Key Stage 4 Curriculum Overview – DT

NCFE Level 1/Level 2 Technical Vocational Award in Creative Design and Production

Qualification Accreditation Number: 603/7003/8

Curriculum Intent

Our Creative Design and Production curriculum is designed to ignite imagination, develop practical skills, and foster innovation in our students. This vocational qualification provides learners with an exciting opportunity to explore the world of design through a hands-on, project-based approach that mirrors industry practice. Students will develop a broad range of transferable skills such as creative thinking, problem solving, planning, communication, and evaluation. Through studying this course, learners will understand key principles of the design process, including idea generation, experimentation, production techniques, and critical reflection. They will be encouraged to work independently and collaboratively, building confidence as creative practitioners. The course supports progression into further education and careers in creative industries such as product design, fashion, architecture, and media. Above all, our intent is to nurture the next generation of innovative designers who can positively impact the world through purposeful, ethical, and thoughtful design. The Technical Award in Creative Design and Production is designed for learners who want an introduction to design and production that includes a vocational and project-based element. The qualification will appeal to learners who wish to pursue a career in the industry or progress onto further study.

This qualification will promote the students' understanding of:

Design and production in context: including design movements and design principles

Design materials and processes: including investigating materials, the design process and digital design and manufacture opportunities

Design brief and production processes: including interpreting a design brief and communication skills

Presentation of a design solution: including purposes and methods of presentation and presentation skills

Review of processes and solution: including review of the process and summative review

Working in the design production sector: including employment and career opportunities, product promotion and self-promotion

Throughout the course students will be aiming to:

- recall and apply highly relevant knowledge and understanding in a highly comprehensive manner of design and production in context, materials, design briefs and production processes, presentation and review of design solutions and working in the design production industries
- analyse and evaluate, to make reasoned judgements and reach well supported conclusions regarding design and production in context, materials, design briefs and production processes, presentation and review of design solutions, and working in the design production industries
- safely and effectively demonstrate highly relevant skills, techniques and processes, relevant to the sector, when using a wide range of materials, digital design opportunities, graphical communication, production processes and techniques and research methods
- analyse and evaluate their own demonstration of relevant skills, techniques and processes relevant to the sector when creating designs, production processes (including creating prototypes), design principles and design production industry skills, in a highly comprehensive manner

Assessment Overview at GCSE

The GCSE course is assessed through two units:

Unit 1

60% of the technical award -A practical functional outcome supported by a portfolio of research, analysis, design, development, manufacturing and evaluation work -120 marks

The completion time for the NEA is 16 hours plus 2 hours preparation and research time. The non-exam assessment (NEA) will assess the learner's ability to effectively draw together their knowledge, understanding and skills from across the whole vocational area. The NEA will target assessment objectives (AOs): AO1, AO2, AO3, AO4 and AO5

Unit 2 40% of the technical award - Written examination: - a mixture of multiple-choice, short-answer and extended-response questions - 80 marks - 1 hour 30 minutes The written exam is a terminal assessment and will assess the learner's knowledge and understanding of all content areas and target the following AOs: AO1, AO2 and AO3.		
Term	Year 10	Year 11
Autumn term	**Topic title: The theme of Art Nouveau.** <u>Art Nouveau (circa 1880–1914):</u> Key social factors: ▪ desire to create 'new' or modern design for all social classes ▪ showcase art for everyday life Key features: ▪ natural, organic shapes with floral and plant influences ▪ use of modern materials (iron, glass, ceramics) with wood ▪ asymmetrical or whiplash curved lines Key designers: ▪ Louis Comfort Tiffany ▪ Charles Rennie Mackintosh Trip to London for design movement and product designer research. **Materials** Understand the properties of, classification, characteristics and application of a variety of woods. **By the end of this unit students will be able:** To develop knowledge and understanding of working in the design production industries with a focus on the theme of the Art Nouveau design movement (and associated product designers) required for AO1, AO2 and AO3. To develop the knowledge, understanding and skills to research, design, develop, justify, manufacture and evaluate products manufactured from papers, boards and smart materials with confidence and competence safely required for AO1, AO2, AO3, AO4 and AO5.	Mini Mock NEA (non-exam assessment) **Topic title: The theme of Post-Modernist: Electronic Lamp - designed and manufactured using CAD/CAM** <u>Post-modernism (1945–late 20th century):</u> Key social factors: ▪ a broad movement, celebrates the unconventional ▪ a pick-and-mix culture, no single definition of style Key features: ▪ links to retro, techno punk and grunge ▪ ridicules convention Key designers: ▪ Alberto Alessi ▪ Vivienne Westwood Trip to London for NEA research and written mocks **NEA (coursework)** 60% of the technical award - 120 marks A practical functional outcome supported by a portfolio of research, analysis, design, development, manufacturing and evaluation work.
Evidence of learning	Assessment focus: AO1, AO2, AO3, AO4 and AO5 **Product:** Corrugated card modelling (with the additional of smart material components) – the redesign of a house hold appliance in the style of Art Nouveau.	Assessment focus: AO1, AO2, AO3, AO4 and AO5 N – Coursework and assessment **Product:** Electronic Lamp - designed and manufactured using CAD/CAM

