
General Certificate of Education Design and Technology: Product Design 3D

PROD2

Report on the Examination

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General

This year we have seen some fantastic portfolios which have been used to maximise the candidates' access to the higher mark bands and provide a range of experience in different material areas. Unfortunately, there are still a lot of centres producing portfolios using different projects but replicating work covering the marking criteria over and over again at a fairly limited depth. It is much better practice to produce a number of projects that only target a few criteria and focus on the depth and rigour of the criteria.

A significant number of candidate record forms seemed to lack teacher annotation. This can make the moderation process much more difficult where it is not clear how marks were awarded, particularly if the evidence in the folder does not seem to support the mark.

1. Investigation and Clarification of Problems

Some centres are still producing too much secondary research with very little in the way of primary, especially Product Analysis. Where we do see this, it is often limited analysis of products found on the Internet. Unfocussed materials research is still a problem with too much being carried out before the product has been designed and is hence irrelevant. It is much better to focus on materials and processes that are actually going to support the development of the product and to put the work in the development section of the portfolio. Specifications should focus on the research work collected and try to provide quantitative measures for success criteria such as size, weight and ergonomics.

2. Development of Design Proposal

This year, we have seen a large number of candidates working from a limited range of initial ideas sometimes lacking in creativity and variety. Many candidates had a lot of different initial ideas but they lacked creativity and were often just a range of variations on a theme. Centres should encourage candidates to produce design ideas that vary in shape, proportions, materials and manufacturing processes. Modelling work often consists of simply producing a 3D version of the final design rather than being used as a vehicle for development. Although not a mandatory requirement, lots of candidates do not seem to use CAD. There are a number of free CAD packages available and where we have seen such work, it was often outstanding. Final designs and dimensioned technical drawings are often missing.

Centres are still over rewarding this section often by up to 8 to 10 marks. Typically we see a few hand drawn ideas, a drawing of the final product which leads into photos showing the making process but little evidence of the development. Rarely are possible changes or modifications to the design discussed or justified but candidates are often given almost full marks.

3. Making/Modelling

There is a considerable variety of work presented for this criterion, some of which is innovative and some very traditional. Candidates need to focus on the quality of finish in manufactured outcomes. In a small number of centres, the making and modelling mark has been attributed to a 3D printed model, straight off the printer. In such cases, candidates are not going to have demonstrated the range of skills or attention to finish warranting high marks.

Centres are reminded that candidates can produce work which is largely CAD/CAM providing they have demonstrated high level making skills in either the modelling or in testing different manufacturing techniques.

At AS level, some of the best examples of making and modelling have included not only the product but some very sophisticated and elegant packaging. This often supports the making mark where the main product might be exclusively made using CAD/CAM.

Unfortunately assessment of this section is often lenient with some centres rewarding simple making and joining skills with high marks.

4. Evaluation and Testing

Centres need to ensure that they allow enough time for the candidates to fully complete their evaluations. Candidates often miss opportunities for on-going evaluation such as the review of design ideas with a third party or the evaluation of ideas or models against a design specification. Too often they appear to be rushed. The best projects show the product being tested by a third party or being used in its intended location. Such candidates will often sketch possible modifications to the product in the light of third party comment.

5. Communication and Presentation.

We have seen some outstanding communication and presentation but often work is untidy with poor sketching. Centres are reminded to reserve the top mark band for the very best work. All too often, we see the same mark awarded to all candidates in the centre but the actual quality between candidates varies greatly.

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 www.aqa.org.uk/umsconversion