

# Advanced Higher Graphic Communication Course/Unit Support Notes



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Please refer to the note of changes at the end of this document for details of changes from previous version (where applicable).

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# Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the Advanced Higher Graphic Communication Course. Although primarily intended for teachers and lecturers who are delivering the Course and its Units, it may be useful to share some aspects with learners.

These support notes cover both the Advanced Higher Course and the Units in it.

The Advanced Higher Course/Unit Support Notes should be read in conjunction with the relevant:

## **Mandatory information:**

- ◆ Course Specification
- ◆ Course Assessment Specification
- ◆ Unit Specifications

## **Assessment support:**

- ◆ Specimen and Exemplar Question Papers and Marking Instructions
- ◆ Exemplar Question Paper Guidance
- ◆ Guidance on the use of past paper questions
- ◆ Coursework Information:
  - General assessment information
  - Coursework Assessment Task\*
- ◆ Unit Assessment Support\*

\*These documents are for assessors and are confidential. Assessors may access these through the SQA Co-ordinator in their centres.

## **Related information**

Advanced Higher Course Comparison

## **Further information on the Course/Units for Advanced Higher Graphic Communication**

This information begins on page 14 and both teachers and learners may find it helpful.

# Equality and inclusion

It is recognised that centres have their own duties under equality and other legislation and policy initiatives. The guidance given in these *Course/Unit Support Notes* is designed to sit alongside these duties but is specific to the delivery and assessment of the Course.

It is important that centres are aware of and understand SQA's assessment arrangements for disabled learners, and those with additional support needs, when making requests for adjustments to published assessment arrangements. Centres will find more guidance on this in the series of publications on Assessment Arrangements on SQA's website: [www.sqa.org.uk/sqa/14977.html](http://www.sqa.org.uk/sqa/14977.html).

The greater flexibility and choice in Advanced Higher Courses provide opportunities to meet a range of learners' needs and may remove the need for learners to have assessment arrangements. However, where a disabled learner needs reasonable adjustment/assessment arrangements to be made, you should refer to the guidance given in the above link.

# General guidance on the Course/Units

## Aims

The aims of the Course are to enable learners to develop:

- ◆ skills for enquiry, research and evaluation in the commercial contexts of graphic communication
- ◆ a critical understanding of the impact of advanced graphic communication technologies and activities on our environment and society
- ◆ skills in applying graphic communication design principles and techniques in the various contexts of commercial activity
- ◆ skills in the use of software applications in producing creative, meaningful and effective graphic items and solutions to contextualised problems and challenges
- ◆ skills in creatively applying graphic presentation work and animation techniques to satisfy the needs of commercial activities and those of their audiences
- ◆ the ability to demonstrate independence in learning and thinking

## Progression

Entry to this Course is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by Higher Graphic Communication or equivalent qualifications and/or experience.

Learners who have achieved this Advanced Higher Course may progress to further study, employment and/or training. Opportunities for progression include:

- ◆ Progression to other SQA qualifications
  - Progression to other qualifications at the same level of the Course, for example Professional Development Awards (PDAs) , Higher National Certificates (HNCs)
- ◆ Progression to further/higher education
  - For many learners a key transition point will be to further or higher education, for example to Higher National Certificates (HNCs)/Higher National Diplomas (HNDs) or degree programmes. Examples of further and higher education programmes that learners might progress to are degrees in graphic design and related disciplines.
  - This Course provides good preparation for learners progressing to further and higher education as learners doing Advanced Higher Courses must be able to work with more independence and less supervision. This eases their transition to further/higher education. Advanced Higher Courses may also allow 'advanced standing' or partial credit towards the first year of study of a degree programme.

- Advanced Higher Courses are challenging and testing qualifications — learners who have achieved multiple Advanced Higher Courses are regarded as having a proven level of ability, which attests to their readiness for higher education in HEIs in other parts of the UK as well as in Scotland.
- ◆ Progression to employment
  - For many learners, progression will be directly to employment or work-based training programmes.

This Advanced Higher Graphic Communication Course could be part of the Scottish Baccalaureate in Science or Expressive Arts. The Scottish Baccalaureates in Expressive Arts, Languages, Science and Social Sciences consist of coherent groups of subjects at Higher and Advanced Higher level. Each award consists of two Advanced Highers, one Higher and an interdisciplinary project that adds breadth and value, helping learners to develop generic skills, attitudes and confidence that will help them make the transition into higher education or employment.

## **Skills, knowledge and understanding covered in this Course**

This section provides further advice and guidance about skills, knowledge and understanding that could be included in the Course.

Teachers and lecturers should refer to the *Course Assessment Specification* for mandatory information about the skills, knowledge and understanding to be covered in this Course.

The development of subject specific and generic skills is central to the Course. Learners should be made aware of the skills they are developing and of the transferability of them. It is the transferability that will help learners with further study and enhance their personal effectiveness.

The table below shows where there are likely to be opportunities to develop mandatory skills in or across the Units. However, the delivery mode adopted and the approaches to learning and teaching will determine how and where the opportunities arise.

