

Higher Graphic Communication Course 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 Higher Graphic Communication Course. They are intended for teachers and lecturers who are delivering the Course and its Units. They should be read in conjunction with the *Course Specification*, the *Course Assessment Specification* and the Unit Specifications for the Units in the Course.

General guidance on the Course

Aims

As stated in the *Course Specification*, the aims of this Course are to enable learners to develop:

- ◆ skills in graphic communication techniques, including the use of equipment, graphics materials and software
- ◆ creativity in the production of graphic communications to produce visual impact in meeting a specified purpose
- ◆ skills in evaluating the effectiveness of graphics in communicating and meeting their purpose
- ◆ an understanding of graphic communication standards, protocols and conventions, where these apply
- ◆ an understanding of the impact of graphic communication technologies on our environment and society

This Course is intended to develop the learner's knowledge, understanding and set of skills related to graphic communication. It will enable the learner to initiate, develop and communicate ideas and solutions using graphic techniques. Learners will develop their presentation skills through the use of analysis and evaluative skills. They will develop their knowledge and understanding of graphic communication techniques in two and three dimensions. Both Units also develop transferable skills — application, creativity, numeracy and ICT.

Progression into this Course

Entry into this Course is at the discretion of the centre. However, learners would normally be expected to have attained the relevant skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ◆ National 5 Graphic Communication
- ◆ National 5 Design and Manufacture Course or relevant component Units
- ◆ National 5 Art and Design Course or relevant component Units
- ◆ other relevant technological, graphic courses or similar activities

Other experience

Learners may have relevant skills and knowledge gained through other education systems or from their own interests and informal learning.

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.

Note: 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, as the Course assessment will be based on this.

A broad overview of the mandatory subject skills, knowledge and understanding that will be assessed in the Course includes:

- ◆ replicating familiar and some new graphic forms with some complex features in 2D, 3D and pictorial representations
- ◆ applying recognised graphic communication standards, protocols and conventions in straightforward but unfamiliar contexts
- ◆ initiating, planning and producing preliminary, production, promotional, and informational graphics in both familiar and new contexts, with some complex features
- ◆ applying graphic design skills, including creativity, when developing solutions to graphics tasks with some complex features
- ◆ understanding the application of colour, illustration and presentation techniques in a broad range of graphics contexts
- ◆ critically reviewing graphics work as it progresses and evaluating completed task work suggesting strategies for improvement
- ◆ extending visual literacy by interpreting unfamiliar graphic communications – some with complex features or combinations of views
- ◆ extending graphic spatial awareness in unfamiliar 2D, 3D and pictorial graphic situations including those with complex features
- ◆ selecting, managing, and using graphic communication equipment, software and materials effectively across tasks
- ◆ understanding a broad range of computer-aided graphics techniques including commercial/industrial practice
- ◆ an informed understanding of the impact of graphic communication technologies on our environment and society and their likely impact in the future

Progression from this Course

This Course may provide progression to:

- ◆ Advanced Higher Graphic Communication and its component Units
- ◆ Higher Design and Manufacture Course and its component Units

Success in the Course may support entry to similar areas of study in further education or in employment.

Hierarchies

Hierarchy is the term used to describe Courses and Units which form a structured progression involving two or more SCQF levels.

It is important that any content in a Course and/or Unit at one particular SCQF level is not repeated if a learner progresses to the next level of the hierarchy. The skills and knowledge should be able to be applied to new content and contexts to enrich the learning experience. This is for centres to manage.

This Course is designed in hierarchy with corresponding Courses at SCQF level 5 (National 5) and has the same structure of Units with corresponding titles.

The design of the Units means that teachers with multi-level situations may be able to design learning activities that are appropriate for groups of learners working at different levels.

Teachers should also refer to the Outcomes and Assessment Standards for each level when planning delivery.

Further advice on multi-level teaching is given in the Unit Support Notes.

Approaches to learning and teaching

The Higher Graphic Communication Course is delivered through two Units and a Course assessment. The Course assessment in Higher Graphic Communication is structured in the form of a question paper and an assignment.

The nature of graphic communication activity allows learners to explore and express their creativity in design skills and presentation techniques through activities which will develop the learners' ability to problem solve and respond to challenges in new and familiar situations.

Delivery of the Course is open and flexible and should allow for personalisation and choice to meet the needs of all learners. Planning of learning and teaching can be structured around each Unit in a sequential manner if desired. However, to give learners a more enjoyable and considered experience, an integrated approach centred on realistic contexts is recommended.

Centres are advised to be less prescriptive in the delivery of the Course, though careful planning and structure is essential to ensure that the learning experience will be rich, challenging, and enable all learners to reach their potential. It is very likely that existing resources from other programmes of study can still be used effectively in building the required knowledge, understanding and skills.

Strategic planning for delivery of the Unit Outcomes will support the development of the essential skills and knowledge through a variety of methods and teaching approaches which are built on prior learning and individual strengths. These learning experiences can be adapted to link with local community enterprises, businesses or industries while making best use of the resources available to centres.

It may be beneficial for some learners to develop deeper and more connected learning through extended projects which explore the 'three Ps' (preliminary, production and promotional) in their entirety. For some learners it may be more appropriate to structure the Course through short, stand-alone projects which may be employed to explore aspects of sketching¹, drawing, design skills, illustration and presentation and computer-aided design which will allow learners to develop their skills in preparation for the Course assessment.

When developing preliminary graphics, it is not necessary that centres spend extended periods of time focusing on the presentation of graphics. It is advised that skills are developed in producing items quickly which should explore realistically the techniques that would be employed in the development of new products. The aim is to focus on details or features in products which demonstrate analytical activities and skills. The purpose at this stage is to communicate relevant information rather than demonstrate presentation skills.

¹. Drawing and sketching, unless otherwise dictated by Outcome, refers to manual and/or electronic methods.

Through learning and teaching activities, learners should develop an understanding of the correct applications of drawing views and types, relevance to context, why they are used in supporting specific situations, and their function in supporting applications in industry, commerce and society. It would be beneficial for centres to use meaningful exemplars and case study tasks which engage learners in exploring the use of graphic communication in industry, commerce and society. This might be in the form of comparative studies considering the preparation of graphics for advertising or promotional work compared with those used for engineering purposes.

In developing the principles of orthographic projection in the Units, it is envisaged that, where and when appropriate, learners will gain experience in the use of a range of equipment and techniques appropriate to the learning task. This will develop an understanding of the complex process of orthographic projection and resources available which can enrich learners' knowledge before attempting assignment tasks. It will aid learners in their interpretation of drawings and models, enabling computer-aided designed items to be produced with greater understanding.

Where centres are flexible in their choices of subject matter for study — eg in the selection of everyday objects as stimuli for graphics work — a degree of personalisation and choice will be observed and bring a degree of ownership to learning. Learners developing and using 3D modelling techniques will enhance their problem solving skills and should be encouraged to approach tasks independently and creatively. For some learners, it may be appropriate to give more assistance and consideration to the development of components and subsequently the assembly of the model.

