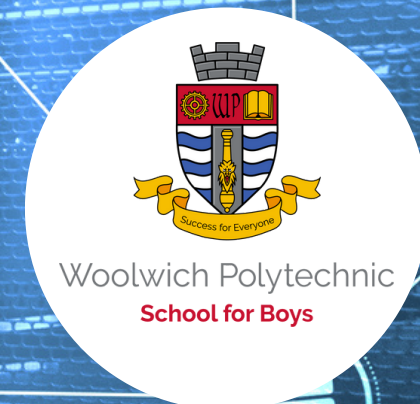


Computing/IT Year 7 Curriculum Map



Unit One

Topic: Using School System, E-Safety & Email

Key Learning:

Logging in and choosing appropriate passwords
 Save work on Network and One Drive
 Creating Files and Folders
 Staying Safe Online
 Cyberbullying
 Dangers affecting computers
 Email - Send, receive, forward, emails, add attachments, use CC, BCC
 Presenting Information using Power Point

Assessment: End of Unit Test on MS Forms

Unit Two

Topic: Scratch Programming

Key Learning:

Understand how flow diagrams help with the planning of programs.
 Draw repeating patterns
 Control the sprite by altering the co-ordinates and use variables in a simple game.
 Create flow diagrams to help plan your script and use broadcast messages in your code.
 Create and evaluate a game

Assessment: End of Unit Test on MS Forms

Unit Three

Topic: Introduction to Python

Key Learning:

Create simple code including input and print scripts
 Create variables and declare the data types for variables.
 Use operators to effectively create programs

Assessment: End of Unit Test on MS Forms

Unit Four

Topic: Computational Thinking

Key Learning:

Break down a large problem into small, simple instructions
 Spot patterns of repetition in sets of instructions
 Use abstraction to remove specific detail
 Create flow charts
 Write algorithms using pseudocode

Assessment: End of Unit Written Test

Unit Five

Topic: Spreadsheets

Key Learning:

Input data into a spreadsheet and create basic formulae.
 Formatting a spreadsheet
 Use a range of functions
 Sort and Filter using comparator operators
 Create graphs/charts
 Use absolute and relative cells

Assessment: End of Unit Test on MS Forms

Unit Six

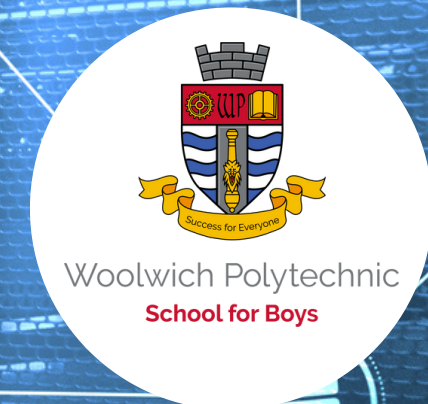
Topic: AI and Machine Learning

Key Learning:

What is AI
 Machine Learning
 Ethics of AI
 Image Recognition
 Turing Tests and chatbots
 Rate my Review

Assessment: End of Year Exam on MS Forms

Computing/IT Year 8 Curriculum Map



Unit One

Topic: Computer Crime & Cyber Security, Ethical and Legal Issues

Key Learning:

Email Scams
Hacking
Protecting Personal Data
Copyright Protection
Health and Safety

Explain the laws that regulate the use of computers and data

Assessment: End of Unit Test on MS Forms

Unit Two

Topic: Database

Key Learning:

Describe a database and why people use databases
Create and use a database.
Define and identify primary key fields and foreign key
Create queries
Explain and create a relational database

Assessment: End of Unit Test on MS Forms

Unit Three

Topic: Introduction to Python

Key Learning:

Create simple code using the input and print scripts
Create variables and declare the data types
Use operators to effectively create programs
Use If statements to make a decision.
Use random function
Use For and While loops
Create simple games using Python.

Assessment: End of Unit Test on MS Forms

Unit Four

Topic: Spreadsheets

Key Learning:

If Statements and Nested If
VLookup
Count, CountA, CountIf
SUM, SUMIF, AVERAGEIF
Goal Seek

Assessment: End of Unit Test

Unit Five

Topic: Data Representation

Key Learning:

Convert 8 bit binary numbers to and from denary
Add together binary numbers and convert hexadecimal numbers to binary and denary
Recap binary, hex and addition with binary

Assessment: End of Unit Test on MS Forms

Unit Six

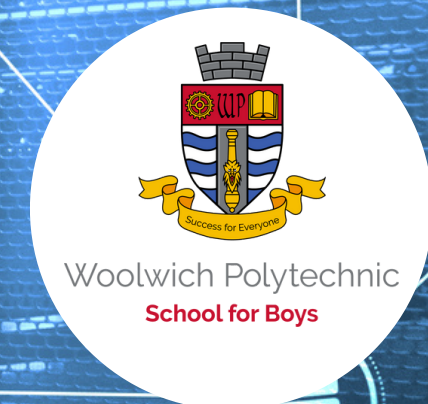
Topic: Networks

Key Learning:

Define a computer network
Identify the hardware involved in a network
Understand how computers communicate over networks
Understand how HTML works and the most common file types used over the Internet
Research and give a presentation about network security and common policies

Assessment: End of Year Exam on MS Forms

Computing/IT Year 9 Curriculum Map



Unit One

Topic: Introduction to Python and using Algorithms

Key Learning:

- Create algorithms and simple Python programs.
- Create Python programs combining integers and strings
- Use if statements in your programming.
- Use loops in your programming.
- Create lists in Python
- Sort data in lists.