<b>Mandatory skills and knowledge</b>	<b>Technical Graphics</b>	<b>Commercial and Visual /media Graphics</b>	<b>Course assessment</b>
developing and presenting effective graphic communications which support and inform business, industrial and/or built environment sectors	✓	✓	✓
investigating, evaluating and skilfully applying common and contemporary technologies and techniques in the production of graphic communications which support technical activities	✓	✓	✓
the development of knowledge and understanding of the role of graphic communication activities in meeting audience requirements	✓	✓	✓
analysing often complex features of graphic communications which support and inform business activities	✓	✓	✓
ethical, social and environmental considerations in the development and production of graphic communications	✓	✓	✓
knowledge and understanding of the key concepts that support the planning, design and production of technical, and commercial and visual media graphics	✓	✓	✓
a critical understanding of the impact of graphic communication activities on our environment and society	✓	✓	✓
ability to plan, manage and undertake a significant graphic communication project	-	-	✓

# Approaches to learning and teaching

Advanced Higher Courses place more demands on learners, as there is a higher proportion of independent study and less direct supervision. Some of the approaches to learning and teaching suggested for other levels (in particular, Higher) may also apply at Advanced Higher level but there will be a stronger emphasis on independent learning.

For Advanced Higher Courses, a significant amount of learning may be self-directed and require learners to demonstrate a more mature approach to learning and the ability to work on their own initiative. This can be very challenging for some learners, who may feel isolated at times, and teachers and lecturers should have strategies for addressing this. These could include, for example, planning time for regular feedback sessions/discussions on a one-to-one basis and on a group basis led by the teacher or lecturer (where appropriate).

Learners should be encouraged to use an enquiring, critical and problem-solving approach to their learning. Learners should also be given the opportunity to practise and develop research and investigation skills and higher-order evaluation and analytical skills. The use of Information and Communications Technology (ICT) can make a significant contribution to the development of these higher-order skills as research and investigation activities become more sophisticated.

Learners will engage in a variety of learning activities as appropriate to the subject, for example:

- ◆ researching information for their subject rather than receiving information from their teacher or lecturer
- ◆ using active and open-ended learning activities such as research, case studies and presentation tasks
- ◆ making use of the internet to draw conclusions about specific issues
- ◆ presenting findings/conclusions of research and investigation activities in a presentation
- ◆ participating in group work with peers and using collaborative learning opportunities to develop teamwork
- ◆ drawing conclusions from complex information
- ◆ using appropriate technological resources, using appropriate digital media resources
- ◆ demonstrating development, improvement and refinement of techniques and practices
- ◆ using real-life contexts and experiences familiar and relevant to young people to meaningfully hone and exemplify skills, knowledge and understanding
- ◆ participating in field trips and visits

Teachers/lecturers should support learners by having regular discussions with them and giving regular feedback. Some learning and teaching activities may be

carried out on a group basis and, where this applies, learners could also receive feedback from their peers.

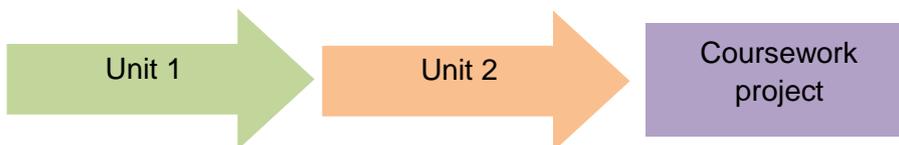
Teachers/lecturers should, where possible, provide opportunities to personalise learning, enabling learners to have choices in approaches to learning and teaching. The flexibility in Advanced Higher Courses and the independence with which learners carry out the work lend themselves to this. Teachers/lecturers should also create opportunities for, and use, inclusive approaches to learning and teaching. This can be achieved by encouraging the use of a variety of learning and teaching strategies which suit the needs of all learners. Innovative and creative ways of using technology can also be valuable in creating inclusive learning and teaching approaches.

## Approaches to structuring the Course

Centres are free to sequence the teaching of the Outcomes, Units and/or Course in any order they wish.

### Example 1: Sequential delivery of the Units leading on to the Coursework project

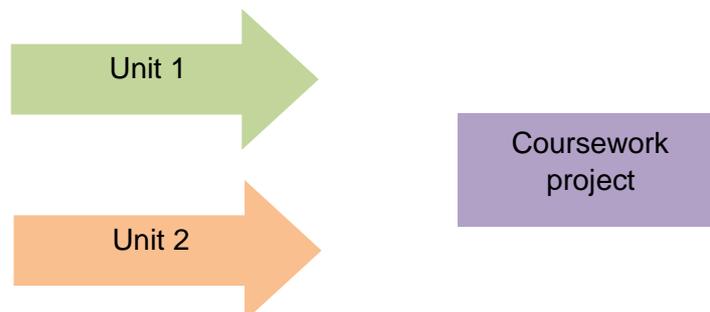
In this case the learner would be completing each of the Units in turn before embarking on the project. It would not matter in which order the Units were completed.



This approach would allow learners to focus on each aspect of the Course, ie technical graphics and commercial and visual media graphics in turn and, dependent upon resources available, may assist in resource and classroom management. Centres must ensure that sufficient time is left to undertake the project as this is an extended piece of work.

