Course report 2025

Advanced Higher Design and Manufacture

This report provides information on candidates' performance. Teachers, lecturers and assessors may find it useful when preparing candidates for future assessment. The report is intended to be constructive and informative, and to promote better understanding. You should read the report with the published assessment documents and marking instructions.

We compiled the statistics in this report before we completed the 2025 appeals process.

Grade boundary and statistical information

Statistical information: update on courses

Number of resulted entries in 2024: 52

Number of resulted entries in 2025: 61

Statistical information: performance of candidates

Distribution of course awards including minimum mark to achieve each grade

Course award	Number of candidates	Percentage	Cumulative percentage	Minimum mark required
A	7	11.5	11.5	138
B	13	21.3	32.8	118
C	19	31.1	63.9	98
D	11	18.0	82.0	78
No award	11	18.0	100%	Not applicable

We have not applied rounding to these statistics.

You can read the general commentary on grade boundaries in the appendix.

In this report:

- ‘most’ means greater than or equal to 70%
- ‘many’ means 50% to 69%
- ‘some’ means 25% to 49%
- ‘a few’ means less than 25%

You can find statistical reports on the statistics and information page of our website.

Section 1: comments on the assessment

Question paper

Most questions performed as expected. However, question 5(b) was slightly more demanding than anticipated for some candidates.

Assignment

The assignment was unchanged from the previous year and performed as expected.

Section 2: comments on candidate performance

Areas that candidates performed well in

Question paper

Question 1(a)

Many candidates demonstrated good knowledge and understanding in discussing the suitability of the materials used to manufacture the products they had analysed.

Question 1(b)

Many candidates demonstrated good knowledge and understanding in discussing the suitability of the processes used to manufacture the products they had analysed.

Question 3(a)

Many candidates clearly described how physiology had influenced the design of the wheelchair.

Question 4(b)

Most candidates clearly discussed the issues that would have influenced the selection of materials for the components of the Ice Rescue Board.

Question 4(c)(i)

Most candidates clearly described methods that could be used to ensure quality during the production of the Ice Rescue Board.

Question 4(c)(ii)

Many candidates clearly described methods that could be used to assure customers that the Ice Rescue Board is safe to use.

Question 5(a)

Many candidates gave a description on how biomimicry has been used to generate ideas for other products that provided enough depth required to attract marks at this level.

Assignment

Generating initial ideas

Most candidates generated appropriate initial ideas and achieved marks in the top two bands for this section. A few candidates achieved marks in lower bands as they had not clearly defined the problem, which led to limited generation of initial ideas.

Apply graphic techniques

Most candidates demonstrated effective application of graphic techniques and achieved marks in the top two bands for this section.

Producing a plan for commercial manufacture

Candidates generally performed well in this section, with many candidates achieving marks in the top two bands.

Manufacture a presentation model

Many of the candidates who manufactured a presentation model demonstrated the required skills to gain marks in the top two bands, with some candidates gaining marks in the top band.

Areas that candidates found demanding

Question paper

Question 2(c)

Many candidates did not describe to the required level the impact the products they researched may have had on the environment, meaning they could not access the full range of marks.

Question 2(d)

A few candidates described how future developments in materials and technologies may influence the evolution of the products they had researched to the depth required to attract marks.

Question 5(b)

Many candidates did not refer to the information contained in the bullet points, and did not discuss how members of a design team use different graphic techniques to communicate with each other to the depth required at Advanced Higher.

Question 7(b)

A few candidates outlined the potential conflicts between function and aesthetics in the BOSCH eco-hub to the depth required at Advanced Higher. Many candidates did not describe how the conflicts could be resolved, and did not access the full range of marks available.

Assignment

Defining a design opportunity

Many candidates carried out appropriate research that led to a clear definition of the design opportunity. However, some candidates failed to clearly define the problem, and this often had a negative impact on the rest of their assignment.

Exploring ideas

Some candidates carried out effective exploration. However, many candidates carried out partially effective or limited exploration that was often restricted to functional aspects of the solution.