Assessment: End of Unit Assessment

Unit Two

Topic: Database Project

Key Learning:

- Create a Relational Database linking tables using key fields and relationships
- Create select queries using single tables and multiple tables/multiple criteria, parameter and calculated queries
- Create reports
- Create data entry forms, enhancing layout of form and navigation controls
- Create a switchboard

Assessment: End of Unit Assessment

Unit Three

Topic: Von Newmans Architecture

Key Learning:

- Hardware
- CPU
- Fetch-Execute Cycle
- Performance of the CPU
- Main Memory
- Secondary Storage
- Embedded Systems

Assessment: End of Unit Assessment

Unit Four

Topic: Spreadsheet Project

Key Learning:

- Create and format a spreadsheet including buttons, check box, spinners, scroll bar
- Use data formatting and suitable validation rules
- Use appropriate formulae and functions to meet set outcomes
- Arranging, reducing and outputting data to help make decisions
- Modify data and formulae to model 'what if' scenarios
- Test spreadsheet

Assessment: End of Unit Assessment

Unit Five

Topic: Creating a Logo using Graphics Software (GIMP)

Key Learning:

- Planning and designing an image
- Creating and modifying an image using appropriate tools and techniques
- Storing the image appropriately and outputting the final image in a format that is fit for purpose

Assessment: End of Unit Assessment

Unit Six

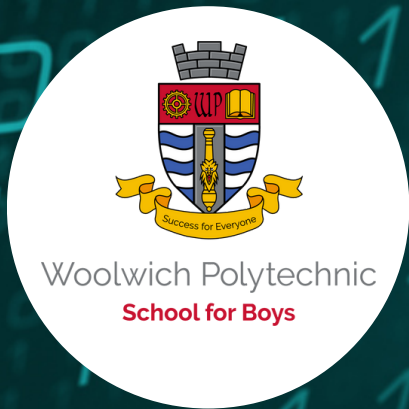
Topic: Logic Gates, Truth Tables, Image & Sound

Key Learning:

- Draw and use logic gates and truth tables.
- Understand how computers store text and characters
- Understand how computers store bitmap images
- Understand how text and images are saved using binary
- Understand how computers store sound files.
- Understand how sound and instructions are saved using binary
- Understand how computers understand instructions.

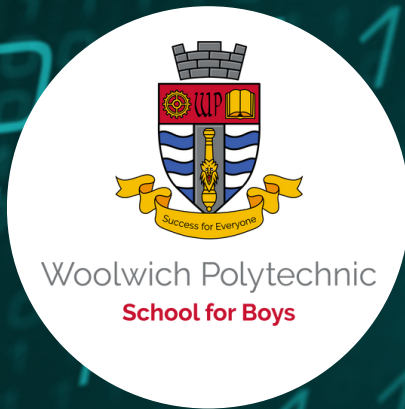
Assessment: End of Unit Assessment

Computer Science Year 10 Curriculum Map



Unit One	Unit Two	Unit Three
<p>Topic: System Architecture Key Learning: The CPU Functions of the CPU Memory Storage Programming workbook</p> <p>Baseline test</p>	<p>Topic: Networks Key Learning: The internet LAN WAN Client Server vs Peer to Peer Protocols and layers Programming workbook</p> <p>Unit assessment</p>	<p>Topic: System Software Key Learning: Threats to computer systems and networks Identify and prevent vulnerabilities. Operating Systems Utility software Programming workbook</p> <p>Unit assessment</p>
Unit Four	Unit Five	Unit Six
<p>Topic: Algorithms Key Learning: Computational Thinking Searching Sorting Flowcharts Pseudo code Analyse algorithms Programming workbook</p> <p>Unit assessment</p>	<p>Topic: Programming Key Learning: Programming concepts Sequence and selection Iteration Arrays Procedures and functions Records and Files Programming workbook</p> <p>Unit assessment</p>	<p>Topic: Data Representation Key Learning: Units Binary arithmetic Characters Images Sound Compression Revision PPE Programming workbook</p> <p>Unit assessment</p>

Computer Science Year 11 Curriculum Map



Unit One	Unit Two	Unit Three
<p>Topic: Ethics and legislation</p> <p>Key Learning: Ethical and cultural issues Computers in the modern World Legislation and privacy Programming workbook</p> <p>Assessment: End of Unit Test</p>	<p>Topic: Logic diagrams and languages</p> <p>Key Learning: Truth tables Defensive design Errors and testing Translators and facilitators of languages Programming workbook</p> <p>Assessment: End of Unit Test</p>	<p>Topic: Exam Practice & Revision</p>
Unit Four	Unit Five	Unit Six
<p>Topic: Exam Practice & Revision</p>	<p>Topic: Exam Practice & Revision</p>	