Course Report 2017:

Subject	Graphic Communication
Level	Advanced Higher

The statistics used in this report have been compiled before the completion of any Post Results Services.

This report provides information on the performance of candidates which it is hoped will be useful to teachers, lecturers and assessors in their preparation of candidates for future assessment. It is intended to be constructive and informative and to promote better understanding. It would be helpful to read this report in conjunction with the published assessment documents and marking instructions.

Section 1: Comments on the assessment

Component 1: project

At Advanced Higher the most popular option was for candidates to choose a commercial and visual media graphics approach over the technical media graphics approach to their project, with very few centres opting for a combined approach.

Centres are advised that if candidates opt for the combined approach, they must guard against candidates producing quantity over quality across the whole project (and not just at the graphic solution stage), and bear in mind that only the best work in either technical graphics or CVMG can be assessed in any one area of the project, not both added together.

Most candidates kept to the 20-page limit for Advanced Higher.

Whilst the project performed as expected, some of the verified centres were found to be marking too generously across all sections of the project. This was usually towards the top end of the marks range — ie where the marking instructions may have been misinterpreted there was a migration towards 'A' type marks (high 90s to the maximum of 120 marks).

Component 2: question paper

In line with the Course Assessment Specification (CAS),the question paper consisted of a single section with a total of 80 marks. It included both short and extended response questions covering a full range of course content.

This year there were a number of topics from the previous year: 3D CAD modelling techniques; design elements and principles; the impact of contemporary graphic communication technology; and the graphic requirements of specific audiences all featured strongly. There were also topics such as graphic file types and the use British Standard drawings that were given greater emphasis.

In general the questions on 3D CAD modelling techniques — particularly in relation to assembling or constraining parts of a model — were answered poorly. Similarly, questions on file types and built environment surveys were also not answered well by the majority of candidates. A significant number of candidates did not attempt the question on the use of different file types in a manufacturing context.

In contrast, the questions on printing techniques and practices, and on design elements and principles, as well as those on the use of 3D computer models and digital graphics technologies, were answered well by most candidates.

It is also important to note that candidates who expressed themselves clearly, structured their answers effectively, and used the correct terms from the CAS produced the strongest responses. It is our intention to produce exemplification of good quality candidate responses to support the work of centres in session 2017–18.

Section 2: Comments on candidate performance

Areas in which candidates performed well

Component 1: project

Analysis of the graphic brief and initial research
Candidates generally completed this area well, identifying the target audience and their graphic requirements.

Carrying out and using ongoing research
This aspect was handled far better by candidates this year, with some opting to display this in a separate section rather than having it occur naturally throughout the project.

Producing a graphic solution
It was pleasing to see an overall increase in the standard and quality of graphics in both technical graphics and commercial and visual media graphics. There was clear evidence of top quality graphics from some candidates.

However, there was also evidence of some centres marking far too generously in this area of work, which was not of the quality expected at Advanced Higher.

When candidates struggled, the technical graphic solutions lacked significant details in terms of dimensions, scale, tolerances, and view types, required for the target audience.

Architectural-type projects typically lacked detail sufficient for construction or further work. This can be linked back to candidates trying to take on too much work, ie drawings for a whole building, which in most cases for a candidate at this stage of their education, may be too daunting.

Commercial and visual media graphics solutions have improved from previous years, though a few lacked significant details in terms of screen resolution, paper size, file types, colour palettes, bleed, crop or registration information. The target audience would require this information to produce this graphic type.

Evaluating the solution and the process
This area had improved from previous years with most candidates providing a thorough evaluation of the project.

Many candidates had made effective use of the 'record of progress' entries or effective references to notes, comments or annotations from project design work, mostly in the form of a diary complete with copies of letters, emails etc.

Component 2: question paper

The performance by candidates in some topic areas again demonstrated that centres had worked hard to cover all aspects of the course in sufficient depth in preparation for the question paper. Although it is challenging to allocate sufficient time to direct teaching and formative assessment of Advanced Higher candidates, particularly in classes with bi- or even tri-level presentation, its importance cannot be overemphasised.

Candidates showed a very good level of understanding of the following questions.

Question 1d (ii): A large majority of candidates were able to identify the increased 'reflection' or 'specularity' on model's surface. Some candidates identified the computer aided technique that was applied, but failed to explain its effect in the context of the question.

Careful reading of the question and correct interpretation of the command words, this case 'explain', will help candidates access more marks.

Question 1d (iii): Most candidates identified that 'bump mapping' had been applied to the model's surface. A number of candidates confused 'bump mapping' with 'texture mapping'.

Question 1e(i): A large majority of candidates correctly identified appropriate animation file types.

Question 3e: Most candidates were able to explain how graphic techniques can be used to enhance the clarity of information graphics. It was encouraging to see a significant number of candidates identifying and explaining the use of a range of design elements and principles from both the Higher and Advanced Higher Course Assessment Specification document to add clarity and justification to their responses.

