

Computer Studies

Curriculum Principles

By the end of their secondary education, a student of Computer Studies at Dixons Broadgreen will:

- be MASTERS of technology as it will play a pivotal part their lives. They will understand how to use technology positively, responsibly and safely.
- be CREATORS and inquisitive users as our broad curriculum encompasses, computer science, information technology and digital literacy.

Our unifying ‘sentence’ is: “The Computer Studies department at Dixon’s Broadgreen Academy empowered students to become; enthusiastic, skilled, innovative and considerate users of technology, with a deep-rooted ethical and moral compass.”

In order to achieve a true understanding of CS, topics have been intelligently sequenced based on the following rationale:

- The CS curriculum is continually building on prior learning whilst developing a wider and deeper understanding of key concepts and global issues. In the early stages of we focus on; all forms of e-safety as well as skill building. Basic skill as well as reasons and wider world usage of software utilisation allows students to understand the purpose of their learning in a wider world context.
- Our KS3 curriculum is based around the KS3 Programme of Study, shaped around the CAS program pathways addressing the Strands. The sequence of content aids progression and allows for the accumulation of sufficient knowledge and skills needed for future learning.
- Yr 7 - 5 Communication and Networks, 6 Information Technology, 4 Hardware and Processing
- Yr 8 – 3 Data and Data representation, 5 Communication and Networks, 1 Algorithms, 2 Programming and Development 4 Hardware and Processing (HAPs 5 Communication and Networks)
- Yr 9 – 5 Communication and Networks, 6 Information Technology, Programming (HAPs1 Algorithms, 2)
- It serves to build on the foundations of computer science that are covered at KS2.
- Consideration has been made into what the key components are in the KS3 PoS that will be needed to develop future learning at optional courses delivered at KS4 and KS5 and beyond.

The CS curriculum will address social disadvantage by addressing gaps in students’ knowledge and skills:

- The CS curriculum is designed to educate all our students so that they receive a wide and varied educational experience, that provokes curiosity and fosters their ambitions. This is achieved through a rich and broad Key Stage 3 curriculum and a focussed and rigorous KS4 and KS5 curriculum.
- All students are exposed to the same content at KS3 and have the same high expectations of attainment and progress. The CS program of study is accessible for students of all abilities. The curriculum is planned to ‘teach to the top’ and scaffold down.

- Pedagogy, we strive to educate utilising a range of teaching strategies which allows the curriculum to be accessible for all our learners.
- Industry standard software is used throughout the curriculum and 'real life' scenarios are shared, where appropriate, throughout the course, allowing identification of real-life application.

We fully believe CS can contribute to the personal development of students at DBA:

- in Computer Science we encourage learners to: understand and apply the fundamental principles and concepts of Computer Studies, including abstraction, decomposition, logic to everyday problems. They need to be able to analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs.
- Students are given thought-provoking questions which inspire them to think for themselves and developing more independent learners. Encouraging students to ask questions and investigate their own ideas helps improve their problem-solving skills as well as gain a deeper understanding of academic concepts. Both of which are important life skills.
- Students need to develop to think creatively, innovatively, analytically, logically and critically.
- They are also exposed to both the positive and negative impacts of digital technology and are asked to consider the implications to the individual and to wider society, exploring the advantages and disadvantages of the access and use of digitized information at the local and global level.
- Throughout students develop skills such as: team working, independent learning and problem solving. Appropriate interpersonal skills, communicating with professional colleagues/peers. Understanding work practices and how different roles and departments function within an organisation.

Opportunities are built in to make links to the world of work to enhance the careers, advice and guidance that students are exposed to:

- We acknowledge that to prepare students for employment and to succeed in life a curriculum needs to be broad and balanced and must include opportunities to provide students with the cultural capital that they may be deficient in.
- Within the CS curriculum we: try to offer wider curriculum opportunities E.g. STEM events – Bletchley park, visits to universities – J Moores, Liverpool and Edge Hill, liaising and communication with businesses and experts in their field eg Jaguar, Google (both virtual)
- We work closely with our careers advisor to provide students with opportunities to visit local industry providers and external stakeholders.
- Presenting final interactive media products to clients, analysis of job descriptions are just some of the compulsory aspects of the IM course

A true love of CS involves learning about various cultural domains. We teach beyond the specification requirements, but do ensure students are well prepared to be successful in GCSE examinations:

- Timeline of communication and the history of computing



- Study of the various forms of communication, high-risk behaviours, and staying safe whilst engaging via E-devices
- Workforce policies
- Environmental impacts of technology both positive and negative
- How technology can support healthcare practices, and healthcare professionals



