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Guidance

# GCSE subject-level conditions and requirements for design and technology (2022)

Published 11 November 2021

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## Introduction

## About this document

This document is part of a suite of documents which sets out the regulatory requirements for awarding organisations offering GCSE qualifications (graded from 9 to 1) in 2022.

We have developed these requirements with the intention that GCSE qualifications (graded from 9 to 1) should provide:

- evidence of students' achievements against demanding and fulfilling content
- a strong foundation for further academic and vocational study and for employment
- a basis for schools and colleges to be held accountable for the performance of all of their students, if required

## Requirements set out in this document

This document sets out the GCSE Subject Level Conditions for Design and Technology (2022). These conditions will come into effect at 09:30 on 12 November 2021 for all GCSE qualifications (graded from 9 to 1) in Design and Technology for Learners completing the qualification in 2022, except where the General Qualifications Alternative Awarding Framework applies.

It also sets out our requirements in relation to:

- interpretation of the content document - an awarding organisation must comply with these requirements under Condition GCSE(Design and Technology)1.1(c)
- assessment objectives - awarding organisations must comply with these requirements under Condition GCSE(Design and Technology)1.2
- assessment - awarding organisations must comply with these requirements under Condition GCSE(Design and Technology)2.3

With respect to GCSE qualifications (graded from 9 to 1) in Design and Technology in 2022, awarding organisations must also comply with:

- our [General Conditions of Recognition](#), which apply to all awarding organisations and qualifications;
- our [GCSE Qualification Level Conditions](#)
- all [relevant Regulatory Documents](#)

With respect to GCSE qualifications in Design and Technology taken by Learners completing the qualification in 2023 and after, an awarding organisation must continue to comply with the [GCSE Subject Level Conditions and Requirements for Design and Technology](#).

# Subject Level Conditions

## GCSE Subject Level Conditions for Design and Technology

### Condition GCSE(Design and Technology) 1: Compliance with content requirements

#### GCSE (Design and Technology)1.1

In respect of each GCSE Qualification in Design and Technology which it makes available, or proposes to make available, an awarding organisation must -

- (a) comply with the requirements relating to that qualification set out in the document published by the Secretary of State entitled '[Design and technology GCSE subject content](#)', document reference DFE- 00283-2015,
- (b) have regard to any recommendations or guidelines relating to that qualification set out in that document, and
- (c) interpret that document in accordance with any requirements, and having regard to any guidance, which may be published by Ofqual and revised from time to time.

#### GCSE (Design and Technology)1.2

In respect of each GCSE Qualification in Design and Technology which it makes available, or proposes to make available, an awarding organisation must comply with any requirements, and have regard to any guidance, relating to the objectives to be met by any assessment for that qualification which may be published by Ofqual and revised from time to time.

### Condition GCSE(Design and Technology) 2: Assessment

#### GCSE (Design and Technology)2.1

Condition GCSE4.1 does not apply to any GCSE Qualification in Design and Technology which an awarding organisation makes available or proposes to make available.

#### GCSE (Design and Technology)2.2

In respect of the total marks available for a GCSE Qualification in Design and Technology which it makes available, an awarding organisation must ensure that -

- (a) 50 per cent of those marks are made available through Assessments by Examination, and
- (b) 50 per cent of those marks are made available through assessments that are not Assessments by Examination.

#### GCSE(Design and Technology)2.3

An awarding organisation must ensure that in respect of each assessment for a

GCSE Qualification in Design and Technology which it makes available it complies with any requirements, and has regard to any guidance, which may be published by Ofqual and revised from time to time.

## **Subject content requirements**

### **Requirements in relation to subject content for GCSE Qualifications in Design and Technology**

The subject content for GCSE Qualifications (graded 9 to 1) in Design and Technology is set out in the Department for Education's [Design and Technology GCSE subject content](#), document reference DFE-00283-2015 (the 'Content Document').

Condition GCSE(Design and Technology)1.1(c) requires awarding organisations to interpret the Content Document in line with any requirements, and having regard to any guidance, published by Ofqual.

We set out our requirements for the purposes of Condition GCSE(Design and Technology)1.1(c) below.

#### **Prototypes and practical work**

An awarding organisation must interpret the Content Document as if –

- (a) in paragraphs 3, 7, 9 and 10 the requirement to make a prototype allows a Learner to make or produce a mock-up or clear and detailed intentions of prototypes rather than a finished product, and
- (b) in paragraph 10, the requirement for a Learner to apply in-depth knowledge to at least one of the material categories in paragraph 9 can be met through the Learner watching a demonstration of the use of a range of materials, parts, components, tools and equipment rather than using them him or herself.

## **Assessment objectives**

### **Assessment objectives - GCSE Qualifications in Design and Technology**

Condition GCSE(Design and Technology)1.2 allows us to specify requirements

relating to the objectives to be met by any assessment for GCSE Qualifications in Design and Technology.

The assessment objectives set out below constitute requirements for the purposes of Condition GCSE(Design and Technology)1.2. Awarding organisations must comply with these requirements in relation to all GCSE Qualifications in Design and Technology they make available.