Candidates showed a good level of understanding of the following questions.

Question 1e(iii): Most candidates could identify the pre-press checks that are the responsibility of the designer prior to the item being sent to the print technician or publishing company.

It is worth noting that there is more to pre-press than simply specifying the print marks (crop marks, bleed margins, densitometer bars). A list of such marks only attracted a maximum of 1 mark due to the range of other decisions and checks that could have been specified.

Question 3a: Most candidates identified the design elements and principles that can be used to maintain a consistent brand identity across a range of products.

Question 3d: The majority of candidates identified the most suitable printing technique for a particular product based on the substrate, print volume and nature of the graphics.

Question 4b(ii): Most candidates could explain how a 3D computer model could be used by a structural engineer working on a specialist project in the built environment sector.

Question 4b(iii): Similarly, candidates could explain various ways that a 3D computer model could assist the construction trades working in this sector.

Question 5a: There was some evidence of insightful answers in response to the use of digital technologies used in an advertising context. Strong candidates were aware of how advertisers can trace online shopping habits in targeting consumers and how multimedia graphic file types can be used to emphasise or highlight particular products and services.

Areas which candidates found demanding

Component 1: project

Producing a graphic specification

Some of the specifications created by candidates were lists of tasks they intended to complete. A valid specification should detail the particular graphics that will be created for the audience and any specific features required.

Project planning

For many candidates, the project planning made no reference to intermediate target-setting. The candidate must demonstrate key targets and show how they will help achieve the requirements of the target specification, and also specify the resources that would be required at each stage.

Candidates who achieved high marks in this section typically included sub tasks within their project planning.

Using preliminary graphic techniques to communicate ideas

In most cases, the preliminary graphic techniques were valid for creating a graphic solution; however the quality was substantially lower and didn't show the degree of skill that would be expected for the mark awarded, especially in technical graphics projects.

Producing a range of graphic ideas or concepts

Some candidates did not demonstrate a range of possible graphic solutions to satisfy the needs of their chosen target audience, and did not show any development of their idea — linked to ongoing research — that would allow the creation of a valid graphical solution or solutions. Some of this could be linked to candidates attempting too wide a brief or taking on too many tasks.

Planning a client presentation

Typically, the planning for the presentation did not reference how the graphic solution would be suitable for the target audience, and instead was a presentation of the candidate's

journey through the project, which would only have been suitable for the teacher rather than the audience initially identified.

The resources list often listed only hardware and ignored any software and/or file types etc.

Producing a client presentation

Some presentations did not address the needs of the target audience. A client presentation should address the specific requirements of that client and how the candidate has generated a solution.

Component 2: question paper

Question 1a: Questions on the assembly techniques used in 3D computer modelling continue to present difficulties for candidates. A significant number of candidates simply used the term 'constraint' when referring to joining parts. This does not attract any marks unless it is used alongside specific terms in the CAS: 'align', 'align axis' and 'mate'.

At Advanced Higher level, parts will often have to be further manipulated using 'offset' distances or positioned relative to a 'tangential' or 'anglular' surface or workplane.

Question 1b: This question was about the importance of British Standard drawing in the context of manufacturing a particular part. It was concerning that a significant number of candidates could not identify an 'auxiliary plan', often confusing it for a simple view containing a true shape.

Question 1c iii: Candidates struggled to explain the relevance of a 3DS files in redesigning part of a model. This should be a straightforward question as 3DS files contain a range of information that could be used; from data on geometry to camera positions in a 3D environment.

Question 2b i: Candidates, in the main, have become proficient at using 3D computer modelling software through class activities and coursework tasks. However, identifying the most appropriate techniques and describing the processes involved, using the correct terminology, still present a challenge. There were four main areas where candidates can improve their responses to this type of question:

1. Identify the most appropriate modelling techniques. It was concerning that a large number of candidates tried to use loft when this would almost be impossible without guides/rails and complex profiles.

2. Ensure clarity in sketches used to illustrate responses.

3. Include enough detail in the description of a modelling technique. A significant number of candidates, when describing the shell command, failed to mention the surfaces to be removed. This was a vital step to ensure the nozzle was open at both ends and was required to achieve the mark for this process.

4. Correct sequencing of the modelling. Although not critical for full marks in this instance, the sequence of modelling processes may be critical in future years. In this response, it was important that fillets were applied after shelling the object so that both internal and external edges were curved.

Question 2b ii: The best way of modelling nozzle 2 was to use loft or a combination of extrude and loft. When using loft, candidates are reminded to use sufficient sketch profiles to model the intended item. If only two profiles are specified, rails or guides are required and these should be clearly described in the response. This question was a good opportunity for candidates to use their sketching skills.

