

## **Design Technology KS4 –Statement of Intent**

*"Design is not just what it looks like and feels like. Design is how it works." - Jonathan Ive*

At All Saints Academy the Design and Technology curriculum is designed alongside the Academy vision of *'Living well together with dignity, faith and hope.'* We want our learners to explore the disciplines of design and technology through bespoke and individualised curriculums tailored for each students interests and career aspirations. The focus on sustainable design and environmentalism helps students to explore ways to improve their world and help us all live well together.

We use the AQA GCSE Design and Technology course at GCSE as it enables learners to use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. The course covers a range of materials, processes, and techniques, such as papers and boards, timber, metals, polymers, textiles, electronic and mechanical systems, and new and emerging technologies. This allows us to adapt to students interests and needs by selecting material groups and processes which support and foster students understanding alongside their career aspirations.

At Keystage 3 we develop the foundations for all students to be able to succeed at keystage 4. We use support materials including writing frames, materials analysis, and peer support activities to ensure students develop the knowledge and tactile skills they need. During lessons there is mix of theory and practical skill acquisition to marry the 50:50 split between theory and design make tasks required at KS4.

We will ensure all our learners have access to the materials required for production, and our pupil premium grant will be used to provide these students with access to a range of materials and resources.

SEND students have further differentiation of tasks, resources, and outcomes according to their individual needs and abilities, and offering alternative or modified materials and methods if needed. Themed workbooks and support materials are provided through targeted assessments which identify areas of strength and weakness which students are supported to develop.

Students are motivated to enjoy and value design and technology, and to recognise their achievements and progress. We encourage peer collaboration and sharing of ideas and feedback and creating an inclusive and supportive learning environment all students, including send students, have access to multi-sensory approaches, including ICT, to enhance their learning experience and engagement.

All staff communicate clearly and effectively with the students, using key words, visual aids, and simple instructions and support with practical skill development. Providing feedback and assessment for learning and helping all students to set and achieve their learning goals.

## **Substantive Knowledge**

We build the substantive knowledge of our students through encouraging them to become enquiring, confident, and enthusiastic learners. The students have the opportunity to study over a 3 half-term project. We break the iterative design process down into 3 key areas.

Half term 1 looks at design and graphics skills. Students develop key isometric and perspective drawing through a range of led and independent tasks. Students will use key technical skills from GCSE and use exam style questions which assess understanding of these techniques in real world contexts.

Half term 2 looks at designing and evaluation through the theory of specification development and writing. Students will use one of the key materials groups, card and board, to construct and test furniture pieces to learn how to use cutting and gluing techniques.

Half term 3 looks at mechanisms focusing on key technical terms with modelling, again in card, to refine understanding of this material group.

Knowledge developed at keystone 3 is crucial to the work completed in year 10. Students use their knowledge of design principles, graphics and making processes to respond to the AQA design and technology requirements. It is an important stage and all students are using GCSE language and assessment criteria supporting all students to succeed at design and technology at GCSE.

## **Disciplinary Knowledge**

By the end of the course, students are expected to have developed a broad and coherent basic grasp of disciplinary knowledge in design and technology, and to be able to apply it to basic concept challenges.

The focus of each half term is to look at one criteria from the GCSE design and technology course.

Half Term 1 – students will develop understanding of technical drawing and graphics through perspective and isometric drawing tasks.

Half Term 2 – students will develop understanding of consumer research and specification writing techniques through small group and pair working. Research into ergonomics and understanding how to improve designs.

Half Term 3 – students will develop understanding of mechanisms and their uses, continuing the understanding of using card to model mechanisms and develop clear understanding of technical terminology.