To assist learners, practitioners should be familiar with the techniques of 3D modelling and could consider using prepared exemplar materials or using screen capture software to support learners in the development of computer-aided design skills. It is expected that centres will use the 3D model to generate 2D and pictorial views. Using the computer-aided design software, it is possible to enhance the learners' knowledge and understanding of technical detail and assist learners in interpreting, for instance, sectional and auxiliary views. It remains important that learners are able to demonstrate a critical understanding of the process.

With careful planning it is possible to meet the Unit Assessment Standards through an integrated approach to the tasks. Learners should be made aware of the appropriateness and suitability of their evidence in meeting the required standards. It should not be necessary to duplicate work where evidence is already produced.

In continuing to develop an individual as a responsible citizen, it is important to maintain the ability of the learner to assess the impact of graphic communication activities on society and the environment. Building in opportunities for learners to undertake critical self- and peer-evaluation of the impact of graphic communication decisions will create a culture of reflection and action. Centres should draw on Scotland's technological developments in architecture, engineering, manufacturing, design, medical science and the games industry to consider the impact and role of graphic communication. Centres should, where possible, look to local enterprise and industry for links to be made for learners.

Centres and learners should make effective use of ICT and supporting technology, if available. Visualisers and screen capture software can be used to good effect in developing skills in manual drawing, sketching and rendering. This will also allow centres to develop support materials that can be accessed by learners outwith the normal Course delivery times.

If centres are taking an integrated approach, it is desirable to ensure that the time allocated in the delivery of learning and teaching is balanced. It is advisable that centres share their structure or timescale with learners to ensure they are fully aware of the expectations and requirements of the Course.

Learning and teaching strategies

Centres are encouraged to use an array of learning and teaching strategies, activities and a broad range of learning resources to enrich the learners' experience.

For example, co-operative and collaborative learning approaches support, encourage, and enable all learners to reach their potential. These methods support a learner's ability to think critically and develop confidence in working as part of a team, and develop higher order skills such as analysis and problem solving. These are lifelong skills which will support learners as they progress from school learning to beyond.

These approaches may be used when setting open briefs and where the graphic responses from individual learners will, while being different, demonstrate that a variety of approaches can solve the same problem. Briefs are likely to be set in a relevant and meaningful context. There are a number of project-based themes which support this method of learning, such as competition-based work, charity and community, national, enterprise and business, and environmental.

Problem-based learning (PBL) is another strategy which will support a learner's progress through this Course. PBL may well be utilised at the end of a topic where additional challenge is required to ensure learners are secure in their knowledge and understanding and where they can apply them in less familiar contexts. This will also provide scaffolding for undertaking the Course assessment.

For example, learners could be asked to design a logo for promotion of an international sporting event, such as the Olympic or Commonwealth Games, which will be understood by people from many competing or visiting nations. The learners must apply their knowledge of sport, athletics, games, sporting equipment, international identity, language and language barriers, layout, colour, and textual information in addressing this task and presenting a solution.

Another challenge may be in communicating information for a residential development which must promote sustainability. Learners must be able not only to bring together and communicate the technological information for construction or engineering to the specialist, but also address the aspects of communicating green issues or similar environmental compatibilities to the general public or layperson.

Both of these require learners to draw on their graphic knowledge and skills in applying and communicating information to a mixed or diverse audience and could be undertaken, at least partially, as a group learning activity.

Learning through PBL develops a learner's problem solving, decision making, investigative skills, creative thinking, team working and evaluative skills.

Contexts for learning

Centres may wish to develop a programme of learning which supports Graphic Communication in the world of work. Most communities will have businesses or individuals with expertise who can contribute to the learning context, providing useful information, acknowledging the skill sets useful for success after full-time education, and creating sustainable links with the centre.

Where appropriate, centres might enrich the learning experience with guest speakers and educational visits and trips, for example a local newspaper production office, printers, signage, engineering, construction sales office, packaging, retail outlets, etc. These will support learning through contextualisation. Links with industry and/or colleges/universities will benefit learners' understanding of graphic communication in the context of the world of work and support their future progression and inform curriculum or career pathways decisions.

Learning about Scotland and Scottish culture will enrich the learners' learning experience and help them to develop the skills for learning, life and work they will need to prepare them for taking their place in a diverse, inclusive and participative Scotland and beyond. Where there are opportunities to contextualise approaches to learning and teaching to Scottish contexts, teachers and lecturers should consider this.

Assessment as part of learning and teaching

Assessment activities should be blended with learning activities throughout the Course and can be used formatively to support good practices in learning and teaching.

Assessment can be used to support learning by:

- ◆ sharing learning intentions/success criteria
- ◆ using assessment information to set learning targets and next steps
- ◆ adapting teaching and learning activities based on assessment information
- ◆ boosting learners' confidence by providing supportive feedback

Self and peer-assessment techniques should be encouraged wherever appropriate.

Working towards Units and Course

Learning and teaching activities should be designed to develop both:

- ◆ skills and knowledge to the standard required by **each Unit** and to the level defined by the associated Outcomes and Assessment Standards
- ◆ ability to apply the breadth of knowledge and understanding required to complete the **Course assessment** successfully

Multi-level teaching

Within any group of learners it is likely that there will be clear or subtle differences in the abilities of learners. Such differences will enable the centre to establish the level at which learners are currently working.

Within a graphic communication group it may be the case that there are learners working at National 5 or Higher. In such cases some learners working at National 5 may be able to demonstrate the standards required for Higher. Where this is the case they should be given the opportunity to demonstrate these.

Centres should look to the Outcomes, Assessment Standards and extended descriptions of content for Higher when deciding this as there are key differences.

Caution should be applied in multi-level teaching where learners are using a themed or project approach. In such cases centres should not generally be looking to repeat the same theme each year, to ensure freshness in experiences and that interest is maintained.

For ease of comparison, Appendix 2 shows the content differences between National 5 and Higher Graphic Communication. In addition these can be sourced from the *Course Assessment Specification* documents for each of those Courses.

Learning and teaching resources

Centres may use whichever resources best support effective learning and teaching for graphic communication. Unless otherwise stated, for example when computer-aided design is specified in the Outcome, centres can use either manual or electronic methodologies, or a rich mixture of both, in supporting learners' and teachers' preferences and in the development and application of knowledge and skills. In either case it is important that learners can demonstrate the knowledge and understanding of the principles being applied, and not merely rely on a device for the correct generation of an image or information. Learners must be able to interrogate the graphic response for correctness in appearance and in meeting standards and conventions from a secure knowledge base.

