

GCSE Design and Technology notes and guidance: NEA 2022

Ofqual released the following proposal to modify the assessment requirements for GCSE Design and Technology in response to disruption to education caused by the coronavirus (Covid-19) pandemic:

“Permit exam boards to accept mock-ups and/or clear and detailed intentions of prototypes. Exam boards to provide clarification about their requirements. Permit demonstration of using machinery/tools/processes.”

This document identifies the changes we have made to our specifications in response to these modifications.

Summary

All sections of the non-exam assessment (NEA) up to and including ‘Developing design ideas’ will remain the same for 2022. There will be changes to the ‘Realising design ideas’ section and the ‘Analysing and evaluating’ sections (detailed below).

There are no planned changes to the exam. The same specification content should be covered as always, and the exam questions and associated mark schemes will look the same as in previous years of this specification.

NEA will still count as 50% of the overall GCSE qualification.

Changes in detail

Realising design ideas

- This section has been reduced from 20 to 10 marks.
- Students will no longer be assessed on the skill of making, but will be required to show their ‘intentions of prototypes’ and demonstrate their understanding of the processes involved in making.
- The assessment no longer requires students to make a final prototype – instead, they can show their understanding of the processes involved in making by writing about them. However, making skills are important for progression to future study, and for students’ understanding, so we’d encourage you to continue to allow students to make wherever possible. This is one way of demonstrating the knowledge tested in the 2022 ‘Realising design ideas’ section.

Mark band	Description
8-10	<p>The correct tools, materials and equipment (including CAM, where appropriate) have been selected and students have demonstrated a high level of understanding of their use.</p> <p>A high level of quality control is planned to ensure the prototype would be accurate.</p> <p>An exceptionally high quality prototype that has the potential to be commercially viable has been designed and fully meets the needs of the client/user.</p>
5-7	<p>The correct tools, materials and equipment (including CAM, where appropriate) have been selected and students have demonstrated a good level of understanding of their use.</p> <p>Detailed quality control is planned to ensure the prototype would be mostly accurate.</p> <p>A good quality prototype that has the potential to be commercially viable has been designed and mostly meets the needs of the client/user.</p>
3-4	<p>The correct tools, materials and equipment (including CAM, where appropriate) have been selected and students have demonstrated an adequate level of understanding of their use.</p> <p>Some quality control is planned to ensure the prototype would show some accuracy.</p> <p>A prototype of sufficient quality has been designed that may have the potential to be commercially viable, although further developments would be required, and which only partially meets the needs of the client/user.</p>
1-2	<p>Tools, materials and equipment (including CAM, where appropriate) have been selected and students have demonstrated a basic understanding of their use.</p> <p>Basic quality control is planned.</p> <p>A prototype of basic quality has been designed with little or no potential to be commercially viable and does not meet the needs of the client/user.</p>
0	Nothing worthy of credit

Any reference to making skills has been removed from the assessment criteria, but there is a need to demonstrate **understanding** of tools, materials and equipment. This can still be shown through practical demonstration where possible, or through detailed documentation of the processes that would take place if making were possible in cases where it is not.



Realising potential

Centres are encouraged to continue to allow students to do practical work where possible, but there is now no requirement to do so within the assessment criteria. Students may access the full range of marks by documenting the processes in detail as this shows their understanding of such. Similarly, they may access the full range of marks by showing their understanding of the processes through making.

Students are still required to show evidence of quality control but this can be planned rather than undertaken.

Students are assessed on the quality of their design, its potential for commercial viability and their consideration of the client/user.

Analysing and evaluating

- This section has been reduced from 20 to 15 marks.
- Analysis and evaluation throughout the design process can take place in relation to prototype ideas and models.
- There's no expectation to test a final made prototype, but students should find ways of testing prototype designs.

Mark band	Description
12-15	<p>Extensive evidence that various iterations are as a direct result of considerations linked to testing, analysis and evaluation of the prototype design, including well considered feedback from third parties.</p> <p>Comprehensive testing of all aspects of the final prototype design against the design brief and specification. Fully detailed and justified reference is made to any modifications proposed.</p> <p>Excellent ongoing analysis and evaluation evident throughout the project that clearly influences the design brief and the design and manufacturing specifications.</p>
8-11	<p>Good evidence that various iterations are as a result of considerations linked to testing, analysis and evaluation of the prototype design, including some consideration of feedback from third parties.</p> <p>Good testing of most aspects of the final prototype design against the design brief and specification. Detailed reference is made to any modifications proposed.</p> <p>Good analysis and evaluation at most stages of the project that influences the design brief and the design and manufacturing specifications.</p>
4-7	<p>Some evidence that various iterations are as a result of considerations linked to testing, analysis and evaluation of the prototype design, including basic consideration of feedback from third parties.</p> <p>Adequate testing of some aspects of the final prototype design against the design brief and specification. Some reference is made to any modifications proposed.</p> <p>Adequate analysis and evaluation is present at some stages of the project but does not have sufficient influence on the design brief and the design and manufacturing specifications.</p>

1-3	<p>Limited evidence that various iterations are as a result of considerations linked to testing, analysis and evaluation of the prototype design.</p> <p>Basic testing of some aspects of the final prototype design against the design brief and specification. Little reference is made to any modifications proposed.</p> <p>Superficial analysis and evaluation. Little influence on the design brief and the design and manufacturing specifications.</p>
0	Nothing worthy of credit

Within this iterative design process students are still expected to continuously analyse and evaluate their work, using their decisions to improve outcomes. This should include defining requirements, analysing the design brief and specifications along with testing and evaluating of ideas produced during the generation and development stages. Testing of the final prototype design is still important, but students may need to test in different ways if they do not have a final made prototype. This can be done through the testing of models, CAD and simulated testing etc. This should also include market testing and a detailed analysis of the prototype design.

The amendment in marks for both of these sections leaves the final NEA worth a maximum of 85 marks (rather than 100 in the original specification). This mark will be scaled to ensure that the NEA remains worth 50% of the qualification. We have provided marked example portfolios using the 2021 assessment criteria which are available on e-AQA and Centre Services.