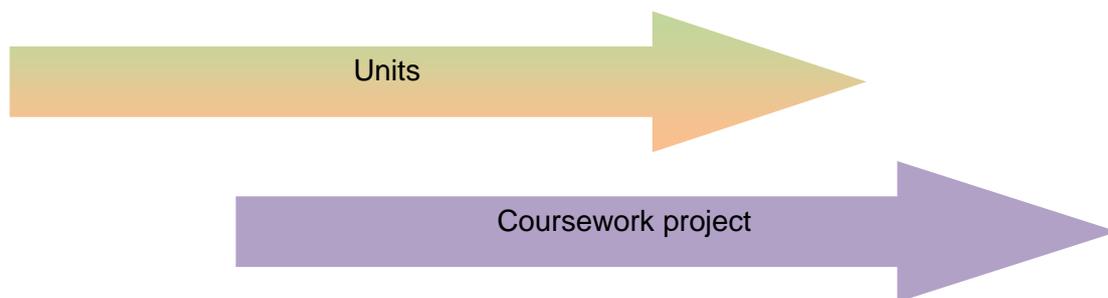
### Example 2: Concurrent delivery of the Units leading on to the Coursework project

Using this approach, the learner would be completing Units concurrently before embarking on the project.



This approach would allow learners to work across the Unit learning themes. For example, the learner could explore aspects of audience requirements in technical graphics and commercial and visual media graphics simultaneously and then, in a similar approach, explore the techniques and technologies, followed by planning and production. Again, as in example 1, centres must ensure that sufficient time is left to undertake the project.

### **Example 3: Concurrent delivery of the Units and Coursework project**



Using this approach, learners would be able to progress to some aspects of the project which relate directly to learning from the Units. More information on this approach is given in the '*Further information on the Course/Units*' section of this document. The concurrent approach would allow a longer period over which the Coursework project could be tackled while, at the same time, developing skills, knowledge and understanding from the Units.

### **Developing skills for learning, skills for life and skills for work**

Details of these skills can be found in the Course Specification and the Unit Specifications for this Course.

# Approaches to assessment

Assessment in Advanced Higher Courses should reflect the investigative nature of Courses at this level, together with high-level problem-solving and critical thinking skills and skills of analysis and synthesis.

This emphasis on higher-order skills, together with the more independent learning approaches that learners will use, distinguishes the added value at Advanced Higher level from the added value at other levels.

There are different approaches to assessment, and teachers/lecturers should use their professional judgement, subject knowledge and experience — as well as their understanding of their learners and their varying needs — to determine which are most appropriate and, where necessary, to consider where workable alternatives are required.

Assessments must be fit for purpose and should allow for consistent judgements to be made by all teachers/lecturers. All assessments should be conducted in a supervised manner to ensure that the evidence provided is valid and reliable.

## Unit assessment

Units will be assessed on a pass/fail basis. All Units are internally assessed against the requirements shown in the *Unit Specification*.

Assessments must ensure that the evidence generated demonstrates, at the least, the minimum level of competence for each Unit. Teachers/lecturers preparing assessment methods should be clear about what that evidence will look like.

Teachers/lecturers should refer to the following documents to ensure that all the requirements of Unit assessment are met:

- ◆ *Advanced Higher Technical Graphics Unit Specification*
- ◆ *Advanced Higher Commercial and Visual Media Graphics Unit Specification*
- ◆ *Unit Assessment Support package 1: portfolio approach*
- ◆ *Unit Assessment Support package 2: Unit-by-Unit approach for each Unit*
- ◆ *Unit Assessment Support package 3: Unit-by-Unit approach for each Unit*

Unit Assessment Support packages are available on SQA's secure website ([www.sqa.org.uk/sqasecure](http://www.sqa.org.uk/sqasecure))

In particular, assessors should refer to the judging evidence tables within the Unit Assessment Support packages for guidance on making assessment judgements for each Outcome and Assessment Standard.

The structure of an assessment used by a centre can take a variety of forms, for example:

- ◆ individual pieces of work could be collected in a folio as evidence for Outcomes and Assessment Standards
- ◆ assessment of each complete Outcome
- ◆ assessment that combines the Outcomes of one or more Units
- ◆ assessment that requires more than the minimum competence, which would allow learners to prepare for the Course assessment

Teachers/lecturers should note that learners' day-to-day work may produce evidence that satisfies the assessment requirements of a Unit, or Units, either in full or partially. Such naturally-occurring evidence may be used as a contribution towards Unit assessment. However, this naturally-occurring evidence must still be recorded and evidence such as written reports, recording forms, PowerPoint slides, drawings/graphs, video footage or observational checklists provided.

Unit Assessment Support packages have been provided for this Course. Each support package offers a different approach to assessment of the Units. Centres are at liberty to alter the contexts and structure of the tasks provided to support the needs and preferences of their learners. In addition, centres are encouraged to create their own Unit assessment — these can be prior verified if required using SQA's prior verification service.

In **all** cases, the Outcomes, Assessment Standards and 'Making assessment judgements' columns in the 'Judging evidence' tables found within the support packages provided **cannot** be altered or amended in any way. These support packages should be read in conjunction with each of the related *Unit Specifications*.

