

A-level Design and Technology notes and guidance: NEA 2022

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

‘Permit 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 ‘Development of design proposals’ will remain the same for 2022. There will be changes to the ‘Development of design prototypes’ section and the ‘Analysing and evaluation’ section.

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 qualification.

Changes in detail

Development of design prototypes

- This section has been reduced from 25 to 15 marks.
- Students will no longer be assessed on the skill of making but are 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 ‘Development of design prototype’ section.

Mark band	Description
12-15	<p>Excellent justification provided for selection of appropriate materials and components and proposed techniques and processes.</p> <p>Excellent understanding of material properties, tools, equipment and processes is demonstrated to ensure excellent quality prototype design(s) that are fit for purpose.</p> <p>Prototype design(s) fully address the design brief, satisfying all major points of the specification and take into account all amendments/modifications to their original design proposals as necessary.</p> <p>Student makes all required modifications to their final prototype design(s) in a fully considered manner in light of third party feedback and as a result of testing and evaluation carried out against earlier models/iterations of the prototype.</p> <p>Quality assurance planning is evident throughout to ensure consistency and safety.</p> <p>Clear evidence that appropriate health and safety processes have been considered.</p>
8-11	<p>Good justification provided for selection of appropriate materials and components and proposed techniques and processes.</p> <p>A good understanding of material properties, tools, equipment and processes are demonstrated to ensure good quality prototype design(s) that are fit for purpose.</p> <p>Prototype design(s) mostly addresses the design brief, satisfying the majority of major points of the specification and takes into account some amendments/modifications to their original design proposals as necessary.</p> <p>Student makes some well thought-out modifications to their final prototype design(s) in light of third party feedback and as a result of testing and evaluation carried out against earlier models/iterations of the prototype.</p> <p>Quality assurance planning is evident at most stages in the process to ensure consistency and safety.</p> <p>There is evidence that appropriate health and safety processes have been considered.</p>

4-7	<p>Adequate justification provided for selection of appropriate materials and components and proposed techniques and processes.</p> <p>Adequate understanding of material properties, tools, equipment and processes are demonstrated to ensure adequate quality prototype design(s) that are mostly fit for purpose.</p> <p>Prototype design(s) partially address the design brief, satisfying some of the major points of the specification, but do not always take into account amendments/modifications to their original design proposals.</p> <p>Student makes some superficial modifications to their final prototype design(s) in light of third party feedback and as a result of testing and evaluation carried out against earlier models/iterations of the prototype.</p> <p>Quality assurance planning is evident at stages in the process to ensure consistency and safety.</p> <p>There is some evidence that appropriate health and safety processes have been considered.</p>
1-3	<p>Little justification provided for selection of materials and components and proposed techniques and processes, not all of which may be appropriate.</p> <p>A basic understanding of material properties, tools, equipment and processes are demonstrated which may lead to the production of an inadequate prototype design(s).</p> <p>Prototype design(s) address only a few parts of the design brief, and few of the major points of the specification. Student does not take into account amendments/modifications to their original design proposals</p> <p>Student makes a few minor modifications to their final prototype design(s) in light of third party feedback and as a result of testing and evaluation carried out against earlier models/iterations of the prototype.</p> <p>Basic quality assurance planning is sporadic throughout the process.</p> <p>There is little evidence that appropriate health and safety processes have been considered.</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.

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 should still work to produce a final prototype design that satisfies the brief and specification and provides a real solution to a problem. They should evaluate throughout the process, using third party feedback to develop their ideas into a final outcome, but this outcome does not necessarily need to be a made prototype. Evidence of modifications can be shown through modelling, CAD, sketches and notes etc.

Students are still required to show evidence of quality control and an awareness of health and safety 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 evaluation

- 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>Comprehensive evidence of analysis and evaluation throughout the process, which has clearly informed the chosen context, client or user and the subsequent development of the prototype design(s).</p> <p>Testing is carried out in a focused and comprehensive way with clear evidence of how the results have been used to inform the design and any modifications to the prototype design(s).</p> <p>Student has provided a well reasoned critical analysis of their final prototype design(s) which links clearly to their design brief and specification. Student provides full justification for the extent to which the prototype design(s) is both fit for purpose and meets the needs of the client/user.</p> <p>A comprehensive critical evaluation of their final prototype design(s), clearly identifying how modifications could be made to improve the outcome together with a full justification for these modifications and full consideration provided for how the prototype design(s) could be developed for different production methods.</p>

8-11	<p>Good evidence of analysis and evaluation at most stages of the process which has informed the chosen context, client or user and the subsequent development of the prototype design(s).</p> <p>Testing is carried out in a focused manner with some evidence of how the results have been used either to inform the design or to make any modifications to the prototype design(s).</p> <p>Student has provided a reasoned critical analysis of their final prototype design(s) which links to their design brief and specification and provides some justification for the extent to which the prototype design(s) is fit for purpose and meets most of the client/user needs.</p> <p>A good evaluation of their final prototype design(s) together with clear justification for modifications that could be made to improve the outcome and informed consideration provided for how the prototype design(s) could be developed for different production methods.</p>
4-7	<p>Adequate evidence of analysis and evaluation at some stages of the process which has had some influence upon the chosen context, client or user and the subsequent development of the prototype design(s).</p> <p>Testing is carried out with minimal evidence that the results have been used to either inform the design or to make modifications to the prototype design(s).</p> <p>Student has provided an analysis of their final prototype design(s) with some links to their design brief and specification and makes reference to how the prototype design(s) is fit for purpose and meets some client/user needs.</p> <p>An adequate evaluation of their final prototype design(s) together with some justification for modifications that could be made to improve the outcome as well as some consideration given for how the prototype design(s) could be developed for different production methods.</p>
1-3	<p>Basic evidence of analysis and evaluation which has had limited influence upon the chosen context, client or user and the subsequent development of the prototype design(s).</p> <p>Testing has been carried out but the results may not have been used to inform subsequent design or modifications to the prototype design(s).</p> <p>Student has provided a superficial analysis of their final prototype design(s) which may not refer to the design brief and specification and which does not address the extent to which the prototype design(s) is either fit for purpose or meets client/user needs.</p> <p>Evaluation of final prototype design(s) is superficial and any suggestions for modifications are made with little if any justification and there is little or no consideration as to how the prototype design(s) could be developed for different production methods.</p>
0	Nothing worthy of credit

When awarding marks for this section it is vital to remember that evidence for analysing and evaluating can take place in any part of the NEA. Students should be encouraged to be constantly analysing their work and recording their thoughts in order to explain their thinking. Ongoing evaluation should be seen to be informing the decision making process, particularly being used to bring about modifications to design proposals and development. Central to this is the close and regular involvement of the proposed client/user(s), making sure that the final prototype design is both fit for purpose and meets the requirements of the client/user(s) rather than just meeting those of the student.

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.