
Type "help", "copyright", "credits" or "license()" for more information.
>>> x = 5
>>> print(x)
5
>>>
----- RESTART: Shell -----
>>> print(x)
Traceback (most recent call last):
  File "<pyshell#2>", line 1, in <module>
    print(x)
NameError: name 'x' is not defined
>>>
```

P2 | 3.6 Fundamentals of computer systems
Classification of programming languages

P2 | 3.6 Fundamentals of computer systems
Types of program translator

P1 | 3.4 Theory of computation - Finite state machines

P2 | 3.6 Fundamentals of computer systems
Hardware and Software



P1 | 3.4 Theory of computation
Abstraction and automation

P1 | 3.1 Programming
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



P1 | 3.1 Weekly Python Coding Lessons



python™

Year 12



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

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