Course report 2024

Advanced Higher Graphic Communication

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 2024 appeals process.

Grade boundary and statistical information

Statistical information: update on courses

Number of resulted entries in 2023: 434

Number of resulted entries in 2024: 333

Statistical information: performance of candidates

Distribution of course awards including minimum mark to achieve each grade

A	Number of candidates	42	Percentage	12.6	Cumulative percentage	12.6	Minimum mark required	120
B	Number of candidates	52	Percentage	15.6	Cumulative percentage	28.2	Minimum mark required	100
C	Number of candidates	98	Percentage	29.4	Cumulative percentage	57.7	Minimum mark required	81
D	Number of candidates	87	Percentage	26.1	Cumulative percentage	83.8	Minimum mark required	61
No award	Number of candidates	54	Percentage	16.2	Cumulative percentage	100	Minimum mark required	N/A

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 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

The question paper largely performed as expected.

Some questions were more demanding than expected, for example questions 4(a) and 4(c). Questions 4(a) and 4(c), on 3D modelling, featured some of the complex Advanced Higher modelling techniques such as extrude along a path (with a taper) or a surface loft.

Question 6(d), on environmental considerations, also did not perform as expected.

The grade boundaries were adjusted to account for this.

Project

Overall, the project performed as expected with comparable performance to previous years in the preliminary and solution sections for both technical graphics (TG) and commercial visual media graphics (CVMG).

Most candidates combined their TG and CVMG work, using TG models to support the development of CVMG graphics.

The analysis and research, specifications, project planning and evaluation sections returned to the project this year. These sections proved more demanding than anticipated and the grade boundaries were adjusted to account for this.

Section 2: comments on candidate performance

Areas that candidates performed well in

Question paper

Question 1(a)	Most candidates demonstrated a strong understanding of the finite element analysis (FEA) process, detailing what the test reveals. Most expanded on how the results could be used to improve or strengthen the component being tested.
Question 1(b)	Overall, most candidates demonstrated a good understanding of computational fluid dynamics (CFD) testing. However, many did not effectively link their explanations to the original pipe mentioned in the question.
Question 1(c)	Responses were strong, with most candidates scoring highly and demonstrating a solid understanding of the set-up process for 3D printing.
Question 2(b)(i)	Most candidates identified the key focal points in the graphics. Some responses required more explanation or justification than others.
Question 2(c)	Most responses were well-explained, demonstrating a clear understanding of the importance of protecting intellectual property rights.
Question 2(d)	Most candidates explained the importance of opacity in business cards and mentioned the need to prevent ink from bleeding through the material.
Question 2(e)	Most responses were good, though some required more detailed explanations in certain areas, such as texture and bump mapping. Most candidates demonstrated a solid understanding of various illustration techniques.
Questions 3(a) and (b)	Most candidates provided good responses, demonstrating a sound understanding of the ease of set-up and the inexpensive equipment required for stop frame animation. They also clearly identified the disadvantages, providing thorough explanations.
Question 3(d)	Most responses were very good, though a few candidates seemed to confuse the pay or free element of the images. Most showed a good understanding of the range of available images in stock libraries.
Question 3(e)	Most candidates provided good responses about the advantages of using .ai file types, particularly regarding their scaling quality and ease of editing.
Question 4(d)	Most candidates showed a good understanding of .mpeg files, noting their wide range of accessibility and applications.
Question 4(e)	Most responses were very good. Most candidates effectively highlighted the advantages of animation.
Question 5(a)	There was a wide range of responses about different professionals involved in the process. Most candidates provided strong and well-justified explanations for the roles they discussed.
Question 5(b)	Most candidates were clear on the use of Gantt charts and described how these charts can be reviewed or amended throughout a project.

Project

Analysing the graphic brief and research

Many candidates demonstrated a good approach to their research and identified appropriate target audiences for TG and CVMG, as well as some key research areas. Their research was valid, evidence-based, and effective in allowing them to progress to preliminary graphics.

TG preliminary planning

Many candidates produced a range of 2D and 3D sketches that provided a good visual understanding of their project. They selected and correctly used appropriate modelling techniques and provided good information to enable them to progress to production graphics.

Many candidates demonstrated skill in reverse-engineering and/or designing products or items to support the development of TG work.

CVMG preliminary planning

Many candidates produced good annotated preliminary graphics, showing detailed technical requirements for print-based and digital work and justified their use of elements and principles.