The use of computer-aided design and ICT is an integral part of the learning in Graphic Communication and learners should be encouraged to explore them as they support their learning. Where appropriate, centres and learners may benefit from the use of resources such as: interactive boards, sketching or drawing tablets, scanners and visualisers. Interactive boards may, where appropriate, improve the learning experience when delivering new learning related to software packages, and visualisers support the delivery of manual sketching, board work, and rendering as well as tonal work with shadow and reflection using physical items.

There are increasingly inexpensive or free applications (apps) available for smartphones and popular digital tablets, some of which are provided by recognised graphics software providers, which can support sketching and rendering, import of common drawing formats, and instant electronic communication of the graphic via e-mail or social networking pages. As technology evolves, learning and teaching approaches are likely to adapt and change with time to reflect and capture the potential of these technologies. Where such devices are being used they must be able to contribute positively to learning in graphic communication. For example, where a learner has the facility and desire to demonstrate sketching using electronic devices then this should be encouraged — this represents personalisation and choice in learning. Electronic technology might also be used effectively in capturing the learner's journey as they progress learning across the Course. Centres should be sure that, where electronic devices and applications are being used, they do not undermine the principles being taught and that they do in fact genuinely enhance the learning activities.

As well as traditional and 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 to be found in graphic activities and studios and should not be omitted or avoided. Such resources might include pencils, markers, pastels, masks, inks and airbrush, application vinyl, texture boards, cutting mats, templates, curves, stencils, highlighting pens, compasses, light boxes, drawing boards, straight edges, and squares. In terms of software, centres are free to select whichever best supports the learning of graphic knowledge, skills, and principles and are already likely to have preferences.

Sequence of delivery

There is no set or mandatory sequence to delivery of the Units in this Course. The Outcomes lend themselves to an integrated approach within and across the Units. Although the Units can be delivered discretely, their integration will better support the development of transferable skills and provide a richer experience. In addition, integrating the Units will make more effective use of time.

Centres should take account of individual learners' needs and plan for where support will be required. It is essential that pace and challenge be taken into account for a class and an individual. Clear and understandable plans for the Course should indicate to learners what the expectations are. Where additional support is required for a particular individual, this should be taken into account when planning. Feedback should be clear, focused and meaningful to improve learning and self-confidence. Higher order questioning and self/peer assessment will be required to ensure learners' engagement and successful completion of the Course/Unit.

Fitting the Graphic Communication assignment into a Course plan

It is essential that learners are given opportunities to prepare for the Course assessment when they are undertaking the Course. It is likely that evidence of work gathered in the Units may support and contribute to the requirements of the Graphic Communication assignment. In addition learners must be adequately prepared for the examination component in terms of the knowledge, understanding, rigour and pace expected. As the Graphic Communication assignment requires that learners can apply sufficient knowledge and understanding, it is logical that it will be attempted towards the end of the Course.

Possible models

Sequential delivery of Units

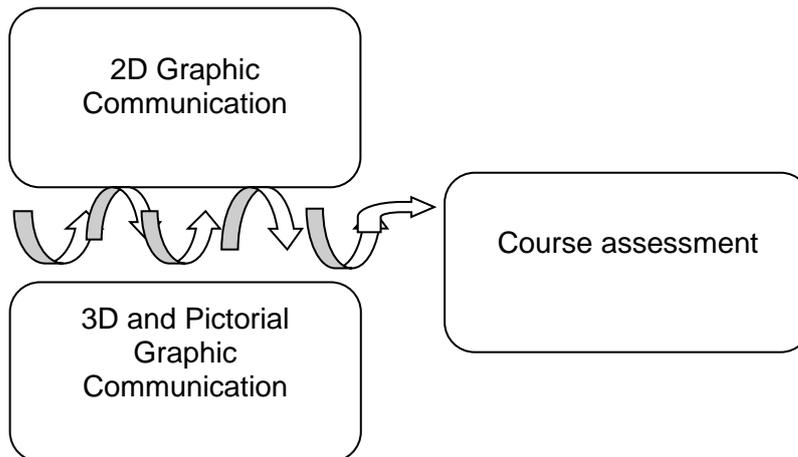


In this model, the centre has decided to take each Unit and systematically complete the work for each, finishing with the Course assessment. Potentially, in this case the learner is gaining a deeper understanding of each of the techniques and knowledge related to each Unit. They have focused initially on developing 2D

drawing and sketching² skills, 2D preliminary work and 2D promotional work before repeating much of the knowledge in a 3D format.

This gives the lecturer or teacher opportunities to gather evidence Outcome by Outcome and Unit by Unit should they desire. It is however likely that the learner will potentially fail to see the important relationships between the skills, knowledge and understanding which connects the 2D and 3D Units. It is potentially less likely to provide a rich learning experience.

Integrating 2D and 3D Units



In this learning model, *2D* and *3D and Pictorial* Units are delivered in an integrated way. Here the skills, knowledge and understanding developed support the completion of the Course assessment. In this case, learning activities such as creating sketches and drawings in 2D would naturally be extended to their representation in 3D and pictorial formats — a common approach already adopted in many centres. It is likely that 2D work would initiate the learning process and thereafter loop in and out of 2D and 3D work. This would enrich the experiences of both Units.

In both delivery models, time must be made available for re-assessment and preparing for and completing the Course assessment.

Advice on distribution of time

The distribution of time between the various Units and components of learning within the Units is a matter for professional judgement and is entirely at the discretion of the centre. Each Unit is likely to require an approximately equal time allocation, though this may depend on the learners' prior learning in the different topic areas.

Within the time allocated for the Graphic Communication assignment, learning and teaching time will be required for:

- ◆ preparation for the assignment, which could include considering exemplar assignments and practising the application and integration of skills
- ◆ carrying out all the stages of the assignment, with teacher guidance and support

² Drawing and sketching, unless otherwise dictated by Outcome, refers to manual and/or electronic methods.

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

Learners are expected to develop broad generic skills as an integral part of their learning experience. The *Course Specification* lists the skills for learning, skills for life and skills for work that learners should develop through this Course. These are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and must be built into the Course where there are appropriate opportunities. The level of these skills will be appropriate to the level of the Course.

Centres should consider methods and strategies to inform learners of these skills and ensure that they are aware of why these are considered to be transferable. Encouraging learners to become more responsible for their own learning, through reflection on their progress and performance, may be aided by using appropriate e-assessment methods (blogs, wikis, databases, and others).

The transferable skills permeate through all Outcomes and can be developed within all three.

For example, developing learners' numeracy skills may be supported through measurement tasks related to **creating** a drawing. However, if centres use computer-aided design they may want to consider assessing the learner's ability to measure an object/artefact or measure **from** a drawing. In terms of knowledge, this may be measured physically through the production of a view or through visually interpreting and identifying the correct presented responses from a range of possibilities, identification of erroneous responses and the corrections required.

This process may also be applied to 2D or 3D rotations of complex objects, assemblies, sections, true shapes and auxiliary views in establishing the learner's understanding of graphic techniques and processes. Centres may use scale to challenge learners and further develop their measurement skills. More information on scale can be found in Appendix 2.

