St Benedict's Catholic School
The Catholic Secondary School for West Suffolk
Ora et Labora

Design and Technology (Product Design) Curriculum Guide

Year 9

Design and Technology groups are rotated every half term for the first three half terms (between – Product Design, Food & Nutrition and Textiles. Before the February half term, pupils will select their 1st, 2nd & 3rd choice (from these three specialisms) they wish to undertake for the second half of year 9 (2nd half Spring term & all of summer term) this is to ensure, if pupils choose their favourite area, they will have more time to develop skills and knowledge if they go on to choose it as a GCSE option.

Term 1 + 1st half Term 2 (Sept- Feb)	Term 3
Pupils will spend half a term in each specialism, then rotate to the next area. These rotations are intended to provide 'taster' experiences of the different areas. During this rotation pupils will have a refresher in CAD CAM knowledge, and apply the correct design process, by researching, developing ideas, analysing designs, and creating a keyring using either acrylic or laser ply. This is a quick design and make project (3 hours). Alongside this, pupils will develop knowledge of how to communicate visual ideas through Perspective, Isometric and Orthographic drawing techniques. (a key design skill) (3 hours) *If pupils select Product Design as their 1st choice, they will continue with the tasks below.* 2nd half Term 2 (Feb-Easter) Pupils will develop workshop skills, using wood as a main material. They will learn about cutting, shaping and finishing wood, as well as making a series of wood joints. This will culminate in the design and manufacture of a simple, but functional wooden product. (6 Hours)	During the summer term pupils will work collaboratively in groups to develop a range of Marketing & Merchandise products for a Festival. This can be a hypothetical festival of their choice. One of the key criteria which the designs need to embrace is that there must be a clear promotion of Sustainability (eco-friendly) in their designs. There will be a core element of Graphic Products in the designs, as pupils explore Brand names, logos and other visual elements. The second part of the project is to design and make (individually) a hand-held product, (concept model) which could be useful for festival goers, security, food outlets, behind the stage, H&S, etc. basically anyone who might be at the festival. Pupils will need to develop their product based on the needs, wants & values of their TMG (target market group) and they should consider other aspects such as PIES (physical, intellectual, emotional and social needs of their customer). Ideas will be presented to their peers to help them effectively communicate their design ideas. As an extension project pupils will consider architecture and Biomimicry and develop a series of structural ideas with nature as a key influence.

Assessment and Homework

Pupils are assessed with a focus on 'Making' and 'Evaluation' skills, this will cover their ability to work with increasing precision and confidence in the use of materials, hand tools, workshop machinery and CAD/CAM equipment; and secondly their ability to reflect on their own work in a rational manner, taking onboard constructive criticism. Pupils will also present their designs and ideas to the class, as a group and as an individual. They will also receive regular (twice per term) formative feedback, in-depth assessment.

Homework is set every two weeks (approximately 3 times per half term) The tasks set will vary depending on the stage of each project, but will include personal visual research, investigation or written responses about a given theme, workshop technique or material. In most cases this will involve pupils printing outcomes and bringing these to their next lesson, rather than submitting via Arbor.

Resources

Pupils are provided with a log in for ***FocusELearning*** which provides a wide range of DT specific learning resources, animations, diagrams, videos, and important designers. There are also sections on Maths and Physics (both of which feature in the Product Design Curriculum). This can be used for homework and developmental work.
Reading:
JOINING, COMPONENTS, ADHESIVES AND FINISHES (technologystudent.com)
D&T Video Library - Focus eLearning by Focus Educational Software ltd. (Branding & Identity)
Papers and Boards - Focus eLearning by Focus Educational Software ltd. (Sustainable Design)
Biomimicry – innovation inspired by nature -Janine Benyus
Biomimicry http://www.bbc.co.uk/earth/story/20150913-nine-incredible-buildings-inspired-by-nature
Organic https://www.zmescience.com/science/organic-architecture-feature-813531/
10 secrets – iconic architecture https://architizer.com/blog/inspiration/industry/your-magnum-opus/

Extra and Super Curricular Opportunities

Competitions run in the school for students to engage with each year including production of props for the school production and creating trophies and products as part of St Benedict's Day.