Question 5b iii: Although candidates were able to identify the file types associated with graphic content on a website, many found it challenging to explain why they were appropriate for use online. Characteristics of these file types such as: download speeds, platform independence, and appropriate resolution for web content, should be studied in addition to their application.

Section 3: Advice for the preparation of future candidates

Component 1: project
Centres are encouraged to engage with the candidates at the outset of the Advanced Higher projects to ensure that realistic briefs are being set. It was noted that some centres are still allowing their candidates to take on too wide a brief and thus limiting the chances of their candidates producing high quality work. The candidates then produced 'quantity rather than quality' of work.

Centres should be mindful of all of the assessment conditions, set out in the Course Assessment Specification, of the project.

A final point to note is that, whilst the teacher may give candidates support and guidance, where any significant amount of support is provided this should be reflected in the marks awarded. The candidate may be provided with feedback to help them achieve the next stage of the assessment; however, they cannot be re-assessed on stages already completed.

Centres are advised that the Marking Instructions have been revised to add clarity and guidance, and that these must be used for candidates presented for Advanced Higher in session 2017–18.

Component 2: question paper
Centres are reminded that Advanced Higher candidates across a range of subjects should have a strong understanding of skills required to pursue particular careers. This is particularly true for Graphic Communication candidates, who are likely to have developed an interest in a particular area of design or an aspect of the creative industries.

At this level, candidates should have a reasonable level of understanding and an appreciation of the occupations which use and produce graphics. They should know of (preferably local) companies and individuals who use the design process in their work; and, if possible, have taken opportunities to gain first-hand experience of their work.

As teachers become more familiar with the demands of the course, it is hoped that through sharing resources, exemplification and establishing links with other technical teachers and design professionals that candidates experience will be further enhanced. Teachers are also continuing to make their best efforts to prepare candidates for the question paper.

In addition to using the information in the CAS and in this report, opportunities should be taken to cover theory content in sufficient depth. This could be done through direct teaching, discrete homework assignments as well as formative feedback on various items of candidates' work.

Candidates are encouraged to engage fully with the content of the CAS in both the unit assessment work and in their project. The greater the familiarity with topics and terms in the CAS, and the wider the range of graphic contexts understood by the candidates, the greater the likelihood of sufficient depth in their question paper responses.

Finally, candidates should be reminded not to write on any supplementary sheets as these are not routinely scanned and are not made available to the marking team.

Whilst it was pleasing to see that the conditions of assessment for coursework were adhered to in the majority of centres, there were a small number of examples where this may not have been the case. Following feedback from teachers, we have strengthened the conditions of assessment criteria for National 5 subjects and will do so for Higher and Advanced Higher. The criteria are published clearly on our website and in course materials and must be adhered to. SQA takes very seriously its obligation to ensure fairness and equity for all candidates in all qualifications through consistent application of assessment conditions and investigates all cases alerted to us where conditions may not have been met.

Grade Boundary and Statistical information

Statistical information: update on courses

Number of resulted entries in 2016	671

Number of resulted entries in 2017	543

Statistical information: Performance of candidates

Distribution of course awards including grade boundaries

Distribution of course awards	%	Cum. %	Number of candidates	Lowest mark
Maximum Mark -				
A	8.3%	8.3%	45	153
B	23.9%	32.2%	130	133
C	30.8%	63.0%	167	113
D	12.9%	75.9%	70	103
No award	24.1%	-	131	-

General commentary on grade boundaries

♦ While SQA aims to set examinations and create marking instructions which will allow a competent candidate to score a minimum of 50% of the available marks (the notional C boundary) and a well prepared, very competent candidate to score at least 70% of the available marks (the notional A boundary), it is very challenging to get the standard on target every year, in every subject at every level.

♦ Each year, SQA therefore holds a grade boundary meeting for each subject at each level where it brings together all the information available (statistical and judgemental). The Principal Assessor and SQA Qualifications Manager meet with the relevant SQA Business Manager and Statistician to discuss the evidence and make decisions. The meetings are chaired by members of the management team at SQA.

♦ The grade boundaries can be adjusted downwards if there is evidence that the exam is more challenging than usual, allowing the pass rate to be unaffected by this circumstance.

♦ The grade boundaries can be adjusted upwards if there is evidence that the exam is less challenging than usual, allowing the pass rate to be unaffected by this circumstance.

♦ Where standards are comparable to previous years, similar grade boundaries are maintained.

♦ An exam paper at a particular level in a subject in one year tends to have a marginally different set of grade boundaries from exam papers in that subject at that level in other years. This is because the particular questions, and the mix of questions, are different. This is also the case for exams set in centres. If SQA has already altered a boundary in a particular year in, say, Higher Chemistry, this does not mean that centres should necessarily alter boundaries in their prelim exam in Higher Chemistry. The two are not that closely related, as they do not contain identical questions.

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