

Your guide to the changes for 2021

Following an [Ofqual consultation](#), we have made changes to a number of our qualifications.

The changes are designed to reduce the pressure on teachers and students in the 2020/21 academic year, and to safeguard against ongoing public health concerns.

Please [use the specification on our website](#), alongside this document which shows how our qualifications will differ in summer 2021.

Overview of changes for GCSE (9–1) Design and Technology

Ofqual have confirmed that students taking GCSE Design and Technology in summer 2021:

- **will not** have to make final prototypes for their non-examined assessment (NEA)
- **will** still need to demonstrate their use of machinery, tools and processes.

By not requiring a final prototype, it allows teachers to deliver the qualification whilst meeting, where necessary, their own centre specific restrictions through a reduction in time each student will need to spend in a workshop and/or design studio. There is no restriction on students creating a final prototype(s) if facilities and arrangements allow for this in your centre. However, for summer 2021 any final prototypes that are produced will not form part of the assessment.

GCSE (9–1) in Design and Technology for academic year 2020/21

Students need to develop design solutions, presenting a final design accompanied by a technical specification and sufficient mock-ups that fully present the feasibility of the design solution.

- As set out in the specification, the technical specification must demonstrate a student's understanding of industrial manufacture for their design solution.
- The overall design solution will need to ensure its feasibility through adequate 2D and 3D modelling and mock-ups.
- As appropriate the overall design solution should demonstrate functional as well as aesthetic intentions.

Evidence is required of students undertaking activities that demonstrate their use of appropriate machinery, tools and processes:

- Demonstrate materials and processes that would be appropriate for making their prototype in a workshop/design studio, students will need to prepare a plan of making that follows their technical specification. It should clarify how they would have made a prototype if they were able to.
- Demonstrate their use of appropriate machinery, tools and processes. Students can either:
 - deliver these as isolated activities in line with their plan of making, e.g.
 - A single component being 3D printed
 - A single pocket being sewn
 - A single dovetail joint being prepared
 - A single component being soldered etc.
 - produce a step-by-step written and/or illustrated report demonstrating how they would have used the appropriate machinery, tools and processes if it is not permitted to use the workshop or design studio due to public health safeguards.

There are **no changes to subject content**. Students will continue to be examined in ‘Principles of Design and Technology’. To build their deeper understanding of manufacturing, workshop and design practices, centres can use teacher demonstrations or appropriate internet links to support this learning.

Content Overview	Assessment Overview
<p>This component brings together the learners ‘core’ and ‘in-depth’ knowledge and understanding.</p> <ul style="list-style-type: none">‘Core’ knowledge of Design and Technology principles demonstrates learners’ broad understanding of principles that all learners should have across the subject.‘In-depth’ knowledge allows learners to focus more directly on at least one main material category, or design engineering. <p>The question paper is split into two sections.</p> <p>A minimum of 15% of the paper will assess learners’ mathematical skills as applied within a design and technology context.</p>	<p>Principles of Design and Technology (01)</p> <p><i>100 marks</i> <i>2 hours</i> <i>Written paper</i></p> <p>50% of total GCSE</p>
<p>This component offers the opportunity for learners to demonstrate understanding of and skills in iterative designing, in particular:</p> <ul style="list-style-type: none">the interrelated nature of the processes used to identify needs and requirements (explore)creating solutions to meet those needs (create)evaluating whether the needs have been met (evaluate). <p>As an outcome of their challenge, learners will produce a chronological portfolio.</p> <p>It is through the iterative processes of designing that learners draw on their wider knowledge and understanding of Design and Technology principles.</p> <p>Contextual challenges will be released on 1 June each year.</p>	<p>Iterative Design Challenge (02, 03)</p> <p><i>100 marks</i> <i>Approx. 25 hours</i> <i>Non-exam assessment</i></p> <p>50% of total GCSE</p>

What has changed?

To deliver the changes, the following areas of the specification have been adapted for summer 2021:

- Taking the Challenge (Section 3a, Pages 28 to 31)
- Required evidence (Section 3a, Page 31)
- Final Submission (Section 3f, Page 34)
- Marking criteria (Section 3f, Pages 35 to 40)
- Candidate Record Form (CRF)

The specific changes are outlined below:

What has changed – Specification	Detail
Taking the challenge Section 3a Pages 28 to 31	<p>Introduction (Page 28)</p> <p>The ‘Iterative Design Challenge’ requires learners to develop a design solution through iterations of exploring, creating and evaluating that constantly respond to stakeholder needs, wants and interests. This process should be followed and evidenced to demonstrate an accurate account of their progress.</p> <p>Throughout the NEA it is essential that the teacher can authenticate that the learner’s work is their own.</p> <p>Developing a final design solution (Page 29)</p> <p>When developing a design solution, learners should consider the solution as it would look and function if sold as a product. This should include experimentation of processes and techniques through modelling and testing.</p> <p>Digital design and manufacture must be demonstrated either through the development of the final design solution or when undertaking activities to demonstrate how they would have made their final prototype(s).</p> <p>Delivering a technical specification (Page 30)</p> <p>Learners are required to justify and present their final design solution through a technical specification that delivers specific written and graphical information to outline how the final design solution meets the stakeholder requirements and will support accurate production. The specification should offer justification and a suitable level of information so that a third party would know what the intentions are for manufacturing the design solution as a product.</p>

