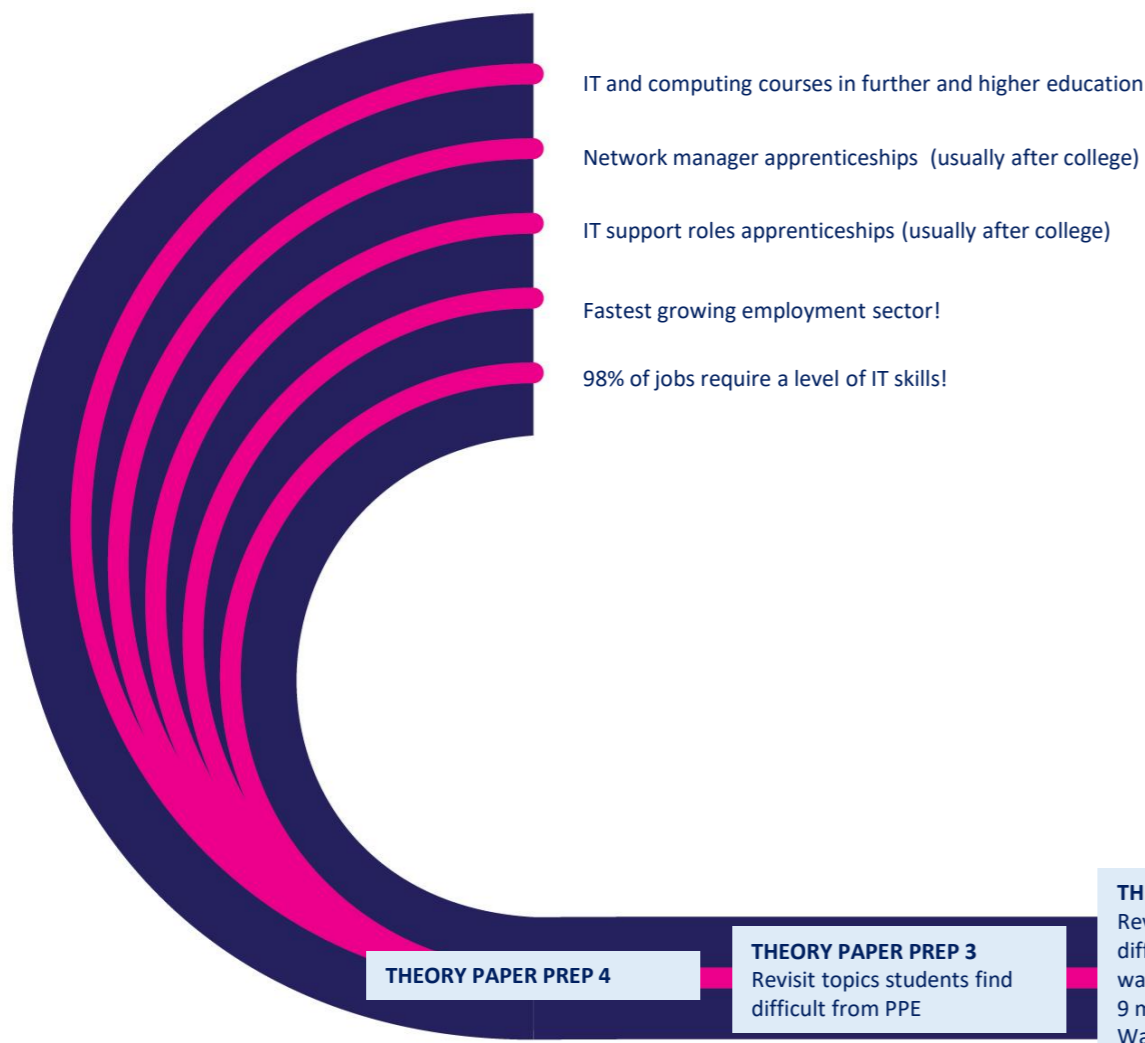


COMPUTING & IT CURRICULUM



- IT and computing courses in further and higher education
- Network manager apprenticeships (usually after college)
- IT support roles apprenticeships (usually after college)
- Fastest growing employment sector!
- 98% of jobs require a level of IT skills!