Links to prior learning	Builds on the students' understanding of key design movements Builds on the students' skill and understanding when modelling.	Builds on the students' understanding of key design movements Builds on the students' skill and understanding when modelling and using CAD and a variety of materials.
Links to future learning	Coursework and assessment Exams	Coursework and assessment Exams
Spring term	**Topic title: Timbers material area focusing on the theme of Memphis and Post Modernism.** <u>Memphis (circa 1981–1988):</u> Key social factors: ▪ Italian design group described as kitsch, garish and retro ▪ reaction to the design of the 1970s and dominated the 1980s o key features: ▪ bold, colourful, unusual pieces ▪ block use of colour, white space ▪ distinctive black lines and repetitive geometric patterns Key designers: ▪ Ettore Sottsass ▪ Nathalie Du Pasquier <u>Post-modernism (1945–late 20th century):</u> Key social factors: ▪ a broad movement, celebrates the unconventional ▪ a pick-and-mix culture, no single definition of style Key features: ▪ links to retro, techno punk and grunge ▪ ridicules convention Key designers: ▪ Alberto Alessi ▪ Vivienne Westwood **Materials** Understand the properties of, classification, characteristics and application of a variety of metals.	**NEA (coursework)** 60% of the technical award - 120 marks A practical functional outcome supported by a portfolio of research, analysis, design, development, manufacturing and evaluation work. 16 hours (plus 2 hours of preparation and research time) Internally marked with external moderation. <u>Key Points:</u> Component 2 is the NEA (also known as the Synoptic Project). Students respond to a brief set by NCFE to produce a creative outcome or product. The assessment is designed to showcase students' ability to: Research and develop ideas Plan and manage a project Apply creative and technical skills Reflect on and evaluate their final piece The NEA must be completed under supervised conditions over a set period of time. Students present their work in a portfolio, which may include: Sketches and design development Written reflections and evaluations Photographs or documentation of the final product The work is marked by teachers using NCFE's assessment criteria and externally moderated by NCFE.