ICT is an integral part of Graphic Communication and, as such, lends itself well to subject development in learners. However, centres must maintain a constant focus when planning learning activities in order to challenge learners in ensuring that it is the development of the graphic skill that is being observed rather than the capability of the software that is being observed. The use of different software packages will encourage and develop a learner's confidence in the understanding of common graphic ideas and principles.

Challenge and application will be observed where the learner transfers prior skills and knowledge to different software packages or more complex and demanding activities. Learners may also develop their skills through the study of compatibility issues of files and the use of the internet to investigate and locate information which will support the learning process.

Methods and strategies to encourage the development of creativity should be employed, for example project-based learning, collaborative learning, co-operative learning, and active learning. The development of a learner's creative skill may be best achieved through open briefs which will call on a learner's knowledge and understanding of various concepts and principles. Learners will have the opportunity to present and interrogate their ideas without restriction, supporting a culture of innovation. Learners should be encouraged to develop various solutions to a brief before selecting and justifying their final choice.

Approaches to assessment

The centre may wish to employ other assessment strategies to ensure that the learners are meeting the Assessment Standards. These will inform the learner, the centre and for the purposes of reporting. Learners should be made aware of the success criteria required to achieve the Outcomes/Unit and be involved in the process where appropriate.

Centres should be careful not to burden the learner with assessment and to plan effectively, identifying key times and natural opportunities for capturing evidence. If the Unit is being studied as part of the Course, centres may want to adopt assessment strategies appropriate to the combined Units and their related Outcomes. This will enhance learners' understanding of the common skills and consolidate the relationship between them. This structure will also reduce the assessment burden and make best use of time.

It is likely that centres will collect graphic evidence naturally as part of learning and teaching and retain the learner's evidence as proof of the standard and also to inform future learning and activities.

Centres should ensure that assessments do not restrict personalisation and choice and allow for individual approaches to achieving success in the assessment. For example, if the assessment method is not prescriptive, learners would have freedom to select the most appropriate and personalised method for demonstrating the skill or knowledge being assessed. In graphic communication activities, centres are already well versed in methods which can successfully determine learner performance and understanding. Centres must ensure learners are aware of expectations for assessments, allowing learners to respond in different ways — say, write, make, do. An assessment based on knowledge and understanding could allow learners to respond either by writing, drawing, sketching or digitally capturing their response.

Pedagogy for Design and Technology subjects leaves ample opportunity for learners and teachers to make effective and active use of ICT in learning, teaching and assessment activities. Research in this field shows many ways in which this can be done in an effective and systematic way. Using ICT to support the breadth of graphical work could bring an added dimension to learning in this subject area.

Learners should be encouraged to maintain a portfolio³ or collection of evidence of learning to maintain a useful record for the learner and centres. This could be approached in a number of ways:

- ◆ keeping a verbal journal recorded into podcasting
- ◆ maintaining a blog or wiki
- ◆ using screen capture software or video evidence of their work
- ◆ digital scans or capture of manual work

Centres may wish to encourage learners to maintain an e-portfolio to allow greater opportunities for the sharing of standards and to aid with local and regional moderation and verification activities.

³ Folio refers to a collection of evidence which satisfies the standards

Centres may wish to draw up their own guidance on how technology and ICT might be best used to support and record learners' progress in the Unit Outcomes, or indeed as it can present a picture of the learner's journey.

Preparation for Course assessment

Each Course has additional time which may be used at the discretion of the teacher or 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.

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

Centres are free to consider how they will prepare learners to undertake the Course assessment to ensure that they will be as successful as possible. Although this is likely to vary from centre to centre, it is likely that learners will also have opportunities presented throughout the Unit activities to consolidate and prepare. That aside for the Course assessment, time will be required for:

- ◆ preparation for the assignment, which could include considering exemplar assignments and practising the application and integration of skills
- ◆ carrying out the stages of the assignment, with teacher guidance and support
- ◆ assessing the graphic responses to the brief within the folio
- ◆ consolidation of learning
- ◆ development of problem solving skills
- ◆ preparation for the question paper

Combining assessment across Units

Centres are free to combine evidence across Units in order to meet the standard. Centres may wish to consider other evidence which may be obtained from outwith this Course. If this is the case, centres must ensure that the evidence is the learner's own work and that it has been completed under conditions which match or exceed the standards laid out within the Unit Specifications.

Within the two Units there are significant opportunities to combine and reduce the level of assessment in the delivery of the Course. An integrated approach to the Units will provide flexibility in combining assessment within the Units. It is important that centres have a clear structure in their method of delivery to ensure that learners satisfy the Unit Outcome and Assessment Standards through their evidence.

Unnecessary repetition and replication of evidence should be discouraged and centres should carefully plan where links can be made in the Unit Outcomes and Assessment Standards to give the learners greater time to focus on developing their skills and knowledge.

It is possible for centres to use the learner's computer-aided designed work to produce combined evidence to satisfy Assessment Standards for Outcomes in both Units.

Centres should plan their approaches to assessment logically and look for key points to gather supporting evidence at naturally occurring points in learning.

Centres may also find the combination of assessments across Units beneficial to a learner's development as this supports the links in learning between the Units of work in Graphic Communication. This structure may also maximise the time for teaching and learning and avoid the potential for repetition. Parts of or whole Outcomes or Units may be partnered with other Units and assessed where appropriate.

Equality and inclusion

Within any graphics course, there are specific activities with which individual learners may experience particular challenges; there may also be specific issues with equipment. In such cases reasonable adjustments may be appropriate, including (for example) the use of adapted equipment or alternative assistive technologies.

It is recognised that centres have their own duties under equality and other legislation and policy initiatives. The guidance given in these *Course 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 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 the SQA website: www.sqa.org.uk/sqa/14977.html.

Appendix 1: Reference documents

The following reference documents will provide useful information and background.

- ◆ Assessment Arrangements (for disabled learners and/or those with additional support needs) — various publications are available on SQA’s website at: 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 Specifications*](#)
- ◆ [*Design Principles for National Courses*](#)
- ◆ [*Guide to Assessment \(June 2008\)*](#)
- ◆ Principles and practice papers for curriculum areas
- ◆ [*SCQF Handbook: User Guide*](#) (published 2009) and SCQF level descriptors (reviewed during 2011 to 2012): www.sqa.org.uk/sqa/4595.html
- ◆ [*SQA Skills Framework: Skills for Learning, Skills for Life and Skills for Work*](#)

Appendix 2: Comparison of National 5 and Higher

This table shows the relationship between the mandatory National 5 and Higher knowledge and understanding. This table may be useful for:

- ◆ designing and planning learning activities for multi-level teaching
- ◆ ensuring seamless progression between levels
- ◆ identifying important prior learning for learners at Higher

Teachers should also refer to the Outcomes and Assessment Standards for each level when planning delivery. The tables are split into those topic areas which are sampled for assessment in the question paper and those most likely to be applied (as required) in the assignment.