What has changed – Specification	Detail
<p>Taking the challenge Section 3a Pages 28 to 31</p>	<p>Planning how to make a prototype Learners are required to produce a plan of making to demonstrate materials and processes that would be appropriate for making a final prototype in a workshop/design studio. This plan should clarify how they would have made a final prototype(s) if they were able to, understanding the different materials and processes that may be required to make a final prototype(s) as opposed to manufacturing a product.</p> <p>Practical demonstration of appropriate machinery, tools and processes When learners are demonstrating their use of appropriate machinery, tools and processes, this must be completed under the required level of guidance and supervision within the centre. This is to ensure that each learner is witnessed producing their own evidence so it can be authenticated, and the learner's safety can be assured. This guidance and supervision applying equally to written/illustrated reports as much as isolated practical activities.</p> <p>Guidance and supervision requirements Authenticating practical demonstrations is of great importance as this is the only activity that cannot be fully recorded in the design process. It is expected that demonstration of using machinery, tools and processes should be resourceful, both in terms of time and of materials. Learners must be under direct teacher and/or technician supervision during this time. They must complete all of their work under these supervised conditions and the teacher must set the tone for this element of the NEA. To make best use of supervised time, it is important that learners are prepared for and plan their activity in advance. It is also important for learners to write a report and offer photographic evidence of their demonstrations in their portfolio. The writing of this does not need to be under direct supervision. Another reason for this supervised activity is so that the teacher can authenticate the level of guidance and support given through their demonstrations. Any support that is given to assist a learner during production should be recorded by the supervisor concerned, whether it is direct assistance or due to health and safety requirements in the centre. The level of assistance given should be reflected in the assessment of the learner's NEA. Learners can make arrangements to demonstrate use of hand tools, machinery and processes outside of the centre, but for these to be recognised as the learner's work, they must, at all times, be under immediate guidance and supervision from a member of staff or by an industry professional who can be trusted to authenticate that the demonstration was solely undertaken by the learner. This guidance and supervision applying equally to written/illustrated reports as much as isolated practical activities.</p>

What has changed – Specification	Detail
Required evidence Section 3a Page 31	<p>Practical Demonstrations Demonstration activities relating to the learner’s design solution must be clearly evidenced by the learner in their portfolio using photography, videos and/or written/illustrated instructions. All moving parts and perspectives should be appropriately visible to ensure it offers suitable evidence.</p> <p>Observations Teachers are the most appropriate individuals to evidence a learner’s progress and the level of support given or independence demonstrated. Evidence of this nature can only be accepted in conjunction with the portfolio and evidence of practical demonstrations.</p> <p>Observed evidence is supporting evidence that should be recorded on the ‘Candidate Record Form’ and should reflect the wider evidence and support the internal marking.</p>

What has changed – Specification	Detail
Marking criteria Section 3f Pages 35 to 40	<p>To deliver assessment that is accessible to all learners, we have made changes to the marking criteria accordingly. Most Strands remain completely unchanged. We have not changed the overall marks available for any Strand and the best-fit principles therefore remain the same.</p> <p>Introduction (Page 35) The marking criteria are set out over the following pages to outline how learners are to be assessed following completion of their own iterative design process that reflects their thinking, creative and practical skills and abilities through designing and making.</p> <p>The marking criteria covers four mark bands to clearly differentiate learners’ work and are delivered through five strands of assessment, rewarding two distinct considerations:</p> <ul style="list-style-type: none"> • the thinking and design process of the ‘Product Development’ through explore/create/ evaluate is assessed in strands 1, 2 and 5 • the quality of design outcomes in relation to design communication and practical demonstrations are assessed in strands 3 and 4.