	By the end of this unit students will be able: To develop knowledge and understanding of working in the design production industries with a focus on the theme of the Memphis and Post Modernism design movement (and associated product designers) required for AO1, AO2 and AO3. To develop the knowledge, understanding and skills to research, design, develop, justify, manufacture and evaluate products manufactured from timbers and metal components with confidence and competence safely required for AO1, AO2, AO3, AO4 and AO5.	
Evidence of learning	Assessment focus: AO1, AO2, AO3, AO4 and AO5 **Product:** Wooden storage (joints with the addition of metal components) with shape sorting game inside - CAD/CAM pattern base that the shapes must match.	Assessment focus: AO1, AO2, AO3, AO4 and AO5 NCFE – Coursework and assessment
Links to prior learning	Builds on the students' understanding of key design movements Builds on the students' skill and understanding when modelling and using woods.	AO1 part 1
Links to future learning	Coursework and assessment Exams	Coursework and assessment Exams
Summer term	**Topic title: Polymers material area focusing on Art Deco, Bauhaus and Modernism**. <u>Art Deco (circa 1920–1940):</u> Key social factors: ▪ reaction to World War I ▪ Greek, Egyptian and Aztec influences Key features: ▪ geometric, angular shapes, flowing circles and curves ▪ elegant, functional, and ultra-modern Key designers: ▪ Eileen Gray ▪ René Lalique <u>Bauhaus (circa 1919–1933):</u> Key social factors: ▪ aesthetics of fine art applied to everyday items ▪ function over decoration Key features: ▪ streamlined design with little or no embellishment or ornamentation	**Written examination**: - a mixture of multiple-choice, short-answer and extended-response questions - 80 marks - 1 hour 30 minutes **Topic title**: Written mocks, revision and mini combined material area project summary project (card, wood, plastic and metal). Summarise and revise all knowledge and skills developed throughout the course. To practice exam technique with a focus on the requirements of specific command words. To prepare for the final summative assessment. Assessment objectives weighting:

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<td></td>
<td>▪ mass production, use of industrial materials
Key designers:
▪ Marcel Breuer
▪ Marianne Brandt

<u>Modernism (circa1914–1939):</u>
Key social factors:
▪ social improvement through functionality and good design
▪ rapid development of cities and modern industrial societies
Key features:
▪ experimentation with new and old technologies
▪ adoption of technology in daily life
Key designers:
▪ Ludwig Mies van der Rohe
▪ Alvar Aalto

Materials
Understand the properties of, classification, characteristics and application of a variety of polymers.

By the end of this unit students will be able:
To develop knowledge and understanding of working in the design production industries with a focus on the theme of the Art Deco, Bauhaus and Modernism design movement (and associated product designers) required for AO1, AO2 and AO3.
To develop the knowledge, understanding and skills to research, design, develop, justify, manufacture and evaluate products manufactured from polymers with confidence and competence safely required for AO1, AO2, AO3, AO4 and AO5.</td>
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<table>
<tr><th>AOs</th><th>Non-exam assessment (NEA) (%)</th><th>Examined assessment (EA) (%)</th><th>Overall weighting (%)</th></tr>
<tr><td>AO1</td><td>12.5%</td><td>40–45%</td><td>23.5–25.5%</td></tr>
<tr><td>AO2</td><td>12.5%</td><td>35–40%</td><td>21.5–23.5%</td></tr>
<tr><td>AO3</td><td>12.5%</td><td>20–25%</td><td>15.5–17.5%</td></tr>
<tr><td>AO4</td><td>33.3%</td><td>N/A</td><td>20%</td></tr>
<tr><td>AO5</td><td>29.2%</td><td>N/A</td><td>17.5%</td></tr>
<tr><td>Overall weighting of assessments</td><td>60%</td><td>40%</td><td>100%</td></tr>
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Assessment objectives (AOs)
AO1: Recall knowledge and show understanding. The emphasis here is for learners to recall and communicate the fundamental elements of knowledge and understanding.
AO2: Apply knowledge and understanding. The emphasis here is for learners to apply their knowledge and understanding to real-world contexts and novel situations.
AO3 Analyse and evaluate knowledge and understanding. The emphasis here is for learners to develop analytical thinking skills to make reasoned judgements and reach conclusions.
AO4 Demonstrate the application of relevant technical skills, techniques and processes. The emphasis here is for learners to demonstrate the essential technical skills relevant to the vocational sector by applying the appropriate processes, tools and techniques.
AO5 Analyse and evaluate the demonstration of relevant technical skills, techniques and processes. The emphasis here is for learners to analyse and evaluate the essential technical skills, processes, tools and techniques relevant to the vocational sector.
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<tr>
<td>Evidence of learning</td>
<td>Assessment focus: AO1, AO2, AO3, AO4 and AO5
Product: CAD design clock manufactured from acrylic using CAM laser cutter with line bent stand.</td>
<td>Exam papers
Unit two assessment</td>
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<tr>
<td>Links to prior learning</td>
<td>Builds on the students’ understanding of key design movements
Builds on the students’ skill and understanding when modelling and using CAD and plastics.</td>
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Links to future learning	Coursework and assessment Exams	A level Product Design A range of technical routes that have been designed for progression to employment, apprenticeships and further study Level 3 Applied Generals Level 3 Technical Levels A Level in Design and Technology (this will support progression to higher education)