Many candidates demonstrated good creativity in producing a range of layouts for print-based or digital graphics that met the project requirements. Many candidates also demonstrated good planning and development work to show their progress towards a solution.

TG graphic solution

This section of the project continues to be the area where candidates perform best. Most candidates demonstrated good performance where:

- their models had a clear visual link to their preliminary work and were complex enough for Advanced Higher level
- they presented a suitable number of component drawings for all components, or key components, and included suitable dimensions that would enable manufacture
- their assembly work included appropriate sections, enlarged views and exploded views to clearly demonstrate the correct assembly of their components
- they produced a range of technical detail from the list provided in the project assessment task
- they produced appropriate simulations that allowed them to test their models (Many candidates attempted FEA tests, which were of a good standard, with results well presented. There was an improvement in approach for those attempting mechanical animations, with some candidates attempting CFD tests this year.)
- they produced good-quality technical renders that demonstrated the use of the techniques listed in the project assessment task

CVMG graphic solution

There was some improvement in approaches to CVMG solutions this year. Many candidates:

- produced a range of appropriate graphics for print-based work and digital work that demonstrated a good standard overall and met the requirements of the project assessment task
- produced clear graphics that included most of the required detail
- featured a clear link between their preliminary graphics and final graphic solution
- identified and explained the use of elements, principles and technical requirements across the range of graphic items
- demonstrated good skill in creating brand continuity between print-based and digital graphics

Areas that candidates found demanding

Question paper

Question 1(d)	Many candidates' responses lacked context specific to the question, resulting in generic answers about environmental impact instead of the specific environmental impacts associated with 3D printing.
Question 1(e)	Many candidates did not demonstrate a clear understanding of surface finish symbols. Some responses mentioned the need to remove material but did not identify which surfaces required this. Some candidates gave information about Symbol B when answering on Symbol A and vice versa.
Question 2(a)	Many candidates did not elaborate on how the golden ratio can be used to improve layout design. Instead, they focused more on how the curve creates a line of sight or highlights focal points.
Questions 2(b)(ii)(iii)	Many candidates gave responses describing white space instead of negative space. Some candidates identified silhouettes as examples of negative space. Many candidates described how negative space 'allows the eyes to rest'.
Question 2(f)	Some candidates did not name or describe the lighting types correctly, or they referred to types using names that are not widely recognised.
Question 3(c)	Most candidates explained what the terms meant but did not provide specific values or requirements. Many referenced printed versions of the images instead.
Question 3(f)	Most candidates identified the two features, but many did not describe why the features would be complex to reproduce.
Question 3(g)	Responses were mixed, with some candidates providing vague and generic descriptions of the four elements rather than being specific to the areas on the given screenshots. Some candidates described reverse instead of white space.
Question 4(a)	Many responses included overly complicated steps, missing dimensions, different orders of modelling sections, and used loft instead of extrude along a path for the stem. Many candidates missed small details, such as the 2 mm gap at the top.

Question 4(b)	Most candidates did not describe the size of the mesh created and did not explain the process using the correct terms, often giving vague responses at each stage.
Question 4(c)	Most candidates did not use the correct surface-modelling techniques, and modelled as a solid model and then shelled it. Some candidates did not include dimensions in their profile sketches, and some candidates performed complete revolves instead of lofted sections.
Question 4(f)	Most candidates did not identify the actual set-up of a motion tween animation, instead they described more about the model in the animation.
Question 6(a)	Responses were very mixed. Many candidates' responses showed a lack of understanding of solid ink systems and were unclear about their advantages.
Question 6(b)	Many candidates gave general responses on how to reduce environmental impacts in a company, rather than focusing on specific issues related to packaging production.

Project

Analysing the graphic brief and research

Although many candidates approached their research well, their level of detail and the depth they provided was not sufficient. Many candidates did not draw valid conclusions from research and produced work that was narrative, with no real focus on how the research would impact their decision making.

Producing graphic specifications

Many candidates did not perform well in this section of the project. This was because their specifications did not relate to analysis and research, or their responses were limited to a few points that did not confirm the range of graphics required.

TG preliminary planning

Many candidates did not gain marks because they did not provide sufficient technical detail to support an understanding of the model, for example detailing complex details or features without sectional views to support interpretation, or limited assembly details and limited annotation to highlight key modelling techniques or features of the design or model.

Many candidates did not include dimensions for the position of key features in their products, for example the position of location holes or key assembly features and the more complex features of their chosen items or products. Many candidates only provided sketches including overall sizes.