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Assessment Objective weightings per component for summer 2021	<p>Assessment of outcomes</p> <p>The two outcome strands (3 and 4) of the marking criteria are an opportunity for assessment of the graphical and practical outcomes delivered throughout the learner’s design processes. This is the assessor’s judgement of:</p> <ul style="list-style-type: none"> • the quality of design communication • the planning and practical demonstrations of machinery, tools and processes that would be used to make a final prototype(s). <p>The assessment of ‘outcomes’ can only be made against what is evidenced in the learner’s chronological e-portfolio.</p> <p>Strand 4 – Create: Practical Demonstrations (AO2) (Page 39)</p> <table border="1" data-bbox="674 797 1473 1951"> <thead> <tr> <th data-bbox="674 797 992 887">Statement</th><th data-bbox="992 797 1119 887">Mark Band</th><th data-bbox="1119 797 1473 887">Mark Bands</th></tr> </thead> <tbody> <tr> <td data-bbox="674 887 992 999">Quality of planning for making the final prototype(s)</td><td data-bbox="992 887 1119 999">All</td><td data-bbox="1119 887 1473 999"><i>Descriptions remain unchanged</i></td></tr> <tr> <td data-bbox="674 999 992 1134"><i>Quality of the final prototype(s)</i></td><td data-bbox="992 999 1119 1134">All</td><td data-bbox="1119 999 1473 1134"><i>This assessment statement is not to be assessed for summer 2021 submissions</i></td></tr> <tr> <td data-bbox="674 1134 992 1673" rowspan="4">Demonstrating the use of specialist techniques and processes</td><td data-bbox="992 1134 1119 1268">MB1</td><td data-bbox="1119 1134 1473 1268"><i>Rarely appropriate to materials/components planned to be used.</i></td></tr> <tr> <td data-bbox="992 1268 1119 1403">MB2</td><td data-bbox="1119 1268 1473 1403"><i>Not consistently appropriate to materials/components planned to be used.</i></td></tr> <tr> <td data-bbox="992 1403 1119 1538">MB3</td><td data-bbox="1119 1403 1473 1538"><i>Consistently appropriate to materials/components planned to be used.</i></td></tr> <tr> <td data-bbox="992 1538 1119 1673">MB4</td><td data-bbox="1119 1538 1473 1673"><i>Effective and consistently appropriate to materials/components planned to be used.</i></td></tr> <tr> <td data-bbox="674 1673 992 1951">Demonstrating the use of specialist tools and equipment</td><td data-bbox="992 1673 1119 1951">MB1</td><td data-bbox="1119 1673 1473 1951"><i>Demonstration of the use and selection of hand tools, machinery, digital design and/or manufacture* are rarely appropriate, demonstrating little knowledge.</i></td></tr> </tbody> </table>			Statement	Mark Band	Mark Bands	Quality of planning for making the final prototype(s)	All	<i>Descriptions remain unchanged</i>	<i>Quality of the final prototype(s)</i>	All	<i>This assessment statement is not to be assessed for summer 2021 submissions</i>	Demonstrating the use of specialist techniques and processes	MB1	<i>Rarely appropriate to materials/components planned to be used.</i>	MB2	<i>Not consistently appropriate to materials/components planned to be used.</i>	MB3	<i>Consistently appropriate to materials/components planned to be used.</i>	MB4	<i>Effective and consistently appropriate to materials/components planned to be used.</i>	Demonstrating the use of specialist tools and equipment	MB1	<i>Demonstration of the use and selection of hand tools, machinery, digital design and/or manufacture* are rarely appropriate, demonstrating little knowledge.</i>
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		MB2	<i>Demonstration of the use and selection of hand tools, machinery, digital design and/or manufacture* are not always consistently appropriate, demonstrating sufficient knowledge.</i>
		MB3	<i>Demonstration of the use and selection of hand tools, machinery, digital design and/or manufacture* are consistently appropriate, demonstrating good knowledge.</i>
		MB4	<i>Demonstration of the use and selection of hand tools, machinery, digital design and/or manufacture* are effective and consistently appropriate, demonstrating excellent knowledge.</i>
<i>Viability of the final prototypes(s)</i>		All	<i>This assessment statement is not to be assessed for summer 2021 submissions</i>
<p>*This statement can be used to assess the demonstration of using appropriate hand tools, machinery, digital design and manufacture through earlier modelling, so long as there is appropriate evidence to support this.</p> <p>Strand 5 – Evaluate (AO3) (Page 40)</p>			
Analysis and evaluation of primary and/or secondary sources		All	<i>Descriptions remain unchanged</i>
Ongoing evaluation to manage design progression		All	<i>Descriptions remain unchanged</i>
Feasibility of the design solution		All	<i>Descriptions remain unchanged</i>
Evaluation of the design solution		All	<i>Descriptions remain unchanged</i>
<p>The above references highlight specific changes to the Marking Criteria. A summer 2021 NEA Marking Criteria document will be made available where you will find the full criteria to be assessed for summer 2021.</p>			

What has changed – Forms	Detail
Candidate Record Form (CRF)	<p>To align with the changes to the marking criteria, we will update the Candidate Record Form (CRF) to account for the deletions and modifications outlined above.</p> <p>This form is published in an interactive format that automatically calculates the averages of each Strand as well as the overall mark. We strongly advice to use the CRF in this way rather than printing it off and completing it by hand.</p> <p>The modified CRF for summer 2021 will be updated and made available soon.</p>

Support

OCR's team of expert Subject Advisors has created videos, webinars, and other resources to guide you through these changes and help you prepare your students for their exams in summer 2021.

These resources can be found [here](#).

Contact Us

If you would like to contact us, you can do so at:

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