

Curriculum Overview for Year 10

| Term | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|--|---|
| <p>Curriculum Content: The key knowledge and skills that will be taught.</p> | <p>Algorithms</p> <ul style="list-style-type: none"> • Computational Thinking • Flow Diagrams and Pseudocode • Searching and Sorting Algorithms <p>Programming Fundamentals</p> <ul style="list-style-type: none"> • Data Types and Operators • Constants, Variables and String • IF-THEN-ELSE, NESTED IF and SWITCH-CASE • Count-Controlled Loops and Conditional-Controlled Loops • Arrays • File Handling • Storing and Searching Data • Sub Programs | <p>Producing Robust Programs</p> <ul style="list-style-type: none"> • Defensive Design • Testing <p>Boolean Logic</p> <ul style="list-style-type: none"> • Boolean Operations • Complex Logic Circuits <p>Programming Languages and IDE's</p> <ul style="list-style-type: none"> • Languages and Translators • Integrated Development Environments | <p>Programming Basics</p> <ul style="list-style-type: none"> • Data Types and Operators • Constants, Variables and String • IF-THEN-ELSE and NESTED IF Count-Controlled Loops and Conditional-Controlled Loops Arrays. <p>Guided Programming Project</p> | <p>Guided Programming Project Cont.</p> | <p>Practical Programming Project</p> | <p>Practical Programming Project</p> |
| <p>Assessment: The key assessment objectives that will be used.</p> | <p>Assessment via:</p> <ul style="list-style-type: none"> • End of unit assessments for each topic. • Homework assignments each week in provided homework booklets. | <p>Assessment via:</p> <ul style="list-style-type: none"> • End of unit assessments for each topic. • Homework assignments each week in provided homework booklets. | <p>Assessment via:</p> <ul style="list-style-type: none"> • End of unit assessments for each topic. • Homework assignments each week in provided homework booklets. | <p>Assessment via:</p> <ul style="list-style-type: none"> • End of unit assessments for each topic. • Homework assignments each week in provided homework booklets. | <p>Assessment via:</p> <ul style="list-style-type: none"> • End of unit assessments for each topic. • Homework assignments each week in provided homework booklets. • End of Year PPE's | <p>Assessment via:</p> <ul style="list-style-type: none"> • End of unit assessments for each topic. • Homework assignments each week in provided homework booklets. |

Curriculum Overview for Year 11

| Term | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|--|--|---|----------|
| <p>Curriculum Content: The key knowledge and skills that will be taught.</p> | <p>Practical Programming Project Cont.</p> <p>Producing Robust Programs</p> <ul style="list-style-type: none"> Defensive Design Testing <p>Boolean Logic</p> <ul style="list-style-type: none"> Boolean Operations Complex Logic Circuits <p>Programming Languages and IDE's</p> <ul style="list-style-type: none"> Languages and Translators Integrated Development Environments | <p>Systems Architecture</p> <ul style="list-style-type: none"> Computer Systems The CPU and CPU Architecture The Fetch-Decode-Execute Cycle Little Man Computer System Performance <p>Memory and Storage</p> <ul style="list-style-type: none"> Primary Memory and Secondary Storage Secondary Storage Devices Binary to Denary Conversions Binary Addition and Binary Shifts Binary to Hexadecimal Conversions Character Sets and Compression Storing Images and Storing Sound | <p>Computer Networks, Connections and Protocols</p> <ul style="list-style-type: none"> Network Types and Forms Network Hardware and Connections Network Topologies and Protocols Layers & Packet Switching <p>Network Security</p> <ul style="list-style-type: none"> Network Attacks Network Access Network Policy <p>Systems Software</p> <ul style="list-style-type: none"> Drivers and Interface Resource Management and Utility Software <p>Ethical, Legal, Cultural and Environmental Impacts of Digital Technology.</p> <ul style="list-style-type: none"> Stakeholders Privacy, Censorship and Surveillance Social Well-Being, Cyberbullying and Trolling Health Issues Culture, Business and the Digital Divide | <p>Ethical, Legal, Cultural and Environmental Impacts of Digital Technology Cont.</p> <ul style="list-style-type: none"> Natural Resources and Technology Production E-Waste, Recycling and Energy Consumption Open Source and Proprietary Software Legislation <p>Algorithms</p> <ul style="list-style-type: none"> Computational Thinking Flow Diagrams and Pseudocode Searching and Sorting Algorithms <p>Programming Fundamentals</p> <ul style="list-style-type: none"> Data Types and Operators Constants, Variables and String IF-THEN-ELSE, NESTED IF and SWITCH-CASE Count-Controlled Loops and Conditional-Controlled Loops Arrays File Handling Storing and Searching Data Sub Programs | <p>Producing Robust Programs</p> <ul style="list-style-type: none"> Defensive Design Testing <p>Boolean Logic</p> <ul style="list-style-type: none"> Boolean Operations Complex Logic Circuits <p>Programming Languages and IDE's</p> <ul style="list-style-type: none"> Languages and Translators Integrated Development Environments <p>Exam Preparation</p> <ul style="list-style-type: none"> Exam Technique Guided Practice Past Papers Revision | |
| <p>Assessment: The key assessment objectives that will be used.</p> | <p>Assessment via:</p> <ul style="list-style-type: none"> End of unit assessments for each topic. Homework assignments each week in provided homework booklets. Online/Paper-based quick testing for recall practice. | <p>Assessment via:</p> <ul style="list-style-type: none"> End of unit assessments for each topic. Homework assignments each week in provided homework booklets. Online/Paper-based quick testing for recall practice. December PPE (Paper 1) | <p>Assessment via:</p> <ul style="list-style-type: none"> End of unit assessments for each topic. Homework assignments each week in provided homework booklets. Online/Paper-based quick testing for recall practice. | <p>Assessment via:</p> <ul style="list-style-type: none"> End of unit assessments for each topic. Homework assignments each week in provided homework booklets. Online/Paper-based quick testing for recall practice. March/April PPE (Paper 2) | <p>Assessment via:</p> <ul style="list-style-type: none"> End of unit assessments for each topic. Homework assignments each week in provided homework booklets. Online/Paper-based quick testing for recall practice. | |