



SUBJECT: Curriculum Overview

Year 13

| Term | Topic studied | What will I learn? | How will I be assessed? | Wider reading: |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Year 13 Autumn | Hardware and Communication Data Transmission Data Representation Programming (Continuous using VB.Net). Start of Year 13 Project work | <ul style="list-style-type: none"> Architectures; Fetch-execute cycle; Assembly programming; Inputs and outputs; Storage devices; Networking; Protocols; Connecting to a network Serial and parallel transmission; Simplex, half duplex and full duplex transmission methods; Multiplexing and switching; Protocols; Network collisions; Routing traffic on a network; The Internet Two's complement and sign and magnitude; Binary arithmetic; Bit shifting; Floating point form; Converting real numbers into floating point numbers; Overflow and underflow; Truncation and rounding Recursion; Object Orientated Programming; Programming structures; Forms and console; IDE tools and features; Assembly and Basic | <p>In class assessments; past exam papers; workbook tasks; programming tests; program reviews; programming projects; flipped learning</p> <p>Students submit section of their project work for assessment and feedback (every half term)</p> <p>Revision of past papers starts now with Component 1 (from last year)</p> | <p>The teacher website (pupils given logins) A/AS Level Computer Science for WJEC/Eduqas Student Book (ISBN 9781108412728)</p> <p>Read Chapters:</p> <ul style="list-style-type: none"> Hardware and Communication Data transmission Data Representation |
| Year 13 Spring | Organisations and Structure of Data Database Systems The Operating System Programming (Continuous) using VB.Net Project work continues | <ul style="list-style-type: none"> Creating files for data processing; Organising, updating and processing files; Fixed and variable length fields and records; Designing records and files; Various methods of file access; Multi-level indexes; Security Data consistency, redundancy and independence; Data normalisation; E-R modelling; SQL; DBMS; Big Data; Distributed systems Batch processing; Single user, multi user, multi-tasking and multi-programming environments; Interrupts; PMemory management; Data transfer; Speed mismatch issues; Scheduling Recursion; Object Orientated Programming; Programming structures; Forms and console; IDE tools and features; Assembly and Basic | <p>In class assessments; past exam papers; workbook tasks; programming tests; program reviews; programming projects; flipped learning</p> <p>Students submit sections of their project work for assessment and feedback (every half term). Only Evaluation and Testing remains</p> <p>Students have completed all past papers for Component 1 and have started revising Component 2</p> | <p>The teacher website (pupils given logins) A/AS Level Computer Science for WJEC/Eduqas Student Book (ISBN 9781108412728)</p> <p>Read Chapters:</p> <ul style="list-style-type: none"> Organisations and Structure of Data Database Systems The Operating System |
| Year 13 Summer | Types of Software Systems and their Attributes Data Security and Integrity Programming (Continuous using VB.Net) Exam revision | <ul style="list-style-type: none"> Types of software; Safety related systems; Control systems; Automation; Expert systems; Internet; Intranet Security issues when updating files; Integrity issues when updating files; Potential dangers when dealing with files of personal data; Security and integrity of data; Standard procedures; Access rights; Passwords Recursion; Object Orientated Programming; Programming structures; Forms and console; IDE tools and features; Assembly and Basic | <p>In class assessments; past exam papers; workbook tasks; programming tests; program reviews; programming projects; flipped learning</p> <p>Project work completed with final awarded. Students have completed all past papers for Component 2</p> | <p>The teacher website (pupils given logins) A/AS Level Computer Science for WJEC/Eduqas Student Book (ISBN 9781108412728)</p> <p>Read Chapters:</p> <ul style="list-style-type: none"> Types of Software Systems and their Attributes Data Security and Integrity |

