The Dean Trust
Ashton on Mersey School

'Computer Science' **Curriculum overview 2024-25**

KS3	HT 1	HT 2	HT 3	HT 4	HT 5	HT 6
YEAR 7	Digital Media	Computer Systems	Micro: Bit	Micro: Bit	Networks	Enrichment project
YEAR 8	Developing for web	Python Programming	Data Representations	Data Representations	Interface Design	Enrichment project
YEAR 9	Python Programming	Cyber Security	Digital Graphics	Digital Graphics	Presenting Data	Enrichment project

KS4 Options (OCR Nationals in Creative iMedia / EDEXCEL GCSE Computer Science)

YEAR 10 Creative iMedia	**R097** skill-building	**R097** TA1		**R097** TA2			**R097** TA2/TA3			**R094** skill-building	
YEAR 10 Computer Science	**Topic 2** Data	**Topic 6** Problem solving with programming.	**Topic 2** Data	**Topic 6** Problem solving with programming.	**Topic 2** Data	**Topic 6** Problem solving with programming.	**Topic 3** Computers	**Topic 6** Problem solving with programming.	**Topic 3** Computers	**Topic 1** Computational thinking	**Topic 3** Computers	**Topic 1** Computational thinking
YEAR 11 Creative iMedia	**R094** TA1	**R094** TA2			**R093: Exam** TA1		**R093: Exam** TA2		**R093: Exam** TA3			
YEAR 11 Computer Science	**Topic 4** Networks	**Topic 1** Computational thinking	**Topic 4** Networks	**Topic 1** Computational thinking	**Topic 4** Networks	**Topic 1** Computational thinking	**Topic 5** Issues and impact –	**Topic 1** Computational thinking	**Topic 4** Networks	**Topic 1** Computational thinking		

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KS5 Options (AQA A Level Computer Science)

YEAR 12 A Level Computer Science	Unit 1 Programming Basics	Unit 2 Problem solving	Unit 6 Abstraction & Automation	Unit 7 Regular and Context Free Languages	Unit 11 Binary	Unit 13 Coding Sound/ Music	Unit 15 Programming Lang/Translators	Unit 17 Internal Computer Architecture	Unit 20 Communication	Unit 18 Input/Output Devices	NEA
	Unit 3 Programming Paradigms	Unit 4 Data Structures	Unit 10 Number Systems & Bases		Unit 12 Coding Text/Graphics	Unit 14 Hardware & Software	Unit 16 Logic Gates		Unit 27 Software Development	Unit 21 Network & The Internet	
YEAR 13 A Level Computer Science	Unit 8 Algorithms	Unit 4 Data Structures	Unit 6 Abstraction & Automation		Revision	Revision	Revision	Revision	Revision		
	NEA	NEA	NEA		NEA	NEA	Revision	Revision	Revision		

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KS5 BTEC Level 3 Extended Diploma in Creative Digital Media Production

YEAR 13 BTEC Level 3 Creative Digital Media Production	**Teacher 1 JAM**	**Unit 2:** Working in the CM Industry Learning Aim B (90 GLH)	**Unit 2:** Working in the CM Industry Learning Aim B (90 GLH)	**Unit 2:** Working in the CM Industry Learning Aim C (90 GLH)	**Unit 2:** Working in the CM Industry Learning Aim C (90 GLH)	**Unit 2:** Working in the CM Industry Learning Aim D (90 GLH)
		Unit 2: Digital Media Skills EXAM Topic A01/A02 (120 GLH)	**Unit 2:** Digital Media Skills EXAM Topic A03/A04 (120 GLH)	**Unit 2:** Digital Media Skills EXAM Topic A05 (120 GLH)	**Unit 2:** Digital Media Skills EXAM	
		Unit 4: Pre-Production portfolio Learning Aim A (90 GLH)	**Unit 4:** Pre-Production portfolio Learning Aim B (90 GLH)	**Unit 4:** Pre-Production portfolio Learning Aim C (90 GLH)	**Unit 4:** Pre-Production portfolio Learning Aim C (90 GLH)	**Unit 4:** Pre-Production portfolio Learning Aim C (90 GLH)
		Unit 10: Film Production Learning Aim A (60 GLH)	**Unit 10:** Film Production Learning Aim B (60 GLH)	**Unit 10:** Film Production Learning Aim C (60 GLH)	**Unit 10:** Film Production Learning Aim C (60 GLH)	**Unit 10:** Film Production Learning Aim D (60 GLH)
		Unit 22: Interviewing techniques Learning Aim C (60 GLH)	**Unit 22:** Interviewing techniques Learning Aim C (60 GLH)			
	Teacher 2 RAM	**Unit 6:** Media Campaigns Learning Aim C (90 GLH)	**Unit 6:** Media Campaigns Learning Aim C (90 GLH)	**Unit 6:** Media Campaigns Learning Aim D (90 GLH)		
		Unit 27: Digital Photography Learning Aim A (60 GLH)	**Unit 27:** Digital Photography Learning Aim B (60 GLH)	**Unit 27:** Digital Photography Learning Aim B (60 GLH)	**Unit 27:** Digital Photography Learning Aim C (60 GLH)	**Unit 27:** Digital Photography Learning Aim C (60 GLH)
	Teacher 3 ALP	**Unit 21:** Film Editing Learning Aim A (60 GLH)	**Unit 21:** Film Editing Learning Aim A (60 GLH)	**Unit 21:** Film Editing Learning Aim B (60 GLH)	**Unit 21:** Film Editing Learning Aim B (60 GLH)	**Unit 21:** Film Editing Learning Aim C (60 GLH)
	Teacher 4 LEL	**Unit 30:** Page layout and design for Digital Media Learning Aim C (60GLH)	**Unit 30:** Page layout and design for Digital Media Learning Aim C (60GLH)			

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Year 7 Computer Science

Curriculum Manager: Mr J Moore

Teaching Staff: Mr L Lawson, Miss A Pepper, Mrs R Mazurek

Intent: The Computer Science curriculum encourages pupils to explore the fundamental concepts of computational thinking, problem solving and programming in an interactive and immersive discipline which incorporates real world links to how computing is embedded in modern day life. Pupils will explore both a practical and theory-based approach, strengthening their logic and problem-solving abilities in order to prepare them for future careers in the digital world.

Implementation: Computer science is an interconnected subject, where pupils will study and practice a range of computational thinking concepts alongside practically applying this knowledge via a programming project. The programme of study for Key Stage 3 builds on the knowledge from Key Stage 2, connecting the five pillars of Computing to develop Programming, Computational thinking, Computer systems, Digital artefacts and Digital literacy. The curriculum is designed to stretch and challenge pupils' ability within computing, and to encourage resilience in solving sophisticated problems with working solutions using PRIMM (Predict, Run, Investigate, Modify and Make). Pupils should also apply their knowledge in science, mathematics, design technology and other subjects. Pupils can progress through to KS4 opting to specialise in the Computing or Creative pathways.

Topic 1 – Digital Media	**Topic 2 – Computer Systems**	**Topic 3 – Micro:Bit**	**Topic 4 – Networks**
The aim of this unit is to prepare pupils for their future learning within Computer Science and other subjects by developing their digital making skills. Pupils will gain experience with: • Acceptable use policy • Passwords • Folder/File structure • Searching effectively • Brand identity • Google apps for education • Improving their work	The aim of this unit is for pupils to understand the various computer systems used in today's society and how they have impacted on our lives. Pupils will gain experience with: • Evolution of technology • Operating systems • Hardware • Software • Computer system types • The CPU • Input/output • Creating an infographic	The aim of this unit is for pupils to gain a practical understanding of how to program using Python. Pupils will adopt the five stages of PRIMM within their development. Pupils will gain experience with: • Syntax • Strings • Pre-set libraries • Variables • Iteration • Selection • Sensors	The aim of this unit is for pupils to understand the fundamentals of network protocols, hardware and how information is shared within networks. Pupils will gain experience with: • Network topologies • Wired and wireless • Data transition • The internet • The world wide web • Protocols • Internet security

Assessments:
A range of assessment windows take place during each unit in line with The Dean Trust assessment policy. These include Self, Peer, Formative and Summative assessments. A final summative assessment will take place alongside exam week at the end of topic 4, followed by an enrichment project in the final weeks of the term.

Homework:
Pupils complete their homework using Bromcom or Google Classroom. All homework will be set using these systems and pupils can access it at home with their appropriate log in details.

Other Useful Information:
Useful web links: www.classroom.google.com, www.bbc.co.uk/education, www.codeacademy.com , www.code.org, www.codecombat.com , https://www.bromcomvle.com/