THEORY PAPER PREP 4

THEORY PAPER PREP 3
Revisit topics students find difficult from PPE

THEORY PAPER PREP 2
Revisit topics students find difficult from the exam paper walk through
9 mark 'Discuss' questions
Walking Talking Mock

R070: AUGMENTED REALITY – NEA EXAM TECHNIQUE THEORY PAPER PREP 1
Exam paper walk through by command word:
Identify
Define
Describe
Explain
Discuss (9 mark questions)
Revisit topics student find difficult from the exam paper walk through

Zone 11 theory

Zone 11 coursework

YEAR 11

R070: AUGMENTED REALITY – NEA
Brief from OCR: Design and create an AR model prototype, using a range of tools and techniques.

R070: AUGMENTED REALITY – NEA PLATFORM (XR+) PREPARATION
Navigating the platform
Setting up the platform
Uploading assets
Creating new assets
Controls
Co-ordinates
Creating scenes
Actions

Zone 10 starts

YEAR 10

Cyber discovery

Step into Computing

R060: SPREADSHEET SKILLS - NEA PROCESS
Design tools for spreadsheet
HCI design conventions for spreadsheets
Use spreadsheet tools & techniques to create the solution
Data & testing the spreadsheet solution
Evaluating the spreadsheet solution

R060: SPREADSHEET SKILLS - NEA PREPARATION
Naming sheets
Importing data
Formulae
Functions
Data validation
Conditional formatting
Modelling tools
Charts & graphs
Buttons
Hyperlinks
VBA

R060: SPREADSHEET SKILLS - ACTUAL NEA
Brief from OCR: Plan and design a spreadsheet solution to meet client requirements.

THEORY RETRIEVAL
Design tools
HCI
Data & testing
Cybersecurity & legislation
Digital communications
Internet of Everything (IoE)

R070: AUGMENTED REALITY – NEA PROCESS PREPARATION
Purpose of AR
Types of AR
Uses of AR
Devices using AR

TA1: DESIGN TOOLS
TA5: APPLICATION
Appropriate use of:
Word processing
Presentation software
DTP

TA5: DIGITAL COMMUNICATIONS
Types of communication
Appropriate software
Digital devices
Distribution channels
Audience Demographics

TA2: HUMAN COMPUTER INTERFACE (HCI) IN EVERYDAY LIFE
The purpose, importance and use of HCI in:
Banking
Embedded systems
Entertainment
Fitness
Home appliances
Retail

Hardware considerations
Software considerations
User interaction methods

TA6: INTERNET OF EVERYTHING (IOE)
Use of IoE
IoE in everyday life:
Energy management
Health
Manufacturing
Military/Emergency services
Smart devices at home, in business, personal use
Transport

TA3: DATA AND TESTING
What data is
What information is
The relationship between data and information
The use of different data types in different contexts
The difference between validation and verification
Data validation tools
Data verification tools
Data collection methods
Storage of collected data
Testing data in a range of contexts

Step into Computing

Cyber discovery

TA4: CYBER-SECURITY AND LEGISLATION
Threats to data
Impacts of a cyber-security attack on individuals and/or organisations
Prevention methods
Legislation related to the use of IT systems

YEAR 9

Make Guided Choices selections. Choose from IT, Business & Computer Science.

