WYMONDHAM COLLEGE

Design and Technology

Curriculum Intent:

Design and technology is an inspiring, rigorous and practical subject.

Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

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 our student's WALK IN knowledge and build skills and experiences to allow them creative freedom to apply it in their designs and practical outcomes. **Appropriate** - Our curriculum is designed to build on student 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 ensure that students have a sound understanding of the manipulation of materials in a range of disciplines and can apply them effectively 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 a wide range of curriculum areas 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 on the national curriculum requirements of from early years, KS1 and KS2. We develop a range of skills from using basic hand tools to more complex equipment and develop independence in these areas as students progress through the years. We include drawing and communication skills 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
We use a range of assessment through all Key stages, from online quizzes, peer feedback, class discussion of common misconceptions and verbal feedback. Each project has a more formal assessment linked to National curriculum at KS3 or GCSE/A-Level marking criteria for KS4/5. 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.	In Design and technology there is often specific technical language, which we introduce in each project. We use common terminologies and key words for assessment areas so there is consistency across our projects focussing on areas of Design, Make, Develop, Evaluate and Technical Knoeledge. 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
Enrichment	**Careers Education prepares our students to make informed choices about their futures**
In our department we offer Wymondham Life clubs in 3D printing and F1 in schools. We also have the resources to run a Greenpower Formula 24 Club. 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. We offer trips to the Design show in July and enter students into National competitions such as Royal Academy STEM escape room and RAE STEM competitions.	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. 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.

Possible Careers links
Mechanical Engineer/Civil Engineer/Systems Engineer /Operations Engineer/Software Engineer/Big Data Engineer/phD Research Engineer/Electrical Design Engineer/Product Development Engineer/Fire engineer/Weapon Engineer Officer/Scientific Technical Officer/Software Developer /Technology Consultant/Clinical Support Specialist /Microbiology Technician/Analytical Scientist/Project Manager/Investment Data Analyst/Software Developer/Computer Vision Scientist/Quantitative Consultant/Computer Vision Scientist/IT Business Analyst/Engineering Platoon Officer. Animator/ Antique dealer/Architect/ Architectural technician/Art editor/Art gallery curator/Arts administrator/Art therapist/Art valuer/Blacksmith /Cabinet maker/CAD technician/Cake decorator/Ceramics designer/Clothing alteration hand/Community arts worker/Conservator/Costume designer/Design Engineer/Dressmaker/Exhibition designer/Fashion designer/ Fine artist/Florist/Footwear designer/French polisher/furniture designer/Furniture restorer/Glass Engraver/Glassmaker/Graphic designer/illustrator/Interior designer/Jewellery Designer-maker/landscape architect/leather craft worker/Machine printer/Make-up artist/Medical illustrator /Mode! maker/Museum assistant/Museum curator/Musical instrument maker/Naval architect/Pattern cutter/Pattern grader/ Photographer/Photographic Stylist/Photographic technician/Picture framer/Product designer/Prop maker/Reprographic assistant/set designer/Signwriter/Stonemason/Tailor/Tattooist/Textile designer/Textiles production manager/Web designer.
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.