



# **Internal Assessment Report: Graphic Communication (NQ)**

Assessment Panel: Technical Education

The purpose of this report is to provide feedback to centres on verification in National Qualifications in this subject.

# National Units

## Titles/levels of National Units verified

The following Coursework items were verified:

Advanced Higher Computer-Aided Graphic Presentation  
Advanced Higher Computer-Aided 3D Modelling Visualisation and Presentation  
Higher Thematic Presentation  
Intermediate 2 Computer Graphics Folio

The assessment criteria for these items were as described in the following guidance documents:

Guidance on Assessment — Computer-Aided Graphic Presentation  
Guidance on Assessment — Computer-Aided 3D Modelling Presentation  
Guidance on Assessment — Thematic Presentation  
Guidance on Assessment — Computer Graphics Folio

Verifiers also referred to the contents of the Student Record Cards when verifying Coursework items.

## Feedback to centres

### General comments

The guidance documents are an essential part of the internal assessment process. It is therefore extremely important that teachers/lecturers are familiar with these documents. They can be found on SQA's website.

The documents are updated each year to reflect concerns raised by centres and issues that arise during verification. As a result, they may contain changes from the previous year.

It is hoped that the proposed Understanding Standards event will help to address any assessment issues.

### Advanced Higher

The overall standard was similar to last year with some outstanding pieces of work from some centres. There were a greater number of 'Not-Accepted' centres and it appears that this was either due to a lack of familiarity/misinterpretation of the assessment guidelines issued or a lack of understanding of the correct standard.

### Higher

Even though the application of the assessment guidelines is much better at Higher, there are still a significant number of 'Not-Accepted' centres.

This year almost all centres used 3D modelling software. There was a range of different DTP packages used from something fairly basic to high-end commercial software. The quality of the software did not have a significant effect on the quality of candidate performance.

The Student Record Cards continue to be an issue, as too many candidates did not complete them properly, or at all. It is important to complete these correctly, as it allows candidates the opportunity to give additional information that is to their benefit.

## **Intermediate 2**

Most of the folios verified were of a good standard. The revised marking generally was very good with only a few problems.

## **Intermediate 1**

The sample was very small but appeared satisfactory for a first presentation.

## **Important points to note**

Presenting centres must ensure that their software can fulfil all the requirements of the Course prior to starting.

Once again teachers/lecturers should be aware of the following important points:

- ◆ It needs to be reinforced that instruments at Higher level such as straight edges, tracing or other drawing aids cannot be used to assist in the manual freehand sketching.
- ◆ Manual sketching at Higher must not be done retrospectively. This practice is unacceptable and will receive no marks.
- ◆ DTP planning at Higher and Planning & Development at Advanced Higher must not be done retrospectively.
- ◆ Draughtsmanship, annotation and correct application of BS conventions need to be improved in CAD work across all three levels. This includes line thickness, sizes of dimensions, font sizes, fonts used, name boxes, and borders. The use of 3D modelling packages surprisingly has resulted in a drop in the quality of draughtsmanship, but with a little care and appropriate manipulation of setting this can be overcome.
- ◆ All CAD drawings (orthographic and pictorial) must be line drawings and not rendered. This also applies to those using 3D software.
- ◆ Candidates must take more care over the completion of the flyleaf/Student Record Card at each level. Even though there are no marks awarded for this, it gives the candidate the opportunity to clarify how parts of a drawing/document were produced. This aids the verification process and helps to ensure that the candidate receives maximum credit for their work.
- ◆ At Advanced Higher, the description of modelling techniques needs to have more detail and clarity, as this is where the marks are awarded. Without this the model has no value, so it must be treated as crucial documentation for the awarding of marks. Candidates must also use the techniques listed in the Guidance on Assessment document.
- ◆ Centres need to be aware that when using 3D modelling packages at Advanced Higher that the Unit still requires surface modelling to be covered.

## **Advice on good practice and areas for further development**

### **Advanced Higher — Computer-Aided Graphic Presentation**

The final documents were of a mixed standard this year, with some of an excellent standard. In some cases the quality was beyond what is required, but many others were barely beyond what is expected at Higher level. There was some outstanding, professional-looking material produced, and this is what we should be striving to achieve at Advanced Higher level. Analysis and planning remain the weakest areas.

#### **Analysis**

Analysis of grid structure/type specification was the best part but tended to be a little untidy. Some of the best material followed the format in the exemplar material.

Some centres are still not analysing the appropriate number of pages or two different publications. A minimum of two pages from two different magazines is required, which is a minimum of four pages in total.

The lack of understanding of design principles and elements is still a major concern. The identification of the design elements or principles has improved but candidates are failing to describe the effect or impact created. This section is of a poor standard and shows no sign of improvement. It should be noted that if there is no evidence of an element/principle being used on a page then there is no need to make comments for that page.

