

GCSE Design and Technology Outline – Consultation Version



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Introduction

This document provides a high-level overview of the WJEC GCSE Design and Technology qualification available for first teaching from September 2026.

It is based on Qualification Wales' Approval Criteria (key sections are included in Appendix 1). Our qualification **must** meet these requirements.

The qualification outline will provide a guide for the development of the Specification and Sample Assessment Materials (SAMs).

Qualification Overview

The construct of the GCSE Design and Technology qualification is based on the Welsh Government subject specific considerations for Science and Technology¹.

The qualification will:

- through the design and development process, allow learners to explore and respond to various contexts and to reflect on their own work while engaging in rich, authentic experiences.

The following statements for the GCSE Design and Technology qualification are based on the Welsh Government statements of what matters for Science and Technology²:

- being curious and searching for answers is essential to understanding and predicting phenomena
- design thinking and engineering offer technical and creative ways to meet society's needs and wants
- the world around us is full of living things which depend on each other for survival
- matter and the way it behaves defines our universe and shapes our lives
- forces and energy provide a foundation for understanding our universe
- computation is the foundation for our digital world.

The GCSE Design and Technology qualification will support the Curriculum for Wales by supporting the principles of progression³ by:

- increasing effectiveness as a learner by developing application of skills
- increasing breadth and depth of knowledge by exploring and experiencing increasingly complex ideas and concepts
- deepening understanding of the ideas and disciplines and experience
- developing learners' ability to investigate, explore, problem-solve and design both in the physical and digital environments
- allowing learners to make connections and transfer their learning into new contexts

¹ [Science and Technology: Introduction - Hwb \(gov.wales\)](#)

² [Science and Technology: Statements of what matters - Hwb \(gov.wales\)](#)

³ [Science and Technology: Principles of progression - Hwb \(gov.wales\)](#)

Qualification Structure

Unit 1: Design and Technology in the 21st Century

Digital examination
30% of qualification
Marked by WJEC

Unit 2: Design Project

Non-examination assessment
70% of qualification
Set by WJEC, marked by centre and moderated by WJEC

We propose the following percentages for the four assessment objectives:

AO1	Demonstrate knowledge and understanding of the principles, materials, tools and techniques used in design and technology	15%
AO2	Apply knowledge and understanding of the principles, materials, tools and techniques used in design and technology	30%
AO3	Develop designs and tangible products	35%
AO4	Analyse and evaluate products and solutions in a range of design and technology contexts	20%

Learners must select **one** of the following pathways:

- engineering design
- fashion and textiles
- product design

Learners must choose the same pathway for both units..

- This will be a linear qualification. Unit 2 could be completed any time during the two years and submitted to WJEC in the final year of the course. However, centres should ensure that assessment is completed only when learners have undertaken the necessary teaching and learning and developed the required skills and knowledge. Unit 1 would be completed in the final year of the course.

Unit Information

Unit 1 – Design and Technology in the 21st Century

The purpose of this unit is to:

- allow learners to demonstrate a wide range of knowledge, understanding and skills based on Design and Technology
- develop learners' understanding of the design, development, production and use of a range of products, both modern and historical
- provide opportunities for learners to analyse and evaluate links between principles of good design, existing solutions and technological knowledge.

This unit will focus on:

- developing an appreciation of the importance of creativity and innovation to good design practice
- analysing existing products that respond to the users' needs, wants and values
- developing learners' understanding of factors that affect and influence design including historical, social / cultural, environmental and economic.

The unit will be assessed via a digital examination in the second year of the course. It will be set by WJEC and will be available from the 2028 summer series onwards, with a mix of question types that will target AO1 and AO2 equally. The duration of the examination is likely to be approximately 1 hour 30 minutes, but this will need further exploration due to the new digital format, which is relevant to manageability for both learners and centres. Questions will be set in a product analysis context and where appropriate will feature Welsh designers, products and practitioners, as well as UK and global practitioners.

