Year 7 – 11 COMPUTING

EBLAM

(GCSE Computer Science Route at KS4)

CONTINUE TO POST-16 COMPUTING

YEAR 11

- Exam Preparation: Computer Systems
- Exam Preparation: Computational Thinking, Algorithms and Programming
- Ethical, Legal, Cultural and Environmental Impacts of Digital Technology
- System Software
- Network Security
- Computer Networks, Connections and Protocols
- Programming Project 2

YEAR 10

- Memory and Storage
- System Architecture
- Programming Languages and Integrated Development Environments
- Boolean Logic
- Producing Robust Programs
- Programming Project
- Programming Fundamentals
- Algorithms

YEAR 9

- Game Design and Development
- Cyber Crimes, Legislation and Security
- Systems Architecture and Presentation Techniques
- Developing Spreadsheets
- Developing Programming Techniques
- Computational Thinking: Searching Algorithms, Flowcharts and Pseudocode
- E-Safety: Digital Reputation and Online Risks with Digital Design
- Data Representation: Images

YEAR 8

- Data Representation: Sound
- E-Safety: The Power of Media and Thinking Critically
- Computational Thinking: Sorting Algorithms, Flowcharts and Pseudocode
- Logic Gates
- Developing Programming Constructs
- Digital Design: Advertise and Promote
- Networks
- User Interfaces: Website Design and Development

YEAR 7

- Data Representation: Number Systems
- E-safety: Digital Citizenship
- Computational Thinking: Algorithms and Flowcharts
- Basic Presentation Techniques
- Basic Programming Techniques
- Basic Spreadsheets
- Computer Components: Hardware and Software
- User Interfaces: Mobile App Design

EBLAM 5 YEAR LEARNING JOURNEY

Year 7 – 11 COMPUTING

EBLAM

CONTINUE TO POST-16 CREATIVE iMEDIA

(Cambridge Nationals in Creative iMedia Route at KS4)

YEAR 11

- Exam Preparation: Distribution Considerations
- Exam Preparation: Pre-production Planning
- Exam Preparation: Factors Influencing Product Design
- Exam Preparation: The Media Industry
- Review Interactive Digital Media
- Create Interactive Digital Media

YEAR 10

- The Media Industry
- Factors Influencing Product Design
- Pre-production Planning
- Distribution Considerations
- Develop Visual Identity
- Plan Digital Graphics
- Create Visual Identity and Digital Graphics
- Plan Interactive Digital Media

YEAR 9

- User Interfaces: Website Design and Development
- Networks
- Digital Design: Advertise and Promote
- Developing Programming Constructs
- Logic Gates
- Computational Thinking: Sorting Algorithms, Flowcharts and Pseudocode
- E-Safety: The Power of Media and Thinking Critically
- Data Representation: Sound
- Game Design and Development

YEAR 8

- Data Representation: Images
- E-Safety: Digital Reputation and Online Risks with Digital Design
- Computational Thinking: Searching Algorithms, Flowcharts and Pseudocode
- Developing Programming Techniques
- Developing Spreadsheets
- Systems Architecture and Presentation Techniques
- Cyber Crimes, Legislation and Security
- User Interfaces: Mobile App Design

YEAR 7

- Computer Components: Hardware and Software
- Basic Spreadsheets
- Basic Programming Techniques
- Basic Presentation Techniques
- Computational Thinking: Algorithms and Flowcharts
- E-safety: Digital Citizenship
- Data Representation: Number Systems

EBLAM 5 YEAR LEARNING JOURNEY

YEAR 7 COMPUTING

EBLAM

CONTINUE TO Y8 COMPUTING

Hyperlinks & Interactive Buttons

Multimedia (text, images, videos)

Design Principles and Choices

Visualisation Diagram

Mind Map

User Interfaces: Mobile Application Design

HT6 STARTS

Hardware (Input, Output, Storage devices)

Software (Application Software and Operating System Software)

Formulae using arithmetic operators

Functions (SUM, MIN MAX, AVERAGE)

Cell referencing

HT5 STARTS

Computer Components: Hardware and Software

Formatting & Organising Data

Arithmetic operators

Debugging basic syntax errors

Data types

Variables and constants

Outputting & inputting data

HT4 STARTS

Basic Spreadsheets

Basic Programming Techniques

HT3 STARTS

Algorithmic Thinking

Writing basic algorithms

Representing basic algorithms as flowcharts

Computational Thinking: Algorithms & Flowcharts

Basic Presentation Techniques

Effective presentation design

Copyright, Designs and Patents Act

Formatting (bold, underline, italics, aligning text, etc.)