On many occasions candidates were being awarded almost maximum marks for very little analysis of principles or elements (only one of the pages) or at a very superficial level. The two issues here are the quality of the work and the correct assessment of the candidates' material. Getting the assessment of this area correct would have a significant effect on the number of 'Not-Accepted' centres.

#### **Planning and Development**

This section varied dramatically from very high quality, well presented material to a few sheets of material that was not at the standard required at Advanced Higher level. A significant number of candidates did not even produce a design specification.

Thumbnails continue to be varied with some at a disappointing standard; not at the standard expected for Advanced Higher. Thumbnail sketches play an important part of the design process and if done well usually result in a high quality final document. The same issues as previous years were relevant:

- ◆ There was not enough evidence of consideration of alternative ideas, ideas being developed, or creative use of design elements and design principles. In some cases it was unclear which of the thumbnails provided the basis for a visual to be produced.
- ◆ Often one page was of a good standard but subsequent pages appeared to be rushed, possibly in order to have quantity rather than quality.
- ◆ In some cases thumbnails for only one page were produced. They are required to be produced for all pages.
- ◆ Annotation was lacking in most cases and very few candidates commented on grid structure.

- ◆ Some of the best thumbnails contained colour. Even though these are sketched this should not mean that quality and clarity suffer.
- ◆ Some of the thumbnails were miniature versions of the final document and therefore clearly retrospectively produced. This is incorrect and should not be awarded any marks.

Visuals are improving but there are still common errors:

- ◆ There was still evidence of visuals being retrospectively traced from the final electronic version. Both thumbnails and visuals must be completed in full before the electronic version is started.
- ◆ There did not appear to be any progression from the thumbnails to the visuals produced.
- ◆ A number of centres produced visuals that were not accurately drawn. These were freehand sketched and were basically a large thumbnail and not the required full size.
- ◆ There were a number of candidates who did not produce the minimum number of visuals required. We are aware that this can be a time consuming part of the folio but quality and quantity are important.
- ◆ In some cases the visuals consisted of a basic layout indicating only basic text and graphic frames. There should be enough information to produce the electronic version, ie details of page structure including dimensions, all fonts intended to be used, colour, graphics, etc. Often there was a lack of annotation on the visuals and no sketched graphic items.
- ◆ It should be noted that there are separate marks for layout and graphic/text.

Due to the process of ongoing evaluation it is normal for there to be alterations/amendments in the electronic final piece compared with its visual. This tends to happen only with the best quality submissions.

### **Implementation and presentation**

The quality of printing and presentation of the final documents was very professional in some cases. Many candidates did not do their document justice by printing on poor quality paper and at a low quality print setting. There is a cost implication here but the quality of this final presentation is an important part of the folio. Candidates should consider what they would be required to produce in a real-life context of presenting their work to a client.

There were still a number of centres that awarded marks for the electronic template but with no evidence of it being produced.

The evaluations and modifications continue to be one of the poorest areas with only a few exceptions. Marking tends to be satisfactory, though.

To improve the quality of the work, the candidates require a better understanding of design elements and principles. Failing to have a grasp of these terms is a common theme and as a result there was a lack of reference to them in the evaluation — and this is required to achieve maximum marks. In some cases only a single paragraph was produced. Candidates should be using elements and principles as the criteria to structure their evaluation. A sound knowledge and understanding of the terms are necessary at this level.

## **Advanced Higher — Computer-Aided 3D Modelling Presentation**

Overall, the models produced were complex and of a high standard, but in many cases the range of five modelling techniques was not used. There were also a number of candidates who were confused between modelling techniques and edits/modifications. As a result, a number of candidates did not use five techniques from the prescribed list but were using modifications/editing as a modelling technique. It is the responsibility of both teachers and candidates to ensure that the five techniques are used. A perfect model using a limited number of modelling techniques can be created, but it must be considered that the marks are awarded for demonstrating the ability to use five techniques. Also, it appears that a number of candidates are unaware that some of the techniques can be found in the scene.

The report is important and should not be underestimated or left until the completion of the model. The best reports have screen-captures of each stage with the stages very clearly described and broken down to the technique itself, and the edits/modifications applied (Boolean functions, fillet, chamfer, mirror, array, etc). This needs to be addressed as it continues to be the area where the greatest discrepancy exists between the centres' marking and the verifiers' marking. It is disappointing to see candidates who have produced excellent models losing out because they have failed to write it up properly in the report.