Component 1 — question paper

The purpose of the question paper is to assess the learner’s ability to retain and integrate knowledge and understanding from across the Course. The question paper Component of Course Assessment will require learners to draw upon and apply knowledge and understanding of a sample from the topic areas listed below.

This table must be read in conjunction with the published versions of the respective Course Assessment Specifications (CAS) for National 5 and Higher Graphic Communication.

	National 5	Higher	Cuts across N5/Higher	Not applicable in this component
Topic areas	National 5	Higher		
Graphic types	Knowledge and understanding of the role of preliminary, production and promotional graphics in graphic communication activities.			
Manual and computer-aided techniques	Knowledge and understanding of the role of manual and computer-aided techniques and processes, and their comparative merits when producing effective and informative graphic communications and solutions; activities including: describing processes, stages and generic commands applied or to be applied in producing graphic solutions; ranges, features and uses of graphic hardware and software, computer systems file management; digital input and output devices and the advantages and limitations of computer-aided design.	Manual techniques	Knowledge and understanding of the use and role of manual graphic communication techniques and processes and their relative merits compared to electronic methods. Knowledge and understanding of a range of common manual graphics media.	
		Computer-aided techniques	Knowledge and understanding of computer-aided techniques, computer-aided design, desktop publishing, digital capture/input and output techniques and devices.	
Skills in applying drawing standards, protocols and conventions	Knowledge, understanding and identification of recognised drawing standards, protocols and conventions commonly used in engineering and construction. Including: line types (including dimension lines, centre line,			Knowledge and understanding of recognised drawing standards, protocols and conventions through application, identification and recognition in given contexts, views and items.

	hidden detail, cutting planes, fold lines), dimensioning (linear, radial, diameter, angular, square, across flats, across corners), and symbols for sections, hatching, symbols for building construction, and third angle projection system. Building construction drawing: location plans, site plans, floor plans, sectional views and elevations.		Line types (including dimension lines, centre line, hidden detail, cutting planes, fold lines), dimensioning (linear, radial, angular, diameter and tolerance), and symbols for sections, hatching, building construction, and third angle projection system.
Geometric shapes and forms, and everyday objects	<p>Knowledge, understanding and skills in spatial awareness when interpreting geometric shapes and forms and/or those used in the communication of everyday objects.</p> <p>Common geometric forms and everyday objects consisting of: squares, rectangles, circles, hexagons, octagons, right prisms, pyramids, cones, and cylinders, partial or single cuts to these forms, components based on geometric forms, combinations of two components.</p>		<p>Knowledge, understanding and skills in spatial awareness when interpreting geometric shapes and forms and/or those used in the communication of products, components, assemblies and other items.</p> <p>Interpenetration and intersections of right prisms and cylinders, true shapes, ellipses, common geometric forms and partial cuts of those forms, components built from various simple combinations of forms.</p>
Views and techniques	<p>Knowledge and understanding of the role, benefits and use of a variety of views and techniques in 2D, and 3D and pictorial formats, in communicating geometric shapes and forms and everyday objects.</p> <p>Third angle orthographic projection of geometric forms and everyday objects in third angle projection, true lengths and true shapes, surface developments, sectional views, assembly drawings, exploded isometric views of three parts. Pictorial views including isometric and oblique, containing curved parts and planometric.</p>		<p>Knowledge and understanding of the role, benefits and use of a variety of views and techniques in 2D, and 3D and pictorial formats, in communicating geometric shapes and forms, objects, components, assemblies and other items including: third angle orthographic projection, tangency (internal and external radii location), true length and true shape, surface development, a range of sectional views (full, part and stepped), assembly drawings (minimum three parts), auxiliary views where required, exploded views (full and sectioned) cut-aways, oblique, isometric, planometric views, including use of appropriate scales.</p>

Layout elements and principles	<p>Knowledge and understanding of: the types of promotional graphics and their associated roles, and informational graphics. The interpretation and identification of the use of creative techniques for effective promotional graphics.</p> <p>Techniques including the use of: alignment, dominance, line, unity and depth, contrast, layout elements and principles; the use of colour, (warm, cool, contrast, harmony, advancing, receding, mood), reflection and shade. The use of a range of graphic manual and electronic modelling techniques in promotional graphics</p>	Illustration techniques	<p>Knowledge and understanding of the use of illustration techniques used to support effective graphic communications – the use, role and common techniques for representations of light, shadow, reflection, tone layout, material and texture.</p> <p>Knowledge of visual enhancement techniques, for instance, mediated reality.</p>
		Techniques used for producing effective promotional documents and publications	<p>Knowledge, understanding, recognition and interpretation of the application of techniques used in the production of promotional documents including: colour (warm, cool, contrast, harmony, accent, advancing and receding), line, shape, texture, value, mass/weight, alignment, balance, contrast, depth, dominance, emphasis, proportion, rhythm, unity/proximity and white space, grid structure.</p> <p>3D rendering techniques including: light source, materials, reflection, shade and sited environment.</p>
Using technology in graphic communication		<p>Knowledge and understanding of ranges, features and uses of graphic hardware and software computer systems and networks, file management, cloud computing, cloud storage and digital rights management; digital input and output devices and the advantages and limitations of computer-aided design.</p>	
Computer-aided design	<p>Knowledge and understanding/interpretation of techniques and generic drawing and editing commands and terms including:</p> <p>Drawing tools: copy, zoom, mirror, trim-line, rotate, scale. Import and export.</p> <p>3D Modelling features: extrusion, revolved solids.</p>	<p>Knowledge, understanding and recognition of the generic techniques, customs and practices used across a range of packages:</p> <p>Drawing Tools: line, circle, rectangle, ellipse, trim, array (linear, box and radial), offset, mirror, project edge, extend</p> <p>Modelling Features: extrude, revolve, loft, helix / helices, path (extrude/sweep along a path)</p>	

