

General Certificate of Education **Design and Technology:** **Product Design (3-D Design)**

PROD2

Report on the Examination

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General Comments

Once again, this year has seen a very broad range of project work which reflects the creative nature of the subject. At AS level, more centres seem to be giving students freedom of choice for their task, and these have often led to more successful pieces of work than projects that follow a particular theme set by the teacher.

However, the appropriate selection of an appropriate project task seems to have been critical in how successful students were in terms of meeting the assessment criteria. Where centres have carefully considered the assessment criteria and what evidence a particular type of project would generate, they have usually had no problems in fulfilling the expectations of the specification. Unfortunately, there are a number of centres that allowed students to embark on projects that were never going to generate sufficient evidence to meet the assessment criteria, and these have often been over rewarded. Centres are reminded to consult their appointed Coursework Advisors to check the suitability of project tasks.

Computer aided manufacturing equipment, in particular 3D printers and laser cutters, are becoming more widely used in schools and colleges. Whilst the use of such equipment is appropriate as a tool, centres are reminded that in order to access the top mark bands for manufacture, students need to demonstrate the use of a wide range of high level making and modelling skills. Where students make their outcomes using 3D printers, laser cutters or CNC routers, they must demonstrate other making skills through the manufacture of accurate models, test pieces, or additional items such as packaging and point of sale displays, if they are to be awarded marks in the top mark band of the making/modelling assessment criterion. Sophisticated computer aided design drawings should be rewarded in the development or communication and presentation sections of the assessment criteria.

1. Investigation and Clarification of Problems

This year, has seen an increase in centres submitting work which is largely internet based and lacking primary investigation. Far too many students are padding projects out with unnecessary materials research, or written work about fictional clients, or social and ethical considerations. On a more positive note, specifications generally seem to be improving with most students including measurable criteria that products can be tested against.

2. Development of Design Proposal

As in previous series, the majority of students do not seem to consider a range of different materials or construction methods once they have chosen the final product to develop. In most cases, only one method of manufacture is detailed and there is little or no justification of choice. Such work has often been awarded marks in the top mark band and will often lead to an adjustment in the moderation process. More centres are making good use of CAD to produce detailed working drawings which is a very positive development.

3. Making/Modelling

In the best centres, students present evidence for modelling and making over 2-3 A3 sheets using thumbnail photographs and explanatory notes. The final outcome is then usually photographed in detail with good quality images that show the attention to accuracy and finish. In addition, teacher annotation would explain any particularly challenging or skilful work that the student has tackled. Sadly, in many cases, this year, moderators have received folders with few images to the

modelling and making. At times, photographs have been unclear and moderators have then had to visit centres to accurately assess practical work. At this level, in order to access the high mark band, students need to tackle practical work that will demonstrate a high level of skills. Unfortunately, work is often not particularly demanding but over rewarded by centres. There are examples of practical work and the marks they were awarded available on eAQA (Teacher Online Standardisation).

4. Evaluation and Testing

In high scoring projects, there is evidence of high levels of on-going evaluation including; analysis of research work, comparison of design ideas against the specification and analysis of models or test pieces during the development and making stages.

The best examples of work show the finished outcomes being tested in their intended environment or in a simulated one. This is usually coupled with genuine third party comments that may give some suggested weaknesses and improvements. Again, the best students compare their outcomes to their specification and give their own objective comment. Finally, high scoring work will include notes and diagrams showing how the product could be improved.

In many cases, the design folders seem to lack evidence of testing the final outcome.

5. Communication and Presentation.

Centres are generally more accurate at assessing this criterion and reserve the top mark band for the very best communication. Unfortunately, there are a few centres that seem to apply marks for this criterion without using differentiation between students. Clearly, where there are errors in written work, the range of media is limited or there are missing items such as working drawings, photographs of the making process and explanatory notes, the work should be awarded a mark in the lower mark bands.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results Statistics](#) page of the AQA Website.

Converting Marks into UMS marks

Convert raw marks into Uniform Mark Scale (UMS) marks by using the link below.

[UMS conversion calculator](#)