Referencing and plagiarism

Effective searching techniques

HT2 STARTS

Word Processing

Storyboards

Online Identity and Digital Resilience

Cyberbullying

Mood Boards

Staying Safe Online

E-Safety: Digital Citizenship

Binary Addition

Denary, Binary and Hexadecimal Conversions

Bit, Nibble, Byte

Data Representation: Number Systems

HT1 STARTS

EBLAM LEARNING JOURNEY

YEAR 8 COMPUTING

EBLAM

CONTINUE TO Y9 COMPUTING

Game Design and Development

- Block Programming
- Storyboards
- Visualisation Diagram
- Success Criteria, Gameplay and Objectives
- Effective Online Searching Techniques
- Advanced formatting (columns, tables, etc)
- Computing Laws
- Security Measures
- Storyboards
- Online Risks and Cyber Attacks

Cyber Crimes, Legislation and Security

HT6 STARTS

Systems Architecture with Presentation Techniques

- Internal Computer Components
- Fetch-Decode-Execute Cycle
- CPU Performance
- Primary and Secondary Storage
- Copyright, Referencing and Plagiarism
- Effective Presentation Design

HT5 STARTS

Developing Spreadsheets

- Graphs and Charts
- Conditional Formatting
- Absolute and Relative Cell Referencing
- Formulas & Functions

HT4 STARTS

- Debugging logical errors
- Selection and Relational Operators
- Variables, Constants and Data Types
- Inputting & Outputting Data

Developing Programming Techniques

Computational Thinking: Searching Algorithms, Flowcharts and Pseudocode

HT3 STARTS

- Drawing and reading developed algorithms as flowcharts
- Representing basic algorithms as pseudocode
- Linear and Binary Searching Algorithm

HT2 STARTS

E-Safety: Digital Reputation and Online Risks with Digital Design

- Design principles and design choices
- Target audience and purpose
- Copyright
- Mood Board & Visualisation Diagram
- Digital Footprint & Online Grooming

Data Representation: Images

HT1 STARTS

- Lossy and lossless compression
- Image file types and file formats
- Bitmap and Vector Images

EBLAM LEARNING JOURNEY

YEAR 9 COMPUTING

EBLAM

CONTINUE TO Y10 COMPUTER SCIENCE

CONTINUE TO Y10 CREATIVE iMEDIA

HTML Page Structure and CSS elements

Visualisation Diagram

Mind Map

Target audience and purpose

Website design principles and functionality

User Interfaces: Website Design and Development

HT6 STARTS

Mind Map

Visualisation Diagrams

Storyboards

HT5 STARTS

Networks

Target Audience and Purpose

Film Poster Conventions and Design Principles

Local Area Networks and Wide Area Networks

Wired and Wireless networks

Network Hardware and Transmission Media

Network topologies

Digital Design: Advertise and Promote

HT4 STARTS

Debugging syntax and logical errors

String Manipulation

Selection & Iteration

Variables and Constants

Inputting & Outputting Data

Developing Programming Constructs

HT3 STARTS

Computational Thinking: Sorting Algorithms, Flowcharts and Pseudocode

Logic Gates

HT2 STARTS

Developing flowcharts and pseudocode

Dry running using trace tables

Bubble and insertion sorting algorithms

Denary, Binary, Hexadecimal Conversions

Transistors and logic gates

Combined logical circuits & Truth tables

Formal letter writing and formatting

Online predators

Online Propaganda and hidden agendas

Trustworthy Online Content

E-Safety: The Power of Media & Thinking Critically

Sound compression

Sound file types and file formats

Storing Sound

Data Representation: Sound

HT1 STARTS

EBLAM LEARNING JOURNEY

YEAR 10 GCSE COMPUTER SCIENCE

EBLAM

CONTINUE TO Y11 GCSE COMPUTER SCIENCE

HT1 STARTS

Algorithms

- Searching and Sorting Algorithms
- Designing, creating and refining algorithms
- Computational thinking

Programming Fundamentals

- Inputs and Outputs
- Variables, Constants and Assignments
- Boolean and Arithmetic Operators
- Selection
- Sequence

HT2 STARTS

Programming Fundamentals Continued & Programming Project

- Iteration
- Data Types, Casting & String Manipulation
- File Handling
- Databases and SQL
- 1D and 2D arrays
- Sub-programs

HT3 STARTS

Producing Robust Programs

- Testing and Test Data
- Maintainability
- Defensive Design Considerations

Boolean Logic

- Truth Tables
- Boolean Operators
- Logic diagrams and Boolean Operators

HT4 STARTS

Programming Languages and Integrated Development Environments

- High-level and Low-level Languages
- Translators, Compilers and Interpreters
- Purpose and Tools of an IDE