STRAND 3: PROGRAMMING
Introduction of text-based programming language
GUI design and interface, GUI Properties
Fundamentals of text based programming language
variables, data types, operators, type casting
Functions of the Math unit
Sequential programming & problem solving
Selection & Boolean operators
Testing & debugging programs

STRAND 6: DATA STORAGE & EXECUTION UNITS
Understand what a database is. Display a knowledge of the uses and advantages of a database. Knowledge of basic concepts and terms (field, record, primary key)
Understand how to design a database
Distinguish between different types of data in a database table. Populate the database with quality data
Understand how to find the right information using databases and websites.
Understand how to build searches using Boolean logic. Define the terms bit, nibble, byte, kilobyte, megabyte, gigabyte, terabyte and petabyte
Link these measurements to computer components and specifications. Compare different laptop specifications in terms of megabyte, gigabyte, terabyte
Understand that data needs to be converted into a binary format to be processed by a computer. Understand ASCII and UNICODE tables

GCSE taster week
STRAND 1: ABSTRACTION
STRAND 2: ALGORITHMS AND COMPUTATIONAL THINKING
Understand the principles of computational thinking
Abstraction
Decomposition
Algorithmic thinking
Pattern recognition
Understand flowchart symbols
Create, interpret, correct, complete, and refine algorithms using flowcharts
Understand arithmetic operators and variables
Write algorithms in pseudocode
GUI design and interface, GUI properties
Introduction of text-based programming language
Sequential programming

Year 8s run Microbit club

Sign up to be a Computing Ambassador

STRAND 7: CREATIVE USE OF ICT
STRAND 8: ICT FOR AN AUDIENCE
STRAND 9: CYBER AWARENESS
Create digital content to achieve a given goal
Recognize the audience when creating digital content
Combine at least 2 applications in a creative project
Analyse content used in creative projects
Make judgements about digital content for a different audience
Evaluate the appropriateness of digital devices and software
Recognize ethical issues surrounding IT use
Threats to personal data and how to mitigate them

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Microbit Club – one group per half term

YEAR 8

STRAND 3: PROGRAMMING
Students will be able to use non-text based programming to:
Code an object to make it move
Code an object to change its appearance
Code an object to make it interact with another object
Code an object to start in a specific place
Use the repeat function to code an object

STRAND 1: ABSTRACTION
STRAND 2: ALGORITHMS AND COMPUTATIONAL THINKING
Understand the principles of computational thinking
Abstraction
Decomposition
Algorithmic thinking
Pattern recognition
Understand flowchart symbols
Create, interpret, correct, complete, and refine algorithms using flowcharts
Understand arithmetic operators

STRAND 6: DATA STORAGE AND EXECUTION
Understand how digital data is represented and stored. Differentiate between data and information. Describe how to use a search engine. Assess the validity of different websites. Analyse the reliability information on the Internet. Understand searching techniques. Understand what a database is
Display a knowledge of the uses and advantages of a database
Knowledge of basic concepts and terms (field, record, table)
Understand how to design a database
Distinguish between different types of data in a database table. Understand the key features of a database table. Gain knowledge and understanding of how to apply filters to a database and be able to manipulate a database.

STRAND 5: COMPUTER COMPONENTS
Identify how have electronic computers developed over time. Describe the purpose of hardware and software. Describe different methods of data storage. Describe the function of internal computer components. Name the hardware required to set up a network. Describe different network topologies. Understand how Cloud Computing works. Identify different Cloud storage applications. Understand how to store data on the Cloud (OneDrive)
Understand how to use Class Notebook in Teams as a software application.

STRAND 7: CREATIVE USE OF ICT
STRAND 8: ICT FOR AN AUDIENCE
STRAND 9: CYBER AWARENESS
Obtain content from the WWW using a web browser
Use a variety of software to present digital content
Creates digital content for an audience

Create, store, and edit digital content
Independently organises digital content
Collects, organises, and presents data in digital content
Make judgements about digital content for a different audience
Evaluates the appropriateness of digital devices and software

STRAND 7: CREATIVE USE OF ICT
STRAND 8: ICT FOR AN AUDIENCE
STRAND 9: CYBER AWARENESS
Understand the need to keep personal information private
Know what to do if contacted by a stranger or sees inappropriate content
Recognise unacceptable behaviour online
Show a range of ways to report inappropriate content/contact
Recognise ethical issues surrounding IT use

YEAR 7