In this Advanced Higher Course, it may be that a strand of work that contributes to a Course assessment method is started when a Unit is being delivered and is completed in the Course assessment. In these cases, it is important that the evidence for the Unit assessment is clearly distinguishable from that required for the Course assessment. For example, the planning and production of a technical graphic specification required for Outcome 3 of the Technical Graphics Unit may be taken forward and developed by a learner for the Coursework project.

## Added value

Advanced Higher Courses include assessment of added value which is assessed in the Course assessment.

Information given in the *Course Specification* and the *Course Assessment Specification* about the assessment of added value is mandatory.

In Advanced Higher Courses, added value involves the assessment of higher-order skills such as high-level and more sophisticated investigation and

research skills, critical thinking skills and skills of analysis and synthesis. Learners may be required to analyse and reflect upon their assessment activity by commenting on it and/or drawing conclusions with commentary/justification. These skills contribute to the uniqueness of Advanced Higher Courses and to the overall higher level of performance expected at this level.

In this Course, added value will be assessed by means of a project and a question paper.

## Preparation for Course assessment

Teachers/lecturers should refer to the following documents to ensure that all the requirements of Course assessment are met:

- ◆ Advanced Higher Graphic Communication *Course Assessment Specification*
- ◆ Advanced Higher Graphic Communication *General Assessment Information*
- ◆ Advanced Higher Graphic Communication *Coursework assessment task* (available at [www.sqa.org.uk/sqasecure](http://www.sqa.org.uk/sqasecure))

Each Course has additional time that may be used at the discretion of the teacher/lecturer to enable learners to prepare for Course assessment. This time may be used near the start of the Course and at various points throughout the Course for consolidation and support. It may also be used for preparation for Unit assessment, and, towards the end of the Course, for further integration, revision and preparation and/or gathering evidence for Course assessment.

For this Course, the assessment methods are a project and a question paper. Learners should be given opportunities to practise these methods and prepare for them.

### Preparation for the Coursework project

Detailed information on the Coursework project Component of Course assessment can be found in the *General Assessment Information* and the *Coursework assessment task* (project).

The **General Assessment Information** includes:

- ◆ an overview of the project, what it is for and its intentions
- ◆ the conditions for undertaking the project
- ◆ possibilities and limitations in relation to 'reasonable support and guidance'
- ◆ the evidence that has to be gathered
- ◆ and the actual Marking Instructions for each of the project aspects
- ◆ suggested graphic project contexts that might be interesting for the candidate to consider, although these are not mandatory

The **Coursework assessment task** includes:

- ◆ an overview of the project
- ◆ Marking Instructions (identical to those in the General Assessment Information)

- ◆ an assessment record
- ◆ comprehensive guidance for the candidate for each aspect of the project (this is found in Appendix 1 which can be detached and given to candidates)

Appendix 1 of the **Coursework assessment task** also provides the candidate with:

- ◆ guidance on recording progress
- ◆ the assessment requirements for each aspect of the project
- ◆ what to consider for each aspect
- ◆ additional guidance on research ethics if required
- ◆ suggested graphic project contexts

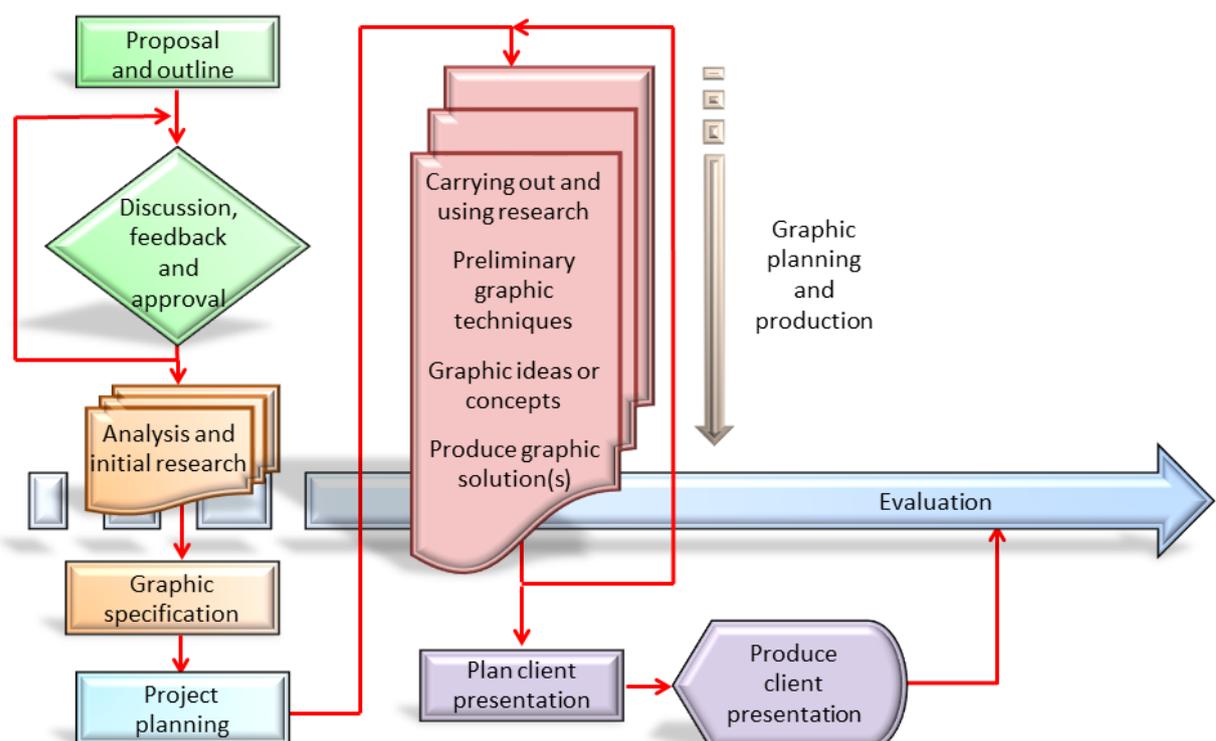
In relation to preparing for the project, teachers/lecturers should explain requirements to learners and the amount and nature of the support they can expect. However, at Advanced Higher level, it is expected that learners will work with more independence and less supervision and support.

