

Year 11 Design and Technology

Students will be exploring a wide range of materials and processes throughout their first year of the Design Technology GCSE. Students will develop their investigative and problem-solving skills in order to prepare them for their non-examined assessment (NEA) at the start of June. Year 11 students will continue working on their non-examined assessment (NEA) before revisiting their theory in preparation for the summer exams.

The Key Stage 4 Design Technology GCSE at Northallerton School & Sixth Form College has been carefully selected from a range of examining bodies to provide flexibility, enjoyment and the right level of challenge to match the needs of the individual.

Methods of deepening and securing knowledge:

Retrieval practice	Theory and practical sessions are used as opportunities to revisit prior learning. Before students embark on any new project, they are reminded of the links to the key theory covered in the course. Students will frequently revisit theory and skills they have used in previous tasks, building knowledge through questioning and further application of tasks. The practical work itself allows students to apply their prior learning in real-life contexts, which helps to secure students' understanding.
Elaboration	Through exciting new projects students are able to elaborate on new making methods and techniques to extend skills further.
Concrete examples	Demonstrations are used to consolidate understanding of processes and techniques.
Knowledge organisers	Knowledge organisers are used to inform students of the skills and techniques used throughout the project and develop research skills needed in the tasks.

	Autumn term 1	Autumn term 2	Spring term 1
Topic(s)	NEA, theory and exam preparation.	NEA interspersed with theory.	NEA interspersed with theory.
Assessment	Understanding NEA assessment criteria for each stage, applying this to guide NEA working and questions leading to the trial examination. Completing Theory Booklet 5 Core Technical Principles, Specialist Technical	Understanding assessment criteria and questions leading to the trial examination. Completing Theory Booklet 6 3.1.4 Systems approach to designing	Understanding NEA assessment criteria for each stage, applying this to guide NEA working and questions leading to the trial examination.

	<p>Principles and Designing and Making Principles.</p> <p>3.1.1 New and Emerging Technologies</p> <p>3.1.2 Energy Generation and storage</p> <p>3.1.3 Developments in new materials</p> <p>3.2 Specialist technical principles</p> <p>3.2.1 Selection of materials or components</p> <p>3.2.3 Ecological and social footprint</p> <p>3.2.4 Sources and origins</p> <p>3.2.5 Using and working with materials</p> <p>3.2.6 Stock forms, types and sizes</p> <p>3.2.8 Specialist techniques and processes</p> <p>3.2.9 Surface treatments and finishes</p> <p>3.3 Designing and making principles</p> <p>3.3.1 Investigation, primary and secondary data</p> <p>3.3.2 Environmental, social and economic challenge</p> <p>3.3.9 Material management</p>	<p>3.1.5 Mechanical devices</p> <p>3.2.1 Selection of materials or components</p> <p>3.2.2 Forces and stresses</p> <p>3.2.8 Specialist techniques and processes</p> <p>3.3.4 Design strategies</p> <p>3.3.7 Selection of materials and components</p> <p>3.3.8 Tolerances</p> <p>3.3.9 Material management</p>	
<p>CEIAG <i>(Careers that are linked to that topic)</i></p>	<p>Careers linked to research, design and analysis and careers in product design that may involve making prototypes.</p>	<p>Careers linked to research, design and analysis and careers in product design that may involve making prototypes.</p>	<p>Careers linked to research, design and analysis and careers in product design that may involve making prototypes.</p>

	Spring term 2	Summer term 1	Summer term 2
<p>Topic(s)</p>	<p>NEA indisposed with theory.</p>	<p>Theory and examination revision.</p>	
<p>Assessment</p>	<p>Recapping and understanding assessment criteria and questions leading to the second trial examination. Students will by this time have completed all aspects of their NEA.</p>	<p>Through examination modelling of answers and student response to identified areas of need. Students will use their 6 theory booklets to revisit knowledge. Students will also complete questions from past exam papers and do “walking talking mocks” in order to become familiar with exam style questions, the time needed to complete them and the best way to answer 8-10 mark questions.</p>	<p>Final external examination and moderated NEA.</p>

CEIAG (*Careers that are linked to that topic*)

Careers linked to research, design and analysis and careers in product design that may involve making prototypes.

Independent Study

Students in Year 11 have access to the course materials through Google Classroom. Independent study is accessible through this platform and is given either each week or once a fortnight. Independent study is generally used to secure prior learning through practice to develop confidence and memory.