Apply knowledge and understanding of design

Many candidates did not demonstrate the depth or range of knowledge and understanding of design required at this level; this was often limited to function. Many candidates researched areas such as aesthetics, ergonomics, cost and safety when defining the opportunity, but did not consider them in the development of their solution.

Section 3: preparing candidates for future assessment

Question paper

The optionality in section 1 was removed in 2024, and candidates have since been required to respond to both question 1 and question 2. The evidence showed that a few candidates had not analysed a product **and** carried out research on the evolution of commercial products. This impacted the marks gained in section 1. It is important that candidates carry out a product analysis and research the evolution of a product to effectively access the full range of marks available for section 1. Centres can refer to the SCQF level 7 freestanding units for support when delivering these areas of the course.

Many candidates did not display the depth and range of knowledge required at Advanced Higher across several areas of the course content and relied instead on their general knowledge. Teachers and lecturers should provide candidates with the table from the course specification that details the knowledge and understanding that can be sampled in the question paper.

Some candidates struggled with responding to questions that required integration of standard areas of the course, such as 5(b). Centres should discuss approaches to responding to this type of question with their candidates when preparing for the exam.

Assignment

Some candidates struggled to generate appropriate evidence for the assignment as they chose a problem that was limited. Centres should discuss ways of identifying suitable design opportunities with candidates and encourage them to consider how the problem they identify will allow them to produce suitable assessment evidence. Candidates should be discouraged from designing an existing product, for example a student's desk, as it often leads to superficial changes to existing products.

A few candidates attempted to develop proposals for more than one product. This led to superficial depth in exploration and refinement, with much of the evidence being repetitive. Centres should discourage candidates from this approach.

Some candidates produced limited evidence in the exploring section of the assignments. Centres could give candidates skill-building tasks in these areas before they carry out the assignment. Many candidates only explored functional aspects during the development of their proposal. Teachers and lecturers should remind candidates to consider the other design issues that are likely to be listed in their specification.

It is important that candidates allocate time to complete the ‘manufacture a presentation model’ section of the assignment, as most candidates who completed this section and produced a model attracted marks in the top two bands. A growing number of candidates incorporated laser cutting and/or 3D printing into their model, which attracts marks at this level. CAD modelling will not attract marks in the ‘manufacturing a presentation model’ section — candidates must produce a physical model as the skills being assessed are in the manufacture of a presentation model.

Appendix: general commentary on grade boundaries

Our main aim when setting grade boundaries is to be fair to candidates across all subjects and levels and to maintain comparable standards across the years, even as arrangements evolve and change.

For most National Courses, we aim to set examinations and other external assessments and create marking instructions that allow:

- a competent candidate to score a minimum of 50% of the available marks (the notional grade C boundary)
- a well-prepared, very competent candidate to score at least 70% of the available marks (the notional grade A boundary)

It is very challenging to get the standard on target every year, in every subject, at every level. Therefore, we hold a grade boundary meeting for each course to bring together all the information available (statistical and qualitative) and to make final decisions on grade boundaries based on this information. Members of our Executive Management Team normally chair these meetings.

Principal assessors utilise their subject expertise to evaluate the performance of the assessment and propose suitable grade boundaries based on the full range of evidence. We can adjust the grade boundaries as a result of the discussion at these meetings. This allows the pass rate to be unaffected in circumstances where there is evidence that the question paper or other assessment has been more, or less, difficult than usual.

- The grade boundaries can be adjusted downwards if there is evidence that the question paper or other assessment has been more difficult than usual.
- The grade boundaries can be adjusted upwards if there is evidence that the question paper or other assessment has been less difficult than usual.
- Where levels of difficulty are comparable to previous years, similar grade boundaries are maintained.

Every year, we evaluate the performance of our assessments in a fair way, while ensuring standards are maintained so that our qualifications remain credible. To do this, we measure evidence of candidates' knowledge and skills against the national standard.

For full details of the approach, please refer to the Awarding and Grading for National Courses Policy.