Learners should be given opportunities to develop and practise the skills required for the project, including:

- ◆ selecting a topic
- ◆ gathering and researching information
- ◆ project planning
- ◆ evaluating and analysing findings
- ◆ developing and justifying conclusions
- ◆ presenting information

### Undertaking the Course project

While there is likely to be variation in the ways in which centres and learners approach the project. A likely model is shown below:



## **Preparation for the question paper**

In relation to preparing for the question paper, learners should be given opportunities to develop and practise the skills required by:

- ◆ practising question paper techniques
- ◆ revising for the question paper

To support this learning, teachers/lecturers and learners may find it helpful to refer to:

- ◆ Advanced Higher Graphic Communication *Specimen Question Paper*
- ◆ Advanced Higher Graphic Communication *Exemplar Question Paper*
- ◆ Advanced Higher Graphic Communication *Guidance on the use of past paper questions*

## **Authenticity**

In terms of authenticity, there are a number of techniques and strategies to ensure that learners present work that is their own. Teachers/lecturers should put in place mechanisms to authenticate learners' evidence.

For more information, please refer to SQA's [Guide to Assessment](#).

# Further information on Course/Units

## Approaches to learning and teaching

### Background to the Course

The structure of Advanced Higher Graphic Communication allows its delivery to be open and flexible in order to meet the needs of different learners. When planning their structures for learning, centres are advised to allow for creative, rich and challenging experiences that will enable learners to fulfil their potential.

Graphic communication is used in a wide range of sectors, and the Advanced Higher Course is designed to reflect this. Making sustainable links to local industry and business will add context to the learning. Professional printing companies, engineering firms and graphic design studios are located throughout Scotland and many also have an online presence. This is especially useful when the learner is considering and undertaking their project.

The Course at this level is built upon the model of those who 'create' (or produce) graphics, and those who 'use' graphics. Using this model of graphic 'creators' and graphic 'users' may help learners to better understand how graphics are used professionally and in wider society. Exploring how 'creators' use particular standards, methodologies and technologies in the production of graphical items, and examining how 'users' engage, relate and respond to graphics, may deepen understanding.

### Learning and teaching strategies

#### Learner autonomy

Learners should be encouraged to assume increased ownership for their learning through centres allowing flexibility in the approach to tasks. This will reflect the independence in learning they will be expected to demonstrate in further or higher education sectors and/or employment. Learners will benefit from the exploration of creative solutions to graphic problems, and by gaining experience of adapting various graphic techniques and technologies to present their graphical work.

#### Planning for learning

Centres should consider providing a detailed timeline or Gantt chart for learners to follow, and make clear the expectations and the standards required to achieve success in the Course. The level of challenge at Advanced Higher will need careful time management for some learners if they are to complete the Course successfully. Duplication of evidence should be avoided where possible. Assessment and evaluation should be embedded into the Course and not just imposed at key points. Use of critical self and peer-evaluation techniques can

help learners to develop confidence and understanding in critiquing graphical products.

### **Using a thematic or mini project approach**

Exploring preliminary, production and promotional graphics through themes or mini project approaches may increase the engagement of some learners, deepening their understanding of graphic production and graphic technologies. In addition, this approach may, usefully, lead learners into their project activity. For other learners, it may be more beneficial to structure the Course through smaller, individual or discrete learning activities that cover various aspects of the Units. Whichever method is employed, centres are advised to help learners continue to explore various aspects of sketching, drawing, graphic design skills, illustration and computer-aided design, enabling learners to develop their skills in preparation for their Course project. Sketching, drawing, design skills and illustration can be approached from either a manual or electronic perspective, or, more likely, a combination of both.

### **Using realistic graphic design situations and briefs**

The graphics and creative industries rely heavily on graphic design briefs from clients. This practice can be replicated through the use of Problem Based Learning (PBL). Graphic design briefs can be set by the teacher/lecturer, by the learner or, more likely, by a combination of both after discussing potential topics. Graphic design briefs allow learners to investigate different graphical solutions before developing a final response to a scenario. Research, development and planning are critical to success with PBL, and learners should be encouraged to take responsibility for, and ownership of, this process. Graphic design briefs enable centres to challenge their learners to apply graphic techniques in a range of unfamiliar, relevant and exciting contexts. PBL has the added benefit of allowing learning to be topical and relevant from year to year, and also to cover important issues in society.

Centres might invite charities, school groups or local businesses to provide a context for learning. This graphical creator/graphical user approach enables learners to interact with their 'client' and create a range of graphical products that support their specific context. In some instances, the learner may have a personal interest in other areas, and this may be used as a basis for contextual learning. This provides the centre an exciting opportunity to personalise the Course to the skills, experience and needs of the learner. Careful management of relationships with industrial and business partners by the centre will allow these links to be sustainable, which could be mutually beneficial to the centre, future learners and local businesses.

### **Design approach**

Design is an integral part of the Graphic Communication Course and learners may be encouraged to explore different techniques used to solve problems. Design may not necessarily be limited to presentational graphics; learners can also use design skills when producing 3D CAD models, drawings or sketches for elements of their project. Creativity, divergent thinking and 'challenging the norm', can be encouraged throughout the Course and Units. When used as part of learning and teaching, any elements of design may be undertaken individually or

as group work. Indeed, learners may work collaboratively on a PBL context and individually assuming responsibility for an area of design to include preliminary, production and promotional graphics. Learners can then report back, show, tell, or discuss their work to a group for evaluation and then further development.

### **Graphics life cycle**

Where possible, it may benefit learners to experience the life cycle of graphics in a real context. For example, learners may prepare some concept sketches for a point-of-sale product — perhaps for a cinema, sports centre or tourist attraction — and present these concept sketches for evaluation. This evaluation can be undertaken by their peers, or perhaps by representatives of the chosen attraction. The learners may then use this feedback to further inform graphic design work before creating production graphics for the point-of-sale product. The centre may have its own CAD/CAM equipment, or have a business or industrial link that will allow the learners to produce the product. Promotional graphics could be used in digital format (cinema, TV or internet) or printed media.

## **Information on graphic types**

### **Drawing standards and production drawings**

Drawing standards and production drawings are key elements to graphical literacy. Learners could deepen their understanding by experiencing the relationship between creating a production drawing and the ways in which items or products are made from them. This can involve learners deepening their understanding of the ways in which 3D models and 2D drawings are used in conjunction with computer-aided manufacturing equipment, either in school or in industry and business. Using additive or subtractive manufacturing technologies, 3D models can be used to produce a prototype. Experience of these technologies and the use of production graphics in context, will deepen learners' understanding, and should encourage them to broaden their awareness of the world of work, and how skills, knowledge and understanding of graphic communication realistically contributes to it.

### **Preliminary graphics**

The production of preliminary graphics should reflect how they are created and used professionally, and centres/learners do not need to spend significant time in presentation. Preliminary graphics should communicate clearly the graphic designs, ideas and thoughts from one graphic creator to another, or to a graphic user. Technology may be utilised to ensure preliminary graphics communicate effectively. For example, manual sketches may be digitally captured and manipulated through illustration and animation software. These could show the working relationships between sketched components, or perhaps the development of a graphical idea. Photographs may be altered to contain a preliminary graphic element and communicate a design intention. The aim is to share details or features in graphic products, and demonstrate analytical skills and creativity. The purpose of this aspect is to communicate clearly relevant information or data rather than demonstrate presentation skills.

### **3D modelling**

Learners should be familiar with 3D modelling software and understand how it can be used to produce a range of technical and production drawings. It is expected that centres will allow learners to use 3D models to produce drawings, but this should not be to the detriment of the inherent understanding of how these drawings are read and interpreted. Learners should be able to identify any errors that software or templates may make.

### **Presentation and promotional graphics**

Presentation and promotional graphics should be seen as an opportunity to employ many of the new and emerging developments, techniques and technologies that are available. For example, learners may use augmented and mediated reality to present graphical ideas; illustration graphics can be overlaid on to video and photographs to look photo-realistic. Where appropriate, learners should experience a range of manual and electronic methods of presentation and illustration.

Presentation and promotional graphics have a large impact on the environment and society, and learners could be encouraged to consider issues such as the economic use of materials to reduce waste produced from printing or vinyl cut signage, or the impact that images and text can have on individuals, community and society. Presentation, promotional and illustrated graphics are used in a range of scales, sizes and formats (not only A5, A4 or A3) and non-standard dimensions could be explored to add depth and challenge to the application of skills developed through the Course.

## **Resources**

### **Technological resources**

There are a wide range of technologies that support engineers, architects, graphic designers and illustrators in using preliminary sketches and drawings more effectively. For instance, ink pens that also record a computer vector graphic of what is drawn have many exciting possibilities — freehand sketches can be directly used to create 2D drawings or even 3D CAD models. Sketches can also be made by ‘drawing’ on to a graphics tablet touchscreen or a tablet computer using a stylus.

### **Using the internet**

Making use of the internet as a graphical platform that allows global communication, learners could also be encouraged to create a digital presence and share their graphical work online. Images blogs and videos could be displayed, and public commenting and feedback encouraged. These online portfolios may serve as a way of learners presenting their work to potential employers, colleges or universities. Using web-based services may also present an exciting platform for delivering learning and teaching materials.