The quality of orthographic and pictorial work produced from models continues to improve but draughtsmanship is still an issue. Other points noted were:

- ◆ A number of candidates still do not produce drawings with facets removed. The orthographic and pictorial drawings should be line drawings and not rendered. This is clearly stated in the assessment guidance documents.
- ◆ General draughtsmanship is still poor with the appropriate line thicknesses not being used. Scaling of hidden and centre lines was poor, as was the selection of font style and size. A number of candidates using Inventor are using default settings and not altering them to produce better quality drawings. At Advanced Higher level this should be a basic skill that everyone should have.
- ◆ In some centres, maximum marks for annotation were awarded where the candidate used a default border and name box. The guidelines state that they must create their own.
- ◆ There were very few examples of pictorial cutaways.

There was a drop in the quality of scenes produced this year. Other points:

- ◆ Many candidates did not clearly indicate details of how they applied materials and lights. Candidates need to clearly describe in the Student Record Card, how the lighting was produced. Screen-captures showing the sources and associated targets would help.
- ◆ Some scenes were small bitmaps stretched to A4 or A3 size. These were pixelated and of a very poor quality and did not do the candidates justice. If the hard copy does not show what has been done, the candidate must use the Student Record Card to support it.
- ◆ The teacher/lecturer should not produce the scene.
- ◆ The scene needs to be appropriate for the model.
- ◆ There were not enough examples of mirrored surfaces or decals.
- ◆ The object and scene should be produced to the same scale.

## Higher

### Section A — Manual

The quality of manual work was poor with fewer examples of high quality sketching than previous years. This section is worth one third of the total marks and therefore should be given attention. Marking tended to be satisfactory. The exception was when tracing of CAD drawings and views produced by using drawing instruments/straight edges was evident. This has been highlighted every year but there are no signs that it is reducing. It is clearly stated in the guidance documents that this cannot be done, yet it still appears. When it does occur no marks should be awarded. Retrospective work was evident again.

There continues to be a lack of analytical sketching to show technical detail. The purpose of these sketches is to enable candidates to produce CAD drawings. In some cases the sketches had only a few dimensions and would not have been useful to assist the production of the CAD drawings. Some candidates were still awarded maximum marks, though.

There was some excellent DTP planning (thumbnails) but in general the quality was poor. Candidates are not considering various layouts or annotating the thumbnails. In addition the quality of the sketching tends to be poor.

There was a slight improvement in the quality and detail of the visuals this year. Some visuals were of a standard above what is required, however there was a lack of annotation.

### Section B — CAD

Generally the CAD work was of a good standard but there were also examples that were of a very poor standard for Higher. Most candidates are now making a more appropriate choice of theme (item). A few issues remain though:

- ◆ As with Advanced Higher general draughtsmanship, annotation and application of British Standards conventions tends to be poor. Surprisingly, even by candidates using 3D software.
- ◆ A number of candidates who used 3D modelling software failed to remove facets in the pictorial views. This is clearly stated in the guidance documents but is being missed. In addition, a few candidates did not produce line drawings, but submitted rendered views instead. To achieve the marks for pictorial CAD there must be line drawings with facets and hidden detail removed.

### Section C — Presentation

#### Rendering

- ◆ Those using 3D modelling packages produced very high quality and realistically rendered objects either within the package or by using a dedicated rendering package. It was difficult to confirm what materials and lights had been applied when candidates did not fill in the Student Record Cards properly. Leaving outlines on rendered pictorial views was also a common fault with candidates using Inventor.
- ◆ There were fewer rendered in a paint package this year as most centres are now using 3D modelling software.

## DTP

The DTP items were mostly very good in terms of quality and marking. The same points as last year should be noted though:

- ◆ The quality of paper used by some centres did not enhance the DTP items. The standard was significantly higher in those who did use photo-quality paper.
- ◆ Many candidates do not consider carefully the size of fonts used. Mostly, the problem was the use of a font that was too large for the document. This can make a marked difference to the quality of the DTP piece. Simple research of the type of item they are producing would help.
- ◆ Even though design principles and elements are not formally assessed until Advanced Higher, these should still be considered at this level. These are fundamental for good design in DTP.

The additional promotional graphic

There are still too many centres not putting much effort into this area and this is reflected in the quality. These centres also tended to mark generously. Candidates should be doing some planning; even though this is not awarded marks, it does help achieve a higher quality item. There were some good examples of a magazine advert and a magazine front cover.

## **Intermediate 2**

Most of the folios verified were of a good standard with many beyond the level required, especially in the CAD section. Marking was also very good.

- ◆ Some candidates need to put a little more thought into the choice of item. For example, some items lacked complexity and therefore the opportunity to include enough dimensions or line types was limited.
- ◆ As with other levels, draughtsmanship and use of BS conventions was poor.
- ◆ As with Higher, a number of centres are now using 3D modelling packages to create their CAD and rendered drawings.
- ◆ Candidate records were completed reasonably well and were better than at other levels.