Some candidates sketched each component on a separate sheet of paper. This resulted in them having to scan and scale pages down to fit the overall page limit, which diminished the quality of their work and made it more difficult for markers to interpret their graphics.

TG and CVMG project planning

Although many candidates attempted a Gantt chart or similar for project planning, their planning lacked sufficient detail or depth. They did not link their plan to specifications or detail key stages and/or intermediate stages within the project.

TG graphic solution

Many candidates did not achieve marks in the top bands because the scale they chose for their component drawings was too small. This made page layout and interpreting components challenging. Many candidates did not include sectional views to support understanding and clarity of complex components.

Many component drawings had key dimensions missing, which would be required for manufacture. This was often specific to key features, location holes, and complex detail. Although many candidates provided assembly drawings with suitable sections, the scale was often too small and/or the candidates had not included enlarged views as required in the project assessment task. This made it difficult to assess if the assembly was correct.

Many candidates poorly placed cutting planes across both component and assembly drawings, in particular step sections, resulting in sectional work that was not useful in supporting clarity of the assembly. In some candidates' work, exploded views had overlapping components.

Many candidates used line weights for component and assembly drawings that were too heavy. Some candidates created too many production drawings, resulting in them having to scale down their work and present it on fewer pages. This limited clarity and made it difficult for markers to interpret.

Although standards and conventions were reasonably good, some candidates did not include centre lines, dimension symbols for radii or diameters, or view labels, and did not complete title blocks.

CVMG graphic solution

Many candidates did not achieve marks for demonstrating high visual impact and/or a high level of skill. Their solutions lacked the high standard of finish required at Advanced Higher.

Many candidates did not present their print-based solutions in the correct pre-press formats.

Some candidates produced solutions that contained placeholder text.

Some candidates did not complete their CVMG work to the same standard as they completed their TG work.

Some candidates selected a range of graphics that was too large. This resulted in an overall low quality. Candidates should focus on the requirement for each type of printed and digital graphic, as outlined in the project assessment task.

Evaluation

Many candidates produced limited evaluations that lacked depth. They were too narrative in their approach and did not go into detail about the performance of their graphic solutions as outlined in the project assessment task.

Section 3: preparing candidates for future assessment

Question paper

The topic 'Graphic communication as it impacts on our environment and society' returned to the question paper for the first time since 2019. For this topic, candidates should consider as many examples of graphics in different contexts as possible. Understanding the effects of printed and digital media on society (for example how an online and paper-based advertising campaign impacts different sections of the population) and on the environment (for example in what ways creative industries can be truly sustainable and adapt to meet changes in demand) requires candidates to understand the overarching issues and be familiar with lots of real-life examples.

Candidates should be familiar with information in a British Standard drawing and be able to answer questions related to specific standards and conventions. Candidates should be able to interpret the British Standard drawings used in 3D modelling questions and answer questions on specific features, such as sections, dimensional tolerances, and surface finishes. Teachers and lecturers should expose candidates to the wide range of information on British Standard drawings from assemblies to location plans, and a variety of orthographic sections to pictorial exploded views.

Project

Analysing the graphic brief and research

Candidates should focus on analysis and research that covers some of the following:

TG:

- a brief that confirms intended audiences, for example manufacturers, assembly technicians, and what is required to meet their needs
- the number of components required
- potential choices for modelling techniques that can be used for modelling components
- key sizes for components
- assembly information or key assembly methods for the chosen product
- illustration techniques: consideration of similar products, renders, materials, lighting
- FEA or CFD: consideration of suitable tests and what forces or pressures would be applied, materials required
- mechanical animations: analysing similar animations to inform decision making and suitability of approach
- technical graphics required by British Standard, file types

CVMG:

- a brief that confirms intended audiences, for example consumers or retailers
- consideration of similar documents or graphic items to support planning
- consideration of formats, dimensions, layouts, sizing and structure
- analysing the use of elements and principles and styling

- device compatibility
- animation techniques or processes
- print-based graphics: consider printing techniques, paper weights or types, colour scheme (for example CMYK), print resolution
- digital graphics: consider navigation, transitions, animation type, accessibility, colour schemes (for example RGB), resolutions, frame rates, structure, device compatibility
- CVMG file types for print and digital graphics

Teachers and lecturers should highlight to candidates that analysis and research is marked holistically and can occur at any point in the project. For example, candidates can conduct research for their FEA test when attempting this section of the project. This allows them to succinctly detail their approach and draw valid conclusions.