	<p>3D Modelling edits: shell, subtraction, fillet, and chamfer. Assemblies. Techniques in the production of orthographic and pictorial work using computer-aided design, and the use and function of computer-aided design libraries.</p>	<p>Modelling Edits: shell, fillet (regular / consistent), chamfer (regular / consistent), fillet (irregular), chamfer (irregular), mirror, array(linear, box and radial), add, subtract, intersect Constraints: linear, radius, diameter, perpendicular, parallel, fixed, tangent, concentric</p> <p>Terminology: component, assembly, sub-assembly, work-plane/plane, axis, feature, profile, sketch, face, edge, datum, suppress</p> <p>Assembly: mate, align, centre axis, orientate, offset, tangent, stock/library components</p> <p>Views: solid model, wire frame</p> <p>Modelling Concepts: top down modelling, bottom up modelling, vertices, edges and faces, modelling tree / hierarchy, modelling plan</p> <p>File Types: dxf, 3ds, step/iges</p> <p>CAD libraries: the use and function of CAD libraries and stock models</p>
<p>Desktop publishing</p>	<p>Knowledge, understanding/interpretation in explaining and justifying the use of desktop publishing techniques (DTP) and generic terms including: copy/cut/paste, text box, handles, colour fill, margin, single-page format, title, extended text, cropping, text wrap, flow text along a path, bleed, transparency, drop shadow, rotate, justification, paper sizing, reverse, column, gutter, caption, header and footer, line, grid, snap to grid, guidelines, snap to guidelines. The use and role of thumbnails and annotation.</p>	<p>Knowledge, understanding, recognition and interpretation of generic desktop publishing terms and techniques including: _copy/paste, text box, handles, colour fill, colour picking, textured fills, _gradient fill, margin, single and multi-page format, title, extended text, alignment, page size, orientation, drop caps, line-spacing,, heading, cropping (square and full cropping), text wrap, flow text along a path, bleed, pull quote, transparency, drop shadow, rotate, justification, paper sizing ,reverse, column, gutter, caption, header and footer and folio.</p> <p>Planning strategies, thumbnails, visuals and annotation, proofs (pre-press), register marks, crop marks, run off.</p> <p>Bleed ,grid, guides, snap, master page layers, serif and sans serif, font styles, column rule/ rule, indent, hanging indent, dropped capital, running headline, reverse, import/export.</p>

		Knowledge and understanding of file types: Raster (tiff, jpg, png, bmp), vector (svg, dxf), including their advantages and disadvantages.
Graphic communication technology: impact on society and the environment	Knowledge and understanding of the impact and influence of graphic communication activity on society and the environment — for example: the paperless office, use of recycled materials, computer-aided design as it supports manufacturing and other industries, DTP in marketing and promotional activities, remote working, and communication crossing international boundaries.	

Component 2 — assignment

This comparison table shows those topic areas within materials and manufacturing study and/or activities most likely to be observed within the Assignment.

This table must be read in conjunction with the published versions of the respective Course Assessment Specifications (CAS) for National 5 and Higher Graphic Communication.

	National 5	Higher	Cuts across N5/Higher	Not applicable in this activity
Topic area	National 5		Higher	
Graphic types	Skills in the production of effective preliminary, production and promotional graphic communications.			
Manual and/or computer-aided techniques	Skills in the selection and application of manual and/or computer-aided graphic techniques and processes (as required) using graphic communication applications and a range of common graphic media, equipment and/or devices, in the production of effective and informative graphic communications.			
Skills in applying drawing standards, protocols and conventions	<p>Application of recognised drawing standards, protocols and conventions whilst producing responses and/or solutions to, and as required, or limited by, a graphic communication problem, situation and/or brief.</p> <p>Including (as required): line types (including dimension lines, centre line, hidden detail), dimensioning (linear, radial, diameter, angular, square, across flats, across corners), and symbols for sections, hatching, symbols for building construction, and third angle projection system.</p> <p>Building construction drawing: location plans, site plans, floor plans, sectional views, and elevations.</p>	<p>Application of recognised drawing standards, protocols and conventions in engineering and construction, symbols and standards. Line types (including dimension lines, centre line, hidden detail, cutting planes, fold lines), dimensioning (linear, radial, angular, diameter and tolerance), and symbols for sections, hatching, building construction, and third angle projection system - and as required, or limited by, a graphic communication problem, situation and/or brief.</p>		

<p>Geometric shapes and forms, and everyday objects</p>	<p>Skills in the production of graphics representing everyday objects based upon geometric shapes and forms in supporting the production of graphic communications.</p> <p>Common geometric forms and everyday objects consisting of (and as required): squares, rectangles, circles, hexagons, octagons, right prisms, pyramids, cones, and cylinders, partial or single cuts to these forms, components based on geometric forms, combinations of two components.</p>	<p>Skills in the production of graphics representing products, components, assembly and other items in supporting the production of the production of graphic communications.</p> <p>This will include interpenetration, intersections of right prisms and cylinders, true shapes, ellipses, common geometric forms and partial cuts of those forms, components built from various simple combinations of forms - as required or limited by, a graphic communication problem, situation and/or brief.</p>
<p>Views and techniques</p>	<p>Skills in the appropriate selection and use of 2D, and 3D and pictorial views and techniques, in the production of graphic communications.</p> <p>Including (as required and/or specified): Orthographic projection of geometric forms and everyday objects in third angle projection, true lengths and true shapes, surface developments, sectional views, assembly drawings, exploded isometric views of three parts. Pictorial views including isometric and oblique containing curved parts and planometric.</p>	<p>Skills in the appropriate selection and use of 2D, and 3D and pictorial views and techniques, in the production of graphic communications.</p> <p>Including (as required, specified or limited by, a graphic communication problem, situation and/or brief) third angle orthographic projection, tangency (internal and external radii location), true length and true shape, surface development, a range of sectional views (full, part, revolved and stepped), assembly drawings (minimum three parts), auxiliary views where required, exploded views (full and sectioned) cut-aways, oblique, isometric, planometric views, including use of appropriate scales.</p>
<p>Skills and techniques in sketching (use of paper-based and/or electronic slates or similar devices)</p>	<p>Skills in applying electronic and/or manual sketching techniques including: proportion, line quality, vanishing points, line sketching using related orthographic views, single and two-point perspective, and representations of geometric forms and everyday objects in supporting the production of graphic communications.</p>	<p>Skills in applying electronic and/or manual sketching techniques (as required, specified or limited by, a graphic communication problem, situation and/or brief) including: proportion, line quality, vanishing points, line sketching using related orthographic views, single and two-point perspective, oblique and isometric forms.</p>
<p>Skills in illustration techniques using manual and/or computer-aided formats</p>	<p>Skills in using illustration techniques whilst creating effective and informative graphic communications including: representations of light, shade, shadow, reflection, tone, gradient, material, texture, layout, and visual enhancement techniques in supporting the production of graphic communications.</p>	<p>Skills in using illustration techniques whilst creating effective and informative graphic communications including: representations of light, shadow, reflection, tone layout, material and texture. Visual enhancement techniques, for instance, mediated reality.</p> <p>Skills in the creation of scenes that place 3D models in relevant contexts</p>