Assessment objective	Description	Weighting
AO1	Identify, investigate and outline design possibilities to address needs and wants	10%
AO2	Design and make prototypes that are fit for purpose <sup>[footnote 1]</sup>	30%
AO3	Analyse and evaluate – <ul style="list-style-type: none"><li>• design decisions and outcomes, including for prototypes made by themselves and others</li><li>• wider issues in design and technology</li></ul>	20%
AO4	Demonstrate and apply knowledge and understanding of – <ul style="list-style-type: none"><li>• technical principles</li><li>• designing and making principles</li></ul>	40%

## Assessment requirements

### Assessment requirements - GCSE Qualifications in Design and Technology

Condition GCSE(Design and Technology)2.3 allows us to specify requirements in relation to assessments for GCSE Qualifications in Design and Technology.

We set out below our requirements for the purposes of Condition GCSE(Design and Technology)2.3. Awarding organisations must comply with these requirements in relation to all GCSE Qualifications in Design and Technology they make available.

#### Mathematical skills, knowledge and understanding

The subject content for GCSE Qualifications in Design and Technology is set out in the document published by the Secretary of State entitled '[Design and technology GCSE subject content](#)', document reference DFE-00283-2015 (the 'Content Document').

Appendix 1 to the Content Document specifies the mathematical skills, knowledge

and understanding which Learners will be required to apply in GCSE Qualifications in Design and Technology ('Mathematical Skills').

In designing and setting the Assessments by Examination for a GCSE Qualification in Design and Technology which it makes available, or proposes to make available, an awarding organisation must ensure that -

- (a) questions and tasks rewarding the use of Mathematical Skills assess those skills within the context of other areas of the subject content, and not in isolation,
- (b) at least 15 per cent of the marks in those Assessments by Examination reward the use of Mathematical Skills at a Level of Demand which is not lower than that which is expected of Learners at Key Stage 3 as outlined in the Department for Education's document 'Mathematics programmes of study: key stage 3', document reference DFE-00179-2013, and
- (c) without prejudice to the above requirements and those outlined in the Content Document, in each set of assessments [\[footnote 2\]](#) Mathematical Skills are assessed across a range of Levels of Demand which supports effective differentiation in relation to the qualification.

### **Scientific skills, knowledge and understanding**

Appendix 1 to the Content Document also specifies the scientific skills, knowledge and understanding which Learners will be required to apply for GCSE Qualifications in Design and Technology (the 'Science Requirements').

In respect of each GCSE Qualification in Design and Technology which it makes available, or proposes to make available, an awarding organisation must explain and justify in its assessment strategy how it has addressed the Science Requirements within both the specification and assessments for that qualification.

## **Non-examination Assessment**

Condition GCSE(Design and Technology)2.2(b) states that an awarding organisation must ensure that, of the total marks available for a GCSE Qualification in Design and Technology, 50 per cent of those marks are made available through assessments that are not Assessments by Examination.

In respect of the 50 per cent, an awarding organisation must ensure that the marks are comprised as follows -

- (a) 10 per cent through marks made available in respect of assessment objective AO1 (i.e. assessing AO1 in its entirety),
- (b) 30 per cent through marks made available in respect of assessment objective AO2 (i.e. assessing AO2 in its entirety), and
- (c) 10 per cent through marks made available in respect of assessment objective AO3.

In relation to paragraph (c) above, a Learner's analysis and evaluation of design decisions and outcomes must only be assessed through the assessments which are not Assessments by Examination.

In respect of those assessments, an awarding organisation must ensure that each Learner is required to complete a task which -

(a) requires the Learner to produce the following evidence -

- (i) a design brief developed in response to a contextual challenge set by the awarding organisation,
- (ii) either -
  - (A) a final prototype(s) based on that design brief, or
  - (B) a mock-up and/or clear and detailed intentions in relation to a prototype, and

(iii) such additional evidence as is necessary to enable the consideration of that Learner's level of attainment in respect of all of the relevant criteria against which Learners' performance in that assessment will be differentiated, and

(b) must be taken under conditions specified by the awarding organisation, including, in particular, conditions which -

- (i) ensure that the evidence generated by each Learner can be Authenticated, and
- (ii) require each Learner to produce the evidence in (a)(ii) above under Immediate Guidance or Supervision.

### **Contextual challenges**

The Content Document requires awarding organisations to set -

contextual challenges, which provide a basis from which students can undertake a design, make and evaluate project.

This provision must be interpreted in line with the requirements published under Condition GCSE(Design and Technology)1.1(c).

In respect of each set of assessments, an awarding organisation must not communicate the contextual challenges that it has set before 1 June in the calendar year preceding the year in which the qualification is to be awarded.

### **Marking of non-examination assessments**

Evidence generated by a Learner in an assessment for a GCSE Qualification in Design and Technology which is not an Assessment by Examination may be marked-

- (a) by the awarding organisation or a person connected to the awarding organisation,
- (b) by a Centre, or
- (c) through a combination of (a) and (b).

In any event, the awarding organisation must demonstrate to Ofqual's satisfaction in its assessment strategy that -

- a) it has taken all reasonable steps to identify the risk of any Adverse Effect which may result from its approach to marking the assessments (and to Moderation where appropriate) and
- (b) where such a risk is identified, it has taken all reasonable steps to prevent that Adverse Effect or, where it cannot be prevented, to mitigate that Adverse Effect.

- 
1. To be interpreted in line with the requirements on prototypes published under Condition GCSE(Design and Technology)1.1(c).↵
  2. For the purposes of these requirements, a 'set of assessments' means the assessments to be taken by a particular Learner for a GCSE Qualification in Design and Technology. For clarity, the assessments taken by Learners may vary, depending on any possible routes through the qualification.↵

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