Producing graphic specifications

Candidates should produce separate specifications for TG and CVMG and detail:

- the range and format of graphics required for their project, linked to the requirements outlined in the project assessment task
- conclusions determined from their analysis and research that specifies decisions for undertaking graphics moving forward

TG preliminary planning

Candidates should annotate or label their work to show how they intend to use the required modelling techniques. Candidates will gain more marks if they provide relevant technical detail to enhance the clarity and understanding of their work.

Although candidates do not need to include every single dimension, they should ensure they include the critical sizes. It can be useful for candidates to complete skill-building tasks, where they apply dimensions to drawings to understand the expected standard at this level.

Candidates should present their work on two pages to avoid having to scan and scale work, which limits clarity and reduces quality.

CVMG preliminary planning

Candidates should ensure the range of graphics they choose for printed and digital graphic items meets the requirements set out in the project assessment task.

Candidates should include suitable annotations, detailing the use of elements and principles and explaining the CVMG technical requirements of their graphics.

Project plans

Candidates should ensure they include key stages and intermediate stages in their project planning, along with suitable timings for each stage. This should link to specifications and the requirements for graphics as outlined in the project assessment task.

TG graphic solution

Candidates do not need to produce component drawings for every component and should focus only on key components that demonstrate their chosen modelling techniques. This reduces the need to use too many pages when presenting work and improves clarity.

Candidates should annotate or label their components to demonstrate the modelling techniques they have used in their model. They should ensure they include sections in their component drawings, especially where this adds clarity to internal detail.

Although candidates can miss some dimensions, they should ensure they include the critical sizes.

In assembly work, cutting planes for sectional work must clearly demonstrate the assembly of the model. Where required, candidates can include more than one section. Candidates must include enlarged views to demonstrate the correct assembly of components.

Candidates should ensure they correctly align exploded views with no overlapping components.

Candidates should ensure the scales and line weights they use result in clear printed drawings. Teachers and lecturers can advise candidates on suitable scales and line weights. Candidates often benefit from skill-building lessons focusing on British Standards and conventions for clarity.

CVMG graphic solution

Candidates must present print-based solutions in a pre-press format and digital graphics in a format ready for digital publication. Candidates should ensure that they present solutions without placeholder text. Placeholder text indicates that graphics are still in the development phase and are not final.

Candidates should present pre-press formats correctly for their chosen graphic items with registration, crop marks, and colour bars applied correctly, where required. For example, for a business card in a suite of graphics they, should consider duplexing or how many business cards they could print on one page.

The Advanced Higher course gives candidates complete creative freedom over their CVMG solution. Teachers and lecturers should spend time ensuring that candidates have opportunities to complete skill-builder tasks to help them improve their skills at this level, and their approach to preparing and presenting CVMG graphic items not covered in other levels. The tasks should ensure graphics include effective visual impact and are of the standard required for Advanced Higher level. Teachers and lecturers should refer to Understanding Standards materials to support with this.

To avoid producing too many graphics of limited quality, candidates should produce graphics for the specified criteria as listed under ‘CVMG preliminary planning’ above, and not take on too much. Candidates should give themselves enough time to complete their CVMG work to the same standard as their TG work.

Evaluating the solutions and the process

Candidates must ensure that evaluations are concise with a focus on discussing the performance of their graphics in relation to achieving their specifications, and the strengths and weaknesses of their solutions.

Like analysis and research, evaluations can occur at any point throughout the project and do not need to be left until the end. For example, a candidate could evaluate their FEA simulations or technical illustrations when producing work for this section.

Appendix: general commentary on grade boundaries

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

For most National Courses, SQA aims 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, SQA holds 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 SQA's 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. SQA 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.

During the pandemic, we modified National Qualifications course assessments, for example we removed elements of coursework. We kept these modifications in place until the 2022–23 session. The education community agreed that retaining the modifications for longer than this could have a detrimental impact on learning and progression to the next stage of education, employment or training. After discussions with candidates, teachers, lecturers, parents, carers and others, we returned to full course assessment for the 2023–24 session.

SQA's approach to awarding was announced in March 2024 and explained that any impact on candidates completing coursework for the first time, as part of their SQA assessments, would be considered in our grading decisions and incorporated into our well-established

grading processes. This provides fairness and safeguards for candidates and helps to provide assurances across the wider education community as we return to established awarding.

Our approach to awarding is broadly aligned to other nations of the UK that have returned to normal grading arrangements.

For full details of the approach, please refer to the National Qualifications 2024 Awarding — Methodology Report.