<p>Skills and creativity in producing effective promotional documents</p>	<p>Skills in the application of creative and effective techniques for research and investigation and ingenerating ideas, and in the production of effective promotional graphics and responses and/or solutions to, and as required, or limited by, a graphic, a communication problem, situation and/or brief.</p> <p>Techniques including (as required): alignment, dominance, line, unity and depth, contrast, layout elements and principles, the use of colour, (warm, cool, contrast, harmony, advancing, receding), reflection and shade. The use of a range of graphic manual and electronic modelling techniques in promotional documents.</p>	<p>Skills in the application of creative and effective techniques for research and investigation and in preliminary work, and in the production of effective promotional graphics and responses and/or solutions to, and as required, or limited by, a graphic, a communication problem, situation and/or brief.</p> <p>Considerations including (as required): colour (warm, cool, contrast, harmony, accent, advancing and receding), line, shape, texture, value, mass/weight , alignment, balance, contrast, depth, dominance, emphasis, proportion, rhythm, unity/proximity and white space, grid structure.</p> <p>Techniques used (as required) in the creation of promotional graphic displays with some complex features.</p> <p>Skills in the presentation of research/investigation and generating ideas for work to support a graphic communication proposal.</p>
<p>Computer-aided design</p>		<p>Skills in the application of techniques, customs and practices generically used across a range of 2D and 3D CAD packages as required:</p> <p>Drawing Tools: line, circle, rectangle, ellipse, trim, array (linear, box and radial), offset, mirror, project edge, extend</p> <p>Modelling Features: extrude, revolve, loft, helix / helices, paths</p> <p>Modelling Edits: shell, fillet (regular/consistent), chamfer (regular/consistent), fillet (irregular), chamfer (irregular), mirror, array (linear, box and radial), add, subtract, intersect</p> <p>Constraints: linear, radius, diameter, perpendicular, parallel , fixed, tangent,</p>

		<p>concentric</p> <p>Terminology: component, assembly, sub-assembly, work-plane/plane, axis, feature, profile, sketch, face, edge, datum, suppress</p> <p>Assembly: mate, align, centre axis / centre align, orientate, offset, tangent, stock / library components</p> <p>Views: solid model, wire frame</p> <p>Modelling Concepts: top down modelling, bottom up modelling, vertices, edges and faces, modelling tree / hierarchy, modelling plan</p> <p>File Types: dxf, 3ds , step/iges</p> <p>CAD libraries – the use and function of CAD libraries and stock models</p>
Desktop publishing	Skills in the use and application of desktop publishing techniques (DTP) in planning and producing graphic communications.	Skills in the application and use of desktop publishing techniques in planning and producing promotional graphics
Safe working	Use of safe working practices and systems which support graphic communication activities in studios and other such working environments.	

Administrative information

Published: May 2015 (version 3.0)

History of changes to Course Support Notes

Version	Description of change	Authorised by	Date
2.0	National 5/Higher comparison table updated/clarified to align with Course Assessment Specification (exam/assignment split).	Qualifications Development Manager	June 2014
3.0	'Computer-aided Design/Draughting' replaced with 'Computer-aided Design' throughout the document.	Qualifications Manager	May 2015

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Unit Support Notes — 2D Graphic Communication (Higher)



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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).

Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the *2D Graphic Communication* (Higher) Unit. They are intended for teachers and lecturers who are delivering this Unit. They should be read in conjunction with:

- ◆ the *Unit Specification*
- ◆ the *Course Specification*
- ◆ the *Course Assessment Specification*
- ◆ the *Course Support Notes*
- ◆ appropriate assessment support materials

General guidance on the Unit

Aims

The general aim of this Unit is to help learners to develop their creativity and presentation skills within a 2D graphic communication context. It will enable learners to initiate, plan, develop and communicate ideas graphically, using two-dimensional graphic techniques. Learners will develop a number of skills and attributes within a 2D graphic communication context, including spatial awareness, visual literacy, and the ability to interpret given drawings, diagrams and other graphics. Learners will evaluate the effectiveness of their own and given graphic communications to meet their purpose.

Learners will develop skills in both manual and electronic graphic communication techniques. They will acquire knowledge and understanding of terms and techniques in computer-aided design and DTP (desktop publishing). They will learn how graphic communication technologies impact on our environment and society. The Unit supports learners in developing transferable skills in creativity and problem solving in a graphic communication context.

The Unit can be delivered:

- ◆ as a stand-alone Unit
- ◆ as part of the Higher Graphic Communication Course

This Unit is a mandatory Unit of the Higher Graphic Communication Course.

Progression into this Unit

Entry into this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ◆ National 5 Graphic Communication Course
- ◆ 2D Graphic Communication (National 5) Unit

Where learners' experiences derive from employment or other areas, centres should satisfy themselves as to the appropriateness of the Unit for study, the capabilities of the learner, and hence the likelihood of success.

Skills, knowledge and understanding covered in this Unit

Information about skills, knowledge and understanding is given in the Higher Graphic Communication *Course Support Notes*.

If this Unit is being delivered on a free-standing basis, teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

If the Unit is being delivered as part of the Higher Graphic Communication Course, the teacher should refer to the 'Further mandatory information on Course coverage' section within the *Course Assessment Specification* for detailed content.

Progression from this Unit

Experience and skills obtained in this Unit will support progression to:

- ◆ Advanced Higher Graphic Communication Course or its relevant component Units

In addition, success in this Unit may also support progression to:

- ◆ Higher Design and Manufacture
- ◆ Higher Art and Design

This Unit may support a learner's access to further education or employment as part of a wider entrance portfolio.

Centres should take account of the learner's strengths and the appropriateness of this Unit for entry to other courses or programmes of study.

Approaches to learning and teaching

The Higher Graphic Communication Course is designed around graphic skills development partnered with a high degree of personalisation, choice and expression. This Unit focuses on communicating ideas, technical, informative, and expressive information using two-dimensional graphic designs and responses. During the Unit, learners will be working and learning in a range of graphic formats and contexts. Centres should plan thoroughly to ensure that the experience is a connected one rather than a 'bit-piece' approach.

Information with regard to knowledge and skills can be found in the 'Further mandatory information' section of the *Course Assessment Specification*, which will provide a useful guide to centres as to what content must be covered. Most centres will be very 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 might be utilised or adapted, where appropriate, using electronic methods where a learner's preference dictates.

For example, where the learner is demonstrating knowledge rather than process, alternative methods may be able to reveal evidence of learning — view identification, errors, omissions or standards and conventions might not always require a paper-based resource or activity. Where process-based or skill demonstration is required, the centre may wish to consider a mixture of response techniques including manual and/or electronic. The purpose is to introduce greater flexibility in learning and teaching and personalisation and choice but without loss of rigour and while still recognising the importance of graphic principles.

Spatial awareness, cognition and reasoning can be approached in a number of ways which support the activity of graphic communication. Holding, rotating, disassembling, re-assembling, folding, photographing, predicting, formal drawing⁴, sketching and modelling are all useful techniques to build learners' capacity and understanding.

In 2D orthographic drawing, learners should be permitted to use a range of techniques and resources to approach the creation of two-dimensional work. The principles of orthographic projection can be taught and learned, utilising a variety of learning and teaching resources and methodologies. Graphical literacy can be developed by using computers, tablets, digital pens, sketching, paper and pencil, block work, plotting and drawing with instruments.