### **Support from industry**

Scotland has many professional design and print industries that may be willing to work closely with learners to enrich their experience. For instance, learners could

help to produce promotional graphics using wide-format solvent printers or experience the production of offset-lithography leaflets, magazines or books. Learners may also see how graphic items are installed in a venue and how these graphics are used in wider society.

## **Graphic communication technologies**

### **Using CAD and ICT**

A broad range of technology can be utilised for the Advanced Higher Graphic Communication Course, and the open and flexible nature of the Course project allows for centres to exploit new developments. The use of CAD and ICT is integral to the graphics industry, and its use is prominent in the Course and Units. Centres may wish to use a range of software packages to achieve the best results in sharing files between platforms — understanding common file formats is part of the mandatory Course content (see *Course Assessment Specification*). This will also assist learners in their understanding of the ways in which different software tools can be used to process graphics. In the graphics industry, 3D illustrations will regularly be ‘post-processed’ by a photo editing or 2D illustration application to refine, enhance or prepare the image for print or DTP.

There are numerous input process and output devices that can support the teaching and learning of graphic communication. Interactive boards, tablet computers, drawing tablets, scanners, visualisers and digital pens are just a few of the devices that allow learners to input their sketches, drawings and ideas. The use of such equipment can improve the learning experience. Clever use of this technology can also bridge the perceived gap between the world of sketching and that of CAD. Digital pens, tablets, scanners and visualisers can be used to capture sketches, with the data then imported to CAD applications and manipulated as a vector graphic.

### **ICT and image processing management**

As the capability of learners to create complex, high-impact computer illustrations grows, so does the demand on the processing capability of most centres’ computing technology. To overcome this, centres could use computers in the evening, when they are otherwise not being used, as a ‘rendering farm’ to process images. There is a selection of inexpensive and free software to support this function. Alternatively, centres may upload the files to one of the many online processing centres that render images and animations, and then simply download the results. This could also provide another opportunity to work with a local business or industry that may have more powerful processing technology available.

### **File sharing, stock models and images**

Effective communication and collaboration technologies are increasingly common, and are becoming more powerful and efficient. Centres may wish to use aspects of social media, file sharing and digital portfolios to share, promote and evaluate graphic tasks. Care should be taken to adhere to local education authority guidelines and policies regarding such communication technologies. There are several websites that allow graphic artists, illustrators, CAD

technicians, architects and engineers to share computer graphics, photographs and CAD files. These digital archives can provide a wonderful resource to assessors and learners, whereby materials, textures, images and models can be downloaded free of charge and used in 3D scenes, DTP work or illustrations. However, care must be taken to ensure that learners are not credited for creating any work they have only downloaded. Likewise, most 3D CAD software will have a comprehensive library of standard components — many meeting ANSI, ISO and BSI standards — that can be used in a CAD model. While learners are free to use these components and other stock models, they can only be assessed on the use of the component or model, not on the creation of the component or model itself.

### **Realisation**

The realisation of ideas is a motivator for those interested in design, engineering, architecture and illustration. Centres may choose to enrich the learning experience by allowing learners to use technology that helps realise their designs. Wide-format and solvent printers, laser cutters, 3D printers, CNC routers/millers, vinyl cutters and stereo projection technology (3D projectors/VDUs) can make learning activities more relevant, engaging and exciting. Such technology is already used and is widespread in business and industry and having an awareness of such equipment helps learners prepare for the world of work. In particular, 3D printing technology is widely used by CAD technicians, architects and engineers to assist in the visualisation of 3D models and the interaction of various components. As 3D printing technology continues to develop and cost comes down, it becomes more realistic for centres to acquire, maintain and operate such equipment. Alternatively, many industries, businesses and individuals are investing in prototyping solutions; again, centres with sustainable relationships with outside partners may be able to take advantage of this.

### **Manual and traditional approaches**

As well as electronic technology, it is likely that centres will make use of existing resources in the completion of graphics work and tasks. Such resources are still used in graphic industries and should not be omitted or avoided. Such resources might include pencils, markers, masks, inks, application vinyl, texture boards, cutting mats, templates, curves, stencils, highlighting pens, compasses, light boxes, drawing boards, straight edges, and squares.

## **Notes on delivery of the Units**

### **Aims**

Both the Technical Graphics Unit and the Commercial and Visual Media Graphics Unit aim to address the range of skills required by professions situated within broad graphic communication based employment sectors for graphic communication.

In the Technical Graphics Unit, the skills are intended to support graphic activities in the manufacturing; product design, the built environment, automotive, electrical and mechanical engineering graphic industries. They require the technical

graphic producer to communicate complex designs, data or plans in a clear and concise manner. These refer to the graphics that are produced or read by those who construct, make or manufacture physical items.

In the Commercial and Visual Media Graphics Unit, these skills are intended to support the graphic activities of those who produce professional promotional graphics. Promotional graphics are used extensively in a range of industries, from traditional printed media to interactive displays, mobile devices, television and the internet. The creative industries have come to play an important role in supporting economic activity and the global economy.

