Design Technology

Curriculum Principles

By the end of their education, a student of Design Technology at Dixons Brooklands Academy will:

- Be able to specialise within a range of disciplines. The department offers four subjects which range in skills, knowledge and application. The courses are 3D Design, Photography, Graphic Design and Construction.

- Within Photography, 3D Design and Graphics, students will master the ability to research and respond to topics, themes and artists and designers. An example of the research and respond process within the Photography course can be found when students learn to critically analyse a style of photography and experiment and develop ideas inspired by this research. In year ten, students research into the British Photographer Zoe Lower, discovering the kaleidoscope project which examines the fusion of Photography and Art in a visually symmetrical way. The students then respond to this research by taking photographs of flowers and fabrics, finally editing them using the same processes as Lower.

- Within the Construction course learners will be able to demonstrate the skills and techniques needed to perform bricklaying. They will also be able to critically analyse a design brief and create buildings based on the requirements of a specific client. Students will also be able to complete basic architectural drawing techniques such as two-point perspective drawings and floor plans. Finally, students will have obtained a vast depth of knowledge and theory surrounding the world of construction. Some of the topics include; groundworks, thermal resistant materials, timber frame construction and desk based construction to name a few.

It is the vision of the Design Technology Department at Dixons Brooklands Academy to equip all young people with a vast understanding of the design process.

- Students will refine and master the use of a creative tools and processes working in a range of arenas from a construction site to a workshop. Students will develop their ability to discuss, communicate and work practically with others, mimicking the vibrant atmosphere of an actual Photoshoot/film set/media production or building site. An example of this is within the Graphic Design course where our students will perfect their design development and final prototype skills. They will have numerous opportunities to apply their knowledge within a computer suite and Graphics room working both practically and digitally. Working on live brief's gives the students an attainable sense of satisfaction. Our vision is to ensure all our learners are safe, happy and complete the course with the upmost sense of achievement.

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

- In order to achieve a true understanding of the knowledge and skills within each subject, the sequencing of learning is managed strategically through KS3 to KS4. Students progressively build the necessary skills through the broad and balanced curriculum across a variety of contexts. An example of this is within the 3D Design course, students develop the understanding of how to use the basics of combining materials at KS3 to developing a true love of 3D Design and visual communication at KS4. Knowledge and skills are taught and recalled through the cyclical curriculum. This allows students to revisit key terminology and manipulative skills resulting in the mastery of many. This journey allows students to initially learn the fundamentals and rules which then enable students to become accomplished and autonomous at the end of KS4. Students will work in a range of creative processes both digitally and physically and this often inspires students to confidently drive their own ideas and projects with an individual flare. Different processes/materials used; Flexible ply, concrete casting, cardboard modelling, laser cutter, spray paint and more. Our ethos is to constantly update and change our curriculum to suite a more global and dynamic reference point which at its core is diverse and fair.

The Design Technology curriculum will address social disadvantage by addressing gaps in students' knowledge and skills:

- Our curriculum is designed around the most vulnerable learners in our community. We are careful not to assume prior knowledge or access to creativity. All students are taught a rigorous curriculum which extends beyond the expectations set by the National Curriculum for Design Technology. There is an equity and balance within the curriculum as we offer a range of different courses; Photography GCSE, 3D Design, Graphic Design and Construction.

- As part of our courses all students have fully funded access to trips and visits that enhance their knowledge and experiences of the arts, including visits to galleries, sculpture park, photography field trips and architectural site experiences.

- Teachers spend extended periods of time, prioritising disadvantaged students and those from identified underrepresented groups, ensuring that they are implementing effective and preventative strategies for these learners, ensuring highly tailored teaching methods are personalised. Using methods such as targeted questioning, scaffolding, one to one interventions or breakout groups for those students.

- An emphasis is placed on routines, single level chunked instructions and front loading which mitigates cognitive loads for all students and frees up working memory so that students can learn, and teachers can teach. Students with special educational needs or disabilities have additional support. Teachers complete Intervention and Prevention documentation for their classes three times a year which involves selecting the gaps, which students need to close such gaps (with a particular emphasis on disadvantaged students, SEND students, and students on red progress) and the highly tailored teaching strategies that will be used to intervene and prevent these gaps from forming.

We fully believe Design Technology can contribute to the personal development of students at Dixons Brooklands Academy:

- Lessons incorporate a variety of different design and making activities which are imperative for students to develop their own personal development, resilience and confidence.

- Mental health issues across young and older people are on the rise, and it is important to ensure that students understand the benefits of being expressive and playful within creative subjects. Resilience, determination and self-esteem are just some of the many psychological factors that can be imperative to a person's mental health.

- The 3D Design course encourages students to consider design contributes to the culture, creativity and wealth of our nation. Students will learn to value the importance of the image and our teaching will constantly ripen their own critical thinking and personal development. The delivery of the content is underpinned by contemporary and historical practitioners therefore the students will expand upon their spiritual, cultural, moral and social awareness in abundance.

At KS3 and KS4, our belief is that homework should be the opportunity for relevant and impactful practice.

- We believe home learning (within 3D Design, Graphic Design and Photography) allows students to enhance, develop and individualise their work. Students are continually encouraged to extend their lessons whilst outside of school, applying their knowledge, within different surroundings. Not only does this develop their work/progress but this investment generates a more individual and reflective learner.

- Construction students are continually given the opportunity to retrieve powerful knowledge through Do now Quiz's within lessons and past paper revision at home.

- At KS3 our belief is that homework should be interleaved-revision of powerful knowledge that has been modelled and taught in lessons. This knowledge is recalled and applied through a range of low-stakes quizzing and practice.

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 share and consider a broad range of careers within the different disciplines of Design Technology throughout both Key stages.

- Students produce work (at GCSE) in a professional folder which can be taken to College interviews at the end of their studies. Opportunities are built in to the course to discuss and explore different careers within the creative industry and staff annually support students preparing their portfolio for college interviews.

- Links are explicitly made between Artists and Designers studied by students and how these are attainable careers.

- An example of this is within the construction course where students learn how the Construction industry has contributed £448 Billion to the UK economy in the last year alone with an expected growth of 12% next year. Throughout the course, our students will learn grasp the importance of the industry to our economy, as well as the social and cultural impact it has on our society and the world around us. With this information students are able to really visualise and work towards a potential career within this successful space. Through our business links, students on the construction course have the opportunity to visit construction sites and listen to industry professionals talk about the design and building process.