Unit 2 – Design Project

The purpose of this unit is to:

- offer learners the opportunity to identify and solve 'real life' problems by designing and making products or systems that respond to the target markets' needs, wants and values
- offer learners the opportunity to apply the iterative design process while developing solutions, including the analysis, evaluation and refinement of ideas as they develop
- develop learners' ability to manufacture high quality, fully functioning prototypes, fit for purpose and fulfilling the needs, wants and values of the users.

This unit will focus on:

- the identification of a range of possible design opportunities
- the production of a clear design brief(s) and detailed specifications that allow design ideas to be generated, tested, developed and refined into quality proposals
- applying the iterative design process to provide creative and innovative solutions
- the production of quality final prototypes that solve identified problems, using appropriate tools, equipment and processes safely and effectively
- analysing and evaluating design solutions considering the end users' needs, wants and values.

The unit will take the form of a non-examination assessment. The work and supporting evidence will be submitted digitally in the final year of the course during the summer series.

The mix of tasks for this unit will target AO2, AO3 and AO4. AO3 will have the higher weighting, followed by AO4, then AO2. Design context briefs will be set by WJEC at the beginning of the course, for submission digitally during the final year of the course.

Consideration of manageability, engagement, reliability and validity

In developing this proposed outline, we have considered manageability, engagement, reliability and validity and how to balance these considerations in the context of the requirements of the Approval Criteria.

The Approval Criteria require 70% of the qualification to be assessed by non-examination assessment that is set by WJEC, marked by the centre and moderated by WJEC. This poses some potential manageability challenges which we propose to minimise by allowing greater flexibility for centres and learners regarding when internal assessment can be undertaken during the two years.

As the Approval Criteria state that the qualification must be linear, all work will be submitted during the final year of the course. However, to aid manageability for centres and learners, we propose allowing the freedom to complete their Design Project at any time during the two years once learners have undertaken the necessary teaching and learning and developed the required skills and knowledge. In addition to this, WJEC intend to release the design briefs at the beginning of the course, allowing more time for learners to experience, explore and develop with relevant design techniques and pathways before they begin to undertake their own design-based work.

We believe that our proposed qualification should provide opportunities for centres to develop an engaging programme of study for its learners, in line with the expectations of the Curriculum for Wales. Learners will have the opportunity to choose their own pathway from a choice of three, which include:

- engineering design
- fashion and textiles
- product design.

Learners are required to follow one pathway. Should learners wish to select more than one pathway, they must do so as separate qualifications and will need to undertake each of the Unit 1 Examinations and produce separate outcomes for Unit 2 Design Project for each pathway chosen.

We feel that the non-examination assessment tasks we propose for the Design Project unit are a valid approach to assessing the purpose and content because they allow learners to demonstrate their skills in appropriate contexts. To ensure reliability of the non-examination assessment, the unit will target the same assessment objective weightings over time. Marking criteria will be developed and teachers will be provided with a package of support to ensure consistent application across centres and over time. We will moderate a sample of candidate work from each centre to provide further assurance of reliability.

To allow learners to be given the freedom to explore and develop ideas without the need for high-level supervision, we are proposing that there is a lower level of control for aspects of the non-examination assessments, providing that centres are able to authenticate the work at various stages throughout the process. We propose that the marking criteria does not reward the generation of ideas, but rather the development, testing and refinement of ideas, thus allowing the use of AI as a starting point for designs. However, the manufacturing of the prototype will be produced under direct supervision within the centre. Levels of control will be kept under review during the specification and sample assessment material development process.

We believe that the purpose and content of the Design and Technology in the 21st Century unit can be validly assessed by examination, and a mix of question types can help us maximise validity. When developing assessments, WJEC will ensure that all tasks target relevant construct, that there is an appropriate balance of content covered over time and that there is alignment between assessment items and learning outcomes. Where appropriate, we will use data available to us on how an assessment has functioned. To ensure reliability, the examined unit will target the same assessment objective weightings and have a consistent level of demand within each series. Marking criteria will be developed and assessors will be trained on how to apply them consistently.

