

Design and Technology

Curriculum Intent:

Our students will have an understanding of the man-made designed and manufactured world, including the properties of different materials and how they can be manipulated. Through a hands-on practical approach, students will develop problem solving skills and appreciate design and how products are made, drawing on real life examples. In addition, they will learn about British values through the consideration of the social, moral, economic and environmental impact of design. The curriculum is adapted to ensure all students can access the learning, whatever their starting points and individual needs.

How the curriculum fits in to the College's FABRIC?

Focused – The Design and Technology curriculum has been created and develops over time to reflect the ever-changing world we live in. We ensure that the learning covers the national curriculum requirements as a minimum, whilst taking into account the needs of the students we are teaching. We assess where our students' starting points are at each transition and build skills and knowledge to allow them creative freedom to apply it in their designs and practical outcomes.

Appropriate – Our curriculum is designed to build on students' skills in design and communication, learning how to problem solve and analyse the designs around them. Students develop skills in manufacturing products and understanding where materials are from and what they can do to combine them. We focus predominately on woods and polymers in our projects, to ensure students have a sound understanding of the manipulation of materials and can apply them effectively and to a high standard. We build students understanding of the design process and focus projects in different areas to cover the process in more depth.

Broad and balanced

Design and Technology is a subject which has strong links with most other subjects' curriculum and puts into practice what other subjects teach in theory. As design is all around us, we use this in our lessons to make links and embed culture capital in the wider themes of the environment, social responsibility, the built environment and more. We make clear reference to where the subject links with other areas of study, such as science, maths, geography, business, art.

Rigorous – We ensure there is challenge in our projects, whilst supporting those who find some aspects more challenging. Using group work in some projects to batch produce products allows for success from all our students. We set prep work that helps students revisit and recall knowledge ensuring they are embedding the language and knowledge that underpins the subject.

Integrated - We have designed our curriculum to build students skills from using basic hand tools to more complex equipment, as well and the expectation of an improvement in their skills. We include drawing and communication skills from the first project in Year 7 and throughout, to allow students to gain more confidence in ways to communicate their work. This includes the use of Computer aided design (CAD) , which is introduced in Year 7 with 2D programs and develops into more complex 3D CAD programmes throughout the curriculum, allowing them to access Computer aided manufacture (CAM) in their work.

Coherent – In each project we undertake, students are given a page that explains the assessment and learning that takes place. We have designed a curriculum that builds on previous skills, whilst introducing new concepts and skills to challenge our students. Students have access to the learning journey in their books, so they can see what projects they are undertaking and why.

How we assess learning	Key Vocabulary
<i>We use a range of assessment through all Key stages, from online quizzes, peer feedback, class discussion of common misconceptions, verbal feedback and each project has a more formal assessment. In KS4 and 5 we use the exam board assessment from the beginning in projects, so that students are familiar with the format and requirements.</i>	<i>In Design and technology there is often specific technical language, which we introduce in each project. We use vocabulary glossaries in our KS3 books to help students learn this language and ensure they understand the meaning of the words in the context of the subject. We use common language for the GCSE throughout KS3 and 4 to help students embed their understanding of the key terms. We include the use of technical language in the students' responses in their assessments to encourage students to utilise the language of design and technology.</i>
Enrichment	Careers Education prepares our students to make informed choices about their futures
<i>In our department we offer Wymondham Life clubs in 3D printing and Make and do- where students can access a wide range of tools and processes to make products. We also run a Greenpower Formula 24 Club, with our team "Lions of the Track" being formed by students from Year 7 to Year 11.</i> <i>We have projects in Year 10 and 12 that link with our prep school to solve design problems with them as our clients, linking to curriculum needs of designing for a user.</i> <i>We take trips to the Design show in July and enter competitions such as Royal Academy STEM escape room, which won the department a 3D printer</i>	<i>Careers are embedded in our curriculum as we strive to make links to students about the possible careers on offer in the design world. We celebrate students' successes in their "soft skills" of teamwork, collaboration, resilience in KS3 bingo sheets in their workbooks.</i> <i>Our KS4 curriculum has been designed to be delivered looking at the content linked to different industries, such as Toy manufacture, furniture, fashion, electronics and entertainment. We support and encourage our students in their next steps by helping them link with clients in their NEA work and reviewing portfolios and personal statements for university entry.</i>
Our curriculum is underpinned by our values and are expressed through our curriculum	
Pride: We ensure students take pride in their work by ensuring there are high standards and an expectation of high-quality outcomes in practical and design work. Passion: We are highly qualified teachers with a passion for the subject, exploration and problem solving, which is shown in our lessons and the projects we teach Positivity: We celebrate students' successes and failures, as with the failures comes the true learning and understanding of the subject.	