**Year 7 Computer studies
Long Term Plan 2021/2022**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1							Term 2					Data 1 Planning 1
	Orientation	Baseline	Passwords Folders Office 365	E-safety System access Folders Office 365	E-safety System access Teams	E-safety System access Teams CDP Act	Teams CDP Act	E-communication	E-communication	Email etiquette	Attachments, receiving and downloading. Viruses	E-communication Seneca link	
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 30/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03
			Term 3			Mid year exam			Term 4 Data 2 Planning 2				
	Hardware Processing	Hardware Processing	Hardware / Software	Input/Output	CPU	Memory and storage	Memory and storage	Networks wired and wireless		Networks wired and wireless	Software and features	Digital content	Digital platforms
Cycle 3	W/C 28/03	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07
		Term 5						Term 6	Summer Exams Y7-10 / Y12		Data 3 Planning 3		
	Templates	IT practical Advanced skills	Creating Quiz	Buttons and Hyperlinks	Presentation techniques	Python	Python	Python		Python		Python	Python

Year 8 Computer studies Long Term Plan 2021/2022

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1							Term 2					Data 1 Planning 1
	Orientation	E-Safety	E-Safety	E-Safety	E-Safety	Data and data representation	Data and data representation	Animation	Animation	Animation	End of Unit Summative Assessment.	Review week	
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 30/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03
			Term 3						Term 4				Data 2 Planning 2
	Algorithms Flowcharts Programming	Algorithms Flowcharts Programming	Algorithms Flowcharts Programming	Algorithms Flowcharts Programming	Algorithms Flowcharts Programming	Algorithms Flowcharts Programming	Algorithms Flowcharts Programming	Algorithms Flowcharts Programming	Algorithms Flowcharts Programming	Algorithms Flowcharts Programming	Algorithms Flowcharts Programming	End of Unit Summative Assessment.	Review week
Cycle 3	W/C 28/03	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07
		Term 5						Term 6			Data 3 Planning 3		
	Systems Architecture	Systems Architecture	Systems Architecture	Networks	Networks	Networks	Functional skills	Functional skills	Summer Exams Y7-10 / Y12	Functional skills		Functional skills	Functional skills

Year 10 Computer science Long Term Plan 2021/2022

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1	1.2 storage and numbers	1.2 storage and numbers	1.2 storage and numbers	1.2 storage and numbers <i>hexadecimal</i>	1.2 storage and numbers <i>Primary Storage</i>	1.2 storage and numbers <i>Secondary Storage</i>	1.2 storage and numbers Compression, images and sound	Term 2	2.4 Boolean logic	2.5 Programming languages and IDE	2.5 Programming languages and IDE	Data 1 Planning 1
	Orientation			Interim test						End of unit assessment.			
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 30/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03
	Python programming - introduction	Python programming - introduction	Term 3	2.1 algorithms	2.1 algorithms	2.1 algorithms	2.1 algorithms	2.2 programming fundamentals	Term 4 Data 2 Planning 2 2.2 programming fundamentals	2.2 programming fundamentals	2.2 programming fundamentals	2.3 Producing Robust Programs	2.3 Producing Robust Programs
			inset	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Topic test (only topics studied) Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project
Cycle 3	W/C 28/03	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07
	2.3 Producing Robust Programs	Term 5 2.3 Producing Robust Programs	2.3 Producing Robust Programs	Programming Project	Programming Project	Programming Project	1.6 Ethical, legal, cultural and environmental impacts of digital technology	Term 6 1.6 Ethical, legal, cultural and environmental impacts of digital technology	Summer Exams Y7-10 / Y12	1.3. Computer networks, connections and protocols	Data 3 Planning 3 1.3. Computer networks, connections and protocols	1.3. Computer networks, connections and protocols	1.3. Computer networks, connections and protocols
	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project	Cross over delivery of linked programming topics and compulsory Programming Project		End of unit assessment					