In considering the weightings of the Assessment Objectives we propose to adjust the allocation of AO2 and AO3 by the 5% tolerance. It was felt that increasing the emphasis of AO3 within the NEA Design Project unit reflects the emphasis on craftsmanship and quality of the practical outcome and content within the Approval Criteria.

We will continue to consider the balance of manageability, engagement, reliability and validity, at each stage of qualification development.

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Appendix

Key information from Approval Criteria

The following information has come directly from Qualifications Wales's ([Approval Criteria GCSE Design and Technology](#)) - our qualification must meet these requirements.

Purpose

1. GCSE Design and Technology must:

- 1.1. be designed primarily for *Learners* between the ages of 14 and 16
- 1.2. build on the conceptual understanding *Learners* have developed through their learning from ages 3–14
- 1.3. support teaching and learning by providing appropriately broad, demanding, relevant and engaging content and assessment that relates to and supports the Curriculum for Wales, including its four purposes
- 1.4. allow *Learners* to develop a strong foundation of knowledge, skills and understanding which support progression to post-16 study and prepare them for life, learning and work
- 1.5. provide meaningful, fair, and accurate information on *Learner* achievement within a subject that highlights what *Learners* know, understand and can do

Aims

2. GCSE Design and Technology must:

- 2.1. allow *Learners* to explore a range of knowledge, skills and understanding in relation to design and technology
- 2.2. provide opportunities for *Learners* to be assessed in a variety of relevant and meaningful contexts

3. GCSE Design and Technology must:

- 3.1. understand the modern technologies, materials and practices used to create products and solutions that meet the needs and wants of users
- 3.2. analyse and be inspired by existing products that inform the design and production of practical solutions which target end users and markets
- 3.3. recognise the underlying technical principles, skills and knowledge that apply in chosen design pathways
- 3.4. appreciate the importance of creativity, craftsmanship and innovation, applied throughout iterative design practices, in the design and creation of new products
- 3.5. appreciate the factors that affect the needs and wants of users and how iterative design processes focus on meeting these to produce effective products
- 3.6. describe ways in which design outcomes can have environmental and societal impacts that can be local, national and international
- 3.7. use their knowledge, skills and understanding to influence their own decisions when making and evaluating a product or prototype

Assessment objectives

14. The assessment of the knowledge, understanding and skills required in the qualification must target the following assessment objectives in line with the indicated weightings, within a tolerance of +/- 5 percentage points.

AO1	Demonstrate knowledge and understanding of the principles, materials, tools and techniques used in design and technology	15%
AO2	Apply knowledge and understanding of the principles, materials, tools and techniques used in design and technology	35%
AO3	Develop designs and tangible products	30%
AO4	Analyse and evaluate products and solutions in a range of design and technology contexts	20%

Scheme of assessment

15. The **GCSE Design and Technology** qualification must be linear.
16. The **GCSE Design and Technology** qualification must show the proportion of marks (weighted and/or raw) allocated to each assessment objective and to each *Component*.
17. The **GCSE Design and Technology** specification must include the following assessment arrangements:
- 17.1. an examination that
 - 17.1.1. accounts for 30% of the qualification
 - 17.1.2. is set and marked by the awarding body
 - 17.2. in the design of the qualification and assessments, the awarding body must target the provision of a digital-only examination at the outset of the qualification
 - 17.3. the awarding body must provide an examination for each pathway
 - 17.4. a design project in response to a brief that:
 - 17.4.1. accounts for 70% of the qualification
 - 17.4.2. is set by the awarding body, marked by *Centres* and *Moderated* by the awarding body
 - 17.4.3. must be able to be submitted digitally
 - 17.4.4. must allow *Learners* to engage with all stages of the design thinking process and develop:
 - 17.4.4.1. a tangible prototype of a product or a solution to a problem
 - 17.4.4.2. a portfolio which demonstrates how they have applied their knowledge and understanding at different stages of the project
 - 17.5. the awarding body must provide a choice of contexts for each of the available pathways
18. The awarding body must specify its rules in regard to resits and resubmissions for the **GCSE Design and Technology** qualification in accordance with the *National GCSE Conditions and Requirements*.