### **Core aspects to the Units**

Each of the Units has three core aspects. These are:

- ◆ graphic audiences and their requirements
- ◆ graphic techniques and technologies
- ◆ graphic planning and production

The Technical Graphics Unit builds upon the skills and learning in ‘technical type’ graphics developed through National 4, 5 and Higher Graphic Communication.

The Commercial and Visual Media Graphics Unit builds upon the graphical illustration and promotional skills and learning developed through National 4, 5 and Higher Graphic Communication.

### **Flexibility in assessment contexts for the Commercial and Visual Media Graphics Unit**

It should be noted that learners may choose to respond to Unit assessment in a commercial **and/or** visual media context. SQA’s Unit Assessment Support packages provide examples of tasks to enable this. However centres must ensure that learners are prepared to answer possible examination questions in both commercial and visual media contexts. Centres should refer to the *Course Assessment Specification* for more information on mandatory content.

### **Possible strategies for learning and teaching**

The Technical Graphics Unit focuses on communicating technical information, design ideas, informative data (such as test results from FEA or CFD) and expressive information using 2D and 3D graphics technologies. Learners should be allowed to engage with a range of graphic communication technologies. Centres should ideally structure their teaching and learning so these technologies and techniques are ‘joined-up’, in order that technical graphic learning activities relate to the world of work.

Similarly, in the Commercial and Visual Media Graphics Unit learning activities should relate to approaches used in the world of work. Commercial and visual media graphics have a significant impact upon society and are crucial when attempting to communicate information to, or interact with, individuals or groups — they are often value-laden.

### **Ensuring appropriate coverage**

Where learners are intending on completing the entire Course (and not only the Units), care should be taken to ensure that the learner is in a good position to undertake their project and that skills development in an area that they have chosen for their project has been covered. In addition, learners are expected to possess the requisite knowledge and understanding of all aspects of the Course in order to be successful in the question paper Component of Course assessment.

### **Broad approaches**

The Units offer learners the opportunity to demonstrate their skills, knowledge and understanding in a variety of ways, for example, where the learner is demonstrating knowledge of graphic technologies or techniques, alternative methods may reveal evidence of learning, eg through the use of presentations, examples or demonstrations. Where skill demonstration is required, centres may wish to consider a mixture of response techniques including manual and/or electronic. The purpose is to allow flexibility in learning and teaching, and personalisation and choice for the learner.

### **Using a range of resources**

In the Technical Graphics Unit, learners are encouraged to use a range of techniques and technologies. The principles of technical 'production' graphics can be taught utilising a variety of learning and teaching resources and methodologies.

In the Commercial and Visual Media Graphics Unit, learners should be permitted to use a range of techniques and technologies in approaching the production of commercial and/or visual media graphics work. Layout elements and principles, and DTP features and techniques, can be taught utilising a variety of learning and teaching resources and methodologies.

For example, in both Units, graphical literacy can be developed by using computers, tablets, digital pens, sketching, paper and pencil, block work, plotting and drawing with instruments.

### **Use of existing materials from previous SQA Graphic Communication Courses**

Information on mandatory Course content can be found in the *Course Assessment Specification*. Most centres will be familiar with the content described and are likely to have existing resources which can be used for teaching. While many of these resources will be in paper format and are likely to be retained for manual work, centres might consider how some of them can be adapted, where appropriate, for use with electronic methods where a learner's preference dictates.

For areas of the Course that are new, there are a wide range of materials that can be easily adapted and centres may use this as an opportunity to engage with new technological processes and links with industry. There are also many instructional videos available online.

**Contexts for learning**

To avoid repetition, centres are encouraged to vary any themes or contexts for learning — this is particularly the case where learners have progressed from National 5, through Higher, to Advanced Higher in subsequent academic sessions. This might suggest tri-annual themes. SQA has provided a number of Unit Assessment Support packages for centres to use or consider as models for their own assessment developments. These can be found on SQA's secure site.

# Appendix 1: Reference documents

The following reference documents will provide useful information and background.

- ◆ Assessment Arrangements (for disabled candidates and/or those with additional support needs) — various publications are available on SQA's website at: [www.sqa.org.uk/sqa//14977.html](http://www.sqa.org.uk/sqa//14977.html).
- ◆ [Building the Curriculum 4: Skills for learning, skills for life and skills for work](#)
- ◆ [Building the Curriculum 5: A framework for assessment](#)
- ◆ [Course Specification](#)
- ◆ [Design Principles for National Courses](#)
- ◆ [Guide to Assessment](#)
- ◆ Principles and practice papers for curriculum areas
- ◆ [SCQF Handbook: User Guide](#) and [SCQF level descriptors](#)
- ◆ [SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work](#)
- ◆ [Skills for Learning, Skills for Life and Skills for Work: Using the Curriculum Tool](#)
- ◆ [Coursework Authenticity: A Guide for Teachers and Lecturers](#)

# Administrative information

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## History of changes to Advanced Higher Course/Unit Support Notes

Version	Description of change	Authorised by	Date
2.0	Additional information on Course assessment provided.  Updated mandatory content following Course Assessment Specification revision.  Review of 'Approaches to assessment' section following the publication of Assessment Support.	Qualifications Development Manager	May 2015

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