Year 11 Computer science Long Term Plan 2021/2022

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1	Unit 1 systems architecture	Unit 1 systems architecture	Unit 1 systems architecture	Unit 1 systems architecture	Unit 1 systems architecture	1.2 memory and storage	1.2 memory and storage	Term 2 1.6 Ethical, legal, cultural and environmental impacts of digital technology	1.6 Ethical, legal, cultural and environmental impacts of digital technology	2.1 algorithms	2.1 algorithms	Data 1 Planning 1 2.1 algorithms
	Orientation					Topic test			Mock week	Mock week			
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 30/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03
	2.5 Programming languages and Integrated Development Environments	2.3 Producing robust programs	Term 3	2.2 Programming fundamentals	2.2 Programming fundamentals	2.4 Boolean logic	1.5 Systems software	1.5 Systems software	Term 4 Data 2 Planning 2	1.3 Computer networks, connections and protocols	1.3 Computer networks, connections and protocols	1.3 Computer networks, connections and protocols	1.3 Computer networks, connections and protocols
			inset.							Mock week	Mock week		
Cycle 3	W/C 28/03	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07
	1.4 Network security	Term 5	1.4 Network security	Exam practice	Exam practice	Exam practice	Exam practice	Term 6	Summer Exams Y7-10 / Y12		Data 3 Planning 3		
				Exam season	Exam season	Exam season	Exam season						

Year 10 IM
Long Term Plan 2021/2022

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	
Cycle 1	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12	
	Term 1								Term 2				<i>Data 1 Planning 1</i>	
	Orientation	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production	Unit 1 Investigate Interactive Media Production
	Unit 3 Development and Production of an Interactive Media Product – also developed throughout													
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 30/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	
		Unit 1 Investigate Interactive Media Production	Term 3	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Term 4	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	
		Unit 3 Development and Production of an Interactive Media Product – also developed throughout												
			End of Unit Summative Assessment.											
Cycle 3	W/C 28/03	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	
		Term 5						Term 6	<i>Summer Exams Y7-10 / Y12</i>		<i>Data 3 Planning 3</i>			
		Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 2 Plan and Prepare for an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product		Unit 3 Development and Production of an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product

Year 11 IM
Long Term Plan 2021/2022

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1								Term 2				Data 1 Planning 1
	Orientation	Unit 3 Development and Production of an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product	Unit 3 Development and Production of an Interactive Media Product	Skills revision for exam in January Unit 2 Plan and Prepare for an Interactive Media Product	Skills revision for exam in January Unit 2 Plan and Prepare for an Interactive Media Product	Skills revision for exam in January Unit 2 Plan and Prepare for an Interactive Media Product	Skills revision for exam in January Unit 2 Plan and Prepare for an Interactive Media Product
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 30/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03
			Term 3						Term 4 Data 2 Planning 2				
	Skills revision for exam in January	Skills revision for exam in January	End of Unit Summative Assessment.	Technical Award Interactive Media – External Assessment	Technical Award Interactive Media – External Assessment	Unit 4 Present and Promote an Interactive Media Product	Unit 4 Present and Promote an Interactive Media Product	Unit 4 Present and Promote an Interactive Media Product	Unit 4 Present and Promote an Interactive Media Product	Unit 4 Present and Promote an Interactive Media Product	Unit 4 Present and Promote an Interactive Media Product	Unit 4 Present and Promote an Interactive Media Product	Unit 4 Present and Promote an Interactive Media Product
Cycle 3	W/C 28/03	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07
	Unit 4 Present and Promote an Interactive Media Product	Term 5	Unit 4 Present and Promote an Interactive Media Product	Unit 4 Present and Promote an Interactive Media Product	Unit 4 Present and Promote an Interactive Media Product	Organising Unit Directories and Folders	Organising Unit Directories and Folders	Term 6	Summer Exams Y7-10 / Y12		Data 3 Planning 3		

Year 13 BTEC Ext Cert in Information Technology

Long Term Plan 2021/2022

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1								Term 2				Data 1 Planning 1
	Orientation	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 30/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03
			Term 3						Term 4 Data 2 Planning 2				
	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	End of Unit Summative Assessment.	Unit 3 Using Social Media in Business Unit 6 Website Development <i>Resit Unit 2 Exam opportunity</i>	Unit 3 Using Social Media in Business Unit 6 Website Development <i>Resit Unit 2 Exam opportunity</i>	Unit 3 Using Social Media in Business Unit 6 Website Development <i>Resit Unit 2 Exam opportunity</i>	Unit 3 Using Social Media in Business Unit 6 Website Development <i>Resit Unit 2 Exam opportunity</i>	Unit 3 Using Social Media in Business Unit 6 Website Development <i>Resit Unit 2 Exam opportunity</i>	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development
Cycle 3	W/C 28/03	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07
		Term 5						Term 6	Summer Exams Y7-10 / Y12		Data 3 Planning 3		
	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development	Unit 3 Using Social Media in Business Unit 6 Website Development					