HT5 STARTS

Systems Architecture

- CPU Components and Performance
- Embedded Systems

Memory and Storage

- Primary & Secondary Storage
- Units of Data and Data Capacity

HT6 STARTS

Memory and Storage Continued

- Number Systems
- Character Sets
- Image Data Storage
- Sound Data Storage
- Lossy and Lossless Compression

EBLAM LEARNING JOURNEY

YEAR 11 GCSE COMPUTER SCIENCE

EBLAM

CONTINUE TO POST-16 COMPUTING

HT1 STARTS

- Programming Project
- Variables, Constants and Data Types
- Sequence, Selection and Iteration
- Debugging

HT2 STARTS

- Computer Networks, Connections and Protocols
- Network Hardware
- Internet and the Cloud
- Star and Mesh Networks
- Modes of Connection
- Protocols and Layers
- Client-Server and Peer-to-Peer networks
- LANs and WANs

HT3 STARTS

- Network Security
- Forms of Attack
- Prevention Methods
- Systems Software
- Utility System Software
- Operating System Software

HT4 STARTS

- Exam Preparation: Computational Thinking, Algorithms and Programming
- Software Licences
- Legal and Privacy Impacts
- Environmental Impacts
- Cultural Impacts
- Ethical Impacts
- Ethical, Legal, Cultural and Environmental Impacts of Digital Technology

HT5 STARTS

- Exam Preparation: Computational Thinking, Algorithms and Programming continued
- Producing Robust Programs
- Programming Fundamentals
- Algorithms
- Boolean Logic
- Programming languages and Integrated Development Environment

- Exam Preparation: Computer Systems
- Exam Preparation: Computer Systems continued
- Ethical, Legal, Cultural and Environmental Impacts of Digital Technology
- Computer Networks, Connections and Protocols
- Memory and Storage
- System Architecture

EBLAM LEARNING JOURNEY

YEAR 10 CAMBRIDGE NATIONALS IN CREATIVE IMEDIA

EBLAM

CONTINUE TO Y11 CREATIVE iMEDIA

HT6 STARTS

Plan Interactive Digital Media

- Pre-production Planning Documentation and Techniques
- Resources to Create IDM
- IDM Features and Conventions
- Content and Hardware

HT5 STARTS

Create Visual Identity and Digital Graphics

- Image Editing Tools and Techniques
- Source, Create and Prepare Assets
- Save and Exporting

HT4 STARTS

Develop Visual Identity

- Planning Techniques
- Properties and Use of Assets
- Graphic Design and Conventions

Plan Digital Graphics

- Design Styles
- Visual Identity Components
- Brand Recognition and Visual Communication

HT3 STARTS

Distribution Considerations

Pre-production Planning

- Work Planning
- Ideas Generation Documentation
- Design and Plan Media Products
- Legal Issues
- Distribution Platforms and Media
- Media Files Properties and Formats

HT2 STARTS

Factors Influencing Product Design

- Media Codes
- Research Methods and Sources
- Audience Demographics and Segmentation
- Client Requirements
- Style, Content, Layout

HT1 STARTS

The Media Industry

- Job Roles in the Media Industry
- Media Industry Sectors & Products

EBLAM LEARNING JOURNEY

YEAR 10 CAMBRIDGE NATIONALS IN CREATIVE IMEDIA

EBLAM

CONTINUE TO POST-16 CREATIVE iMEDIA

HT1 STARTS

Create Interactive Digital Media

- Master Page, Templates, Content and Controls
- Product Folder Management
- Repurposing Image, Audio and Moving Image Assets
- Sourcing Suitable Assets

HT2 STARTS

Review Interactive Digital Media

- Testing Technical Properties & Performance
- Fitness for Purpose
- Constraints and Effectiveness
- Further Development Opportunities

HT3 STARTS

Exam Preparation: The Media Industry

- Job Roles in the Media Industry
- Media Industry Sectors & Products

HT4 STARTS

Exam Preparation: Factors Influencing Product Design

- Client Requirements
- Style, Content, Layout

Exam Preparation: Factors Influencing Product Design continued

HT5 STARTS

Exam Preparation: Pre-production Planning

- Research Methods and Sources
- Media Codes
- Audience Demographics and Segmentation
- Work Planning
- Ideas Generation Documentation

Exam Preparation: Distribution Considerations

- Media Files Properties and Formats
- Distribution Platforms and Media
- Legal Issues
- Design and Plan Media Products

EBLAM LEARNING JOURNEY