

## 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









Week	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	Week 14
Cycle 1	30/08/22	05/09/22	12/09/22	19/09/22	26/09/22	03/10/22	10/10/22	17/10/22	07/11/22	14/11/22	21/11/22	28/11/22	05/12/22	
Notes	All seating plans to be completed								07/11/22 student reset	18/11/22 Data and planning day				
	Onboarding	Baseline	Cybersecurity	Cybersecurity Email use and etiquette	Cybersecurity Email use and etiquette	Cybersecurity Teams	Cybersecurity	Cybersecurity	Assessment	Review	Representations – going audio-visual	Representations – going audio-visual	Representations – going audio-visual	
Test														
Retest														
Cycle 2	12/12/22	19/12/22	02/01/23	09/01/23	16/01/23	23/01/23	30/01/23	06/02/23	20/02/23	27/02/23	06/03/23	13/03/23	20/03/23	
Notes	16/12/22 Data and planning day		04/01/23 student reset			Y9 Mid-year exams	Y9 Mid-year exams	Y9 Mid-year exams 10/02/23 Dixons Trust Inset Day	20/02/23 student reset		6/03/23 and 07/03/23 Data & planning days		24/03/23 Y9 Parents evening	
	Representations – going audiovisual	Media – Animations	Media – Animations	Media – Animations	Media – Animations	Media – Animations	Media – Animations	Media – Animations	Media – Animations					
Test														
Retest														
Cycle 3	27/03/23	17/04/23	24/04/23	01/05/23	08/05/23	15/05/23	22/05/23	05/06/23	12/06/23	19/06/23	26/06/23	03/07/23	10/07/23	17/07/23
Notes		17/04/23 student reset		01/05/23 May Day				05/06/23 student reset						20/07/23 Data and planning day 21/07/23 End of term
	Python programming with sequences of data	Mini project	Mini project	Mini project	Mini project	Mini project	Mini project	Mini project						
Test														
Retest														