Reading in the curriculum (Literacy & Vocabulary)

Students are introduced to appropriate and subject specific language throughout the course and the development of the student language is constantly developing. Different meanings for words are emphasised e.g. the different meaning for Square in DT and Maths.

Careers in the curriculum

Architect, designers of any product, engineer, any career that involves the making of any product, any working trade in the construction industry or maintenance, involvement in the design or making of any items involving products, researcher, product buyers.

Sustainability in the curriculum

Students will understand the product lifecycles of both sustainable and unsustainable designs. The students will also understand approaches to sustainable design and potential impacts of unsustainable design:

- product lifecycles: inception of the idea; design and manufacture of the product; use of the product; disposal/recycling of the product
- planned obsolescence: designed to fail/be replaced after period of use
- sustainable design: the 6 Rs: recycle; reuse; repair; rethink; reduce; refuse
- unsustainable design: removal of trees for use in raw materials; loss of habitat for wildlife; finite resources; pollution from manufacturing processes; damage to the environment in resource obtainment; transportation of resources/ecological footprint; damage to the environment in product disposal; pollution from waste materials; increased disposal in landfills

Protected Characteristics in the curriculum

Holywell's DT curriculum and extra-curricular provision is designed to ensure there are opportunities for all our students, regardless of race; gender; where they live; their previous experience; parental income; whether they have special educational needs or disabilities; and whether they are looked after children.

All pupils receive the same lessons and are able to develop to their potential and have access to all the design projects. There are no restrictions.

The curriculum covers a diverse range of designers and influences from a wide range of cultures.

Safeguarding including safety in the curriculum

The provision for health and safety for students and teachers in the school is essential. All DT staff undergo regular training required for the processes and equipment that they use. Risk Assessments have been adopted from BS4163 to cover all aspects of DT, all processes and equipment used.

Specific PPE is required for certain activities, (apron, goggles etc).

All students are taught about general workshop and workroom safety and all are given specific training on all pieces of equipment that they will use.

Students are briefed before all lessons on aspects of safety and are checked to ensure they are not only wearing the correct/appropriate

Values across the curriculum

The DT curriculum promotes and develops many of our Holywell values regularly - Equality, Courage, Responsibility, Resilience, Self- worth and Self-Regulation, Respect, Joy and Peace

Spirituality in the curriculum

Though DT pupils are able to experience and develop their spirituality that the flowing;
Celebrate the success of their work and that of others. See their work enjoyed by others.
Peer on peer feedback, allows pupils to enjoy success and take critical feedback with grace.
Develop a personal pride an owe in the end products they design and make.
Develop their ability to allow them to push their creative talents.
Develop an open-minded approach to their work and willingness to explore ideas.
Celebrate their successes, but also allow them to try and fail with grace, developing their perseverance to try again. Especially when casting in pewter.
Understand where we get our materials from, the wonder in how they look and how they grow. Use materials in a sustainable way, making sure we use materials in an economic way, and not waste precious materials.
Looking at key designers and the impact they have had on our lives.

How we track your progress

Progress is tracked as pupils move through the projects with verbal feedback on their design work and ongoing feedback as pupils move through the making side of their work. All projects are evaluated and marked at the end of the project against the Assessment Objectives (AO).

Parents/Carers can support their child by:

Encouraging your child to explore designers and design and make items at home. Show your child how to cook and encourage them and give them opportunities to cook at home.
https://www.bbc.co.uk/bitesize/subjects/zbtvxyc
https://www.bbc.co.uk/bitesize/subjects/zdn9jhv
https://www.bbc.co.uk/bitesize/subjects/zvg4d2p
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