The development of skills in sketching will support many aspects of the Unit and subsequently the Course. It is a quick and effective means of recording, developing and communicating ideas graphically. As a problem solving and creative tool, analytical and developmental sketching skills are important. Where possible, sketching should incorporate the principles of orthographic projection with an emphasis on using recognised construction techniques and on establishing good proportion and line quality. Sketching is likely to involve the use

⁴ Drawing and sketching, unless otherwise dictated by Outcome, refers to manual and/or electronic methods.

of digital materials, applications, and devices as well as pencils, pens, templates or guides and paper in completing the sketch. Learners may wish to maintain a sketch book which records information and techniques for practice and reference. Teachers and lecturers should ensure that the content of the sketch book is accurate and where applicable adheres to recognised convention.

At the core of the Unit is the principle that learners will develop skills and acquire knowledge which they will use to create 2D graphics and to aid the continued development and honing of problem solving and design skills. Over the Course, learners should be able to demonstrate increased independence in thinking and in the ability to apply previously learned skills and knowledge to new situations, graphic projects and tasks.

Themed or short, self-contained project work will assist in presenting the Unit's skills and knowledge. For some learners, centres might aid learning by highlighting the connections between graphic styles and techniques via a single extended project. Similarly, presenting work as a series of short, self-contained projects may encourage learners by setting shorter, more achievable goals and allow centres to adapt and refresh project work to suit the learner. Both approaches are acceptable. Centres should avoid, where possible, skills development in isolation or out-of-context activities.

In Higher Graphic Communication there is likely to be a significant amount of work generated by learners which can be used as evidence — this should be carefully recorded and retained. Time will be needed to ensure that learners can meet all the Assessment Standards. All Assessment Standards must be met to pass the Unit.

Electronic learning

There are a number of online resources which will be familiar to most centres. These provide a range of step-by-step tutorials from relative novice to advanced user. Centres might consider these for school and out-of-school learning activities to support development of skills and understanding and in accelerating the production of graphics.

Sequence of Outcomes

There is no prescribed order in which centres must deliver the Unit Outcomes. Resources and techniques will vary between centres and it is likely that a preferred approach will emerge quickly or might follow an existing well proven strategy within the centre.

There are four Outcomes to this Unit. Broadly speaking:

- 1 Produce and interpret 2D orthographic sketches⁵ and drawings
- 2 Produce 2D computer-aided designed production drawings
- 3 Produce preliminary 2D designs and illustrations for a multi-page promotional document
- 4 Create a multi-page 2D promotional publication and a project set of promotional publications

⁵ Drawing and sketching, unless otherwise dictated by Outcome, refers to manual and/or electronic methods.

The selection of a theme or context for learning is likely to determine how the Unit is delivered. It is unlikely that each Outcome will be either delivered in order or discretely as the skills, knowledge and their application permeates all four Outcomes. Centres may decide to collect Outcomes 1 and 2 together and likewise Outcomes 3 and 4 due to the nature of the content, knowledge and skills.

It is additionally likely that evidence for part of an Outcome or Assessment Standard could be found in the activities designed specifically for another, eg the evidence to support the ability to 'describe and justify types of graphics used in the design, manufacturing and marketing of a product' (Outcome 1) may perhaps be found in research activity undertaken for the work in Outcome 3.

Whatever approach is adopted, centres must satisfy themselves that the planned delivery best supports their own needs and in particular those of their learners. More information is given in the *Course Support Notes* to assist in strategies for cross-Unit planning — with particular reference to tasks.

Meeting the needs of all learners

The Higher Graphic Communication Course is designed to be hierarchical. This should support multi-level teaching where required. It is likely that most centres will be familiar with many strategies for multi-level approaches from existing good practice.

Many of the skill sets between National 5 and Higher are similar, with Higher generally requiring additional depth of study and treatment. Introductory skills development, tuition and demonstration will serve both levels, with Higher being extended.

In each of the Outcomes there are some key differences in the expectations of learners between National 5 and Higher. These key differences can be found in the detail of the Unit Specifications for both National 5 and Higher in the section 'Standards'.

In the case of 2D Graphic Communication, teachers and lecturers should note:

- ◆ the separation of Outcome 1 into two discrete Outcomes (1 and 2) and the increased complexity in each (refer also to the *Course Assessment Specification*, 'Further mandatory information' section) from National 5 to Higher
- ◆ the detail in planning for a promotional document for Higher compared to National 5 in Outcome 3
- ◆ the depth and range required for Higher compared to National 5 in Outcome 4

Planning should include clearly differentiated materials, study resources, time planning and independent learning tasks which can clearly address the differences.

Very often, graphics software applications will include a tutorial which may be able to support learners in setting up templates and manipulating images, in addition to user group forums where useful help can be found. In addition, learners are encouraged to explore the capabilities of the software in extending their creativity. It is also likely that set and similar themes and contexts will support learners undertaking Higher and National 5. Centres are discouraged from repeating the same theme or context where a learner has progressed from

National 5 to Higher in subsequent academic sessions to avoid potential repetition. This might suggest bi-annual themes.

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

Learners are expected to develop broad generic skills as an integral part of their learning experience. The *Unit Specification* lists the skills for learning, skills for life and skills for work that learners should develop through this Unit. These are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and must be built into the Unit where there are appropriate opportunities. The level of these skills will be appropriate to the level of the Unit.

The table below highlights opportunities to develop these skills during this Unit.

2 Numeracy	
2.2 Money, time and measurement	◆ Measurement, dimension, tolerance
4 Employability, enterprise and citizenship	
4.2 Information and communication technology (ICT)	<ul style="list-style-type: none"> ◆ Using graphic packages ◆ Digital input and graphic devices
5 Thinking skills	
5.3 Applying	◆ Design knowledge to complex problems, modelling and conceptual thinking in communicating ideas
5.4 Analysing and evaluating	◆ Situational analysis, graphic evaluation, thinking and analysing through sketching and drawing
5.5 Creating	◆ Ideas, innovation and solutions to problems and requirements

Approaches to assessment and gathering evidence

Outcome 1

The learner will:

1 Produce and interpret 2D orthographic sketches and drawings by:

- 1.1 Applying appropriate drawing standards, protocols and conventions to produce orthographic sketches of everyday objects, components and assemblies with dimensions and complex features
- 1.2 Using graphic communication equipment accurately and effectively and applying appropriate drawing standards, protocols and conventions to produce projected 2D line drawings of everyday objects, components and assemblies with dimensions and complex features
- 1.3 Describing and justifying the use of the main types of graphic communication employed in the design, manufacturing and marketing of a product

Notes on Outcome 1

The production and interpretation of orthographic sketches and drawings might be assessed via a Unit portfolio or evidence collection which may comprise Unit-standard tasks which demonstrate appropriate coverage of two dimensional graphics shown in the 'Further mandatory information on Course coverage' section within the *Course Assessment Specification*.

A suitable method might be a portfolio or collection which utilises a set of Unit-standard tasks which can be selected and completed at times best suited to the learner. Such a collection may well include a range of sketches, practice work, drawings, annotations, written commentaries, tables, comparