Design and Technology Curriculum Summary

KS5 Curriculum Summary

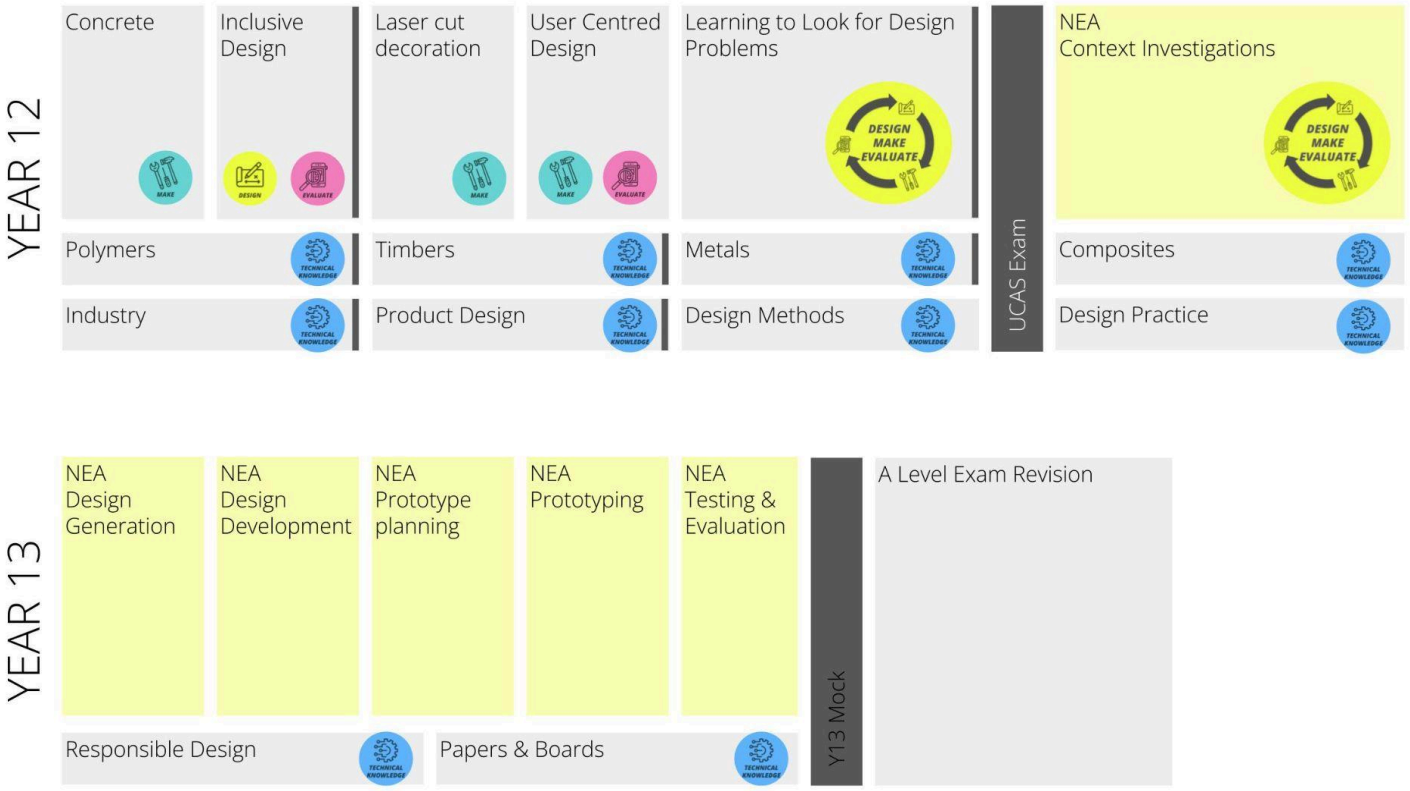
In year 12 the A level course aims to build on existing knowledge from GCSE studies and challenge students to refine their design thinking to achieve a high level of sophistication and depth in their design thinking. In sixth form a number of our students from GCSE are joined from students from other schools with a GCSE in D&T.

In year 12 students complete a range of projects, increasing in complexity that are designed to equip students to tackle challenging open-ended design problems. We specifically build prototyping skills, including an emphasis on CAD/CAM outcomes. Projects encourage students to make perceptive observations, looking for problems to solve in the world around them.

We teach the theory part of the subject for the written papers in separate dedicated lessons throughout year 12 & 13. The content is broken down into a number of units that are mostly taught in the single lessons alongside project work.

Exam board: *AQA*
A-level Specification: *7552 Design & Technology: Product Design*

Non-Examination Assessment
The NEA project follows a 'student-led context' that each student must investigate and define themselves. Emphasis is placed on working with a real client and using the iterative design model to continuously test and refine their design ideas. Projects vary significantly. The NEA at A level is highly challenging but very rewarding to many students.

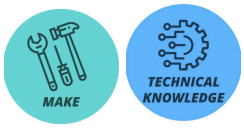


YEAR 12 UNIT		Learning Outcomes
CONCRETE CASTING	TECHNICAL KNOWLEDGE MAKE	Make: Design a former shape for CNC router and export at STL file Technical: Understand the requirements of a vacuum forming former Make: Mix concrete effectively to achieve a suitable finish
INCLUSIVE DESIGN	DESIGN MAKE EVALUATE	Design: Understand the needs of users with specific disabilities Make: Create prototypes to demonstrate design ideas Evaluate: Test and evaluate design ideas
LASER CUT DECORATION	DESIGN MAKE	Design: Generate ideas for a slot together MDF decoration Make: Work accurately with onshape to produce DXF drawing files for export to laser cutter.

USER CENTRED CLEANING PRODUCTS		Design: Generate solutions to cleaning scenarios faced by specific user groups Make: Functioning Prototypes that can be tested by using existing products and adaptations. Evaluate: Study human activities to understand the use of a product.
LEARNING TO LOOK		Evaluate: Use observation and analysis to identify user needs Design: Generate create design solutions to identified needs
PROJECT PORTFOLIO		Students present highlights of their project work throughout year 12 to showcase their best work in all areas of the curriculum.

	**THEORY UNIT**	**Learning Outcomes**
Polymers		
Timbers		
Metals		
Composites		
Papers & Boards		
Industry		
Product Design		
Design Methods		
Design Practice		
Responsible Design		

NEA		**Learning Outcomes**
Context Investigations		
Design Generation		

Design Development		
Prototype Planning		
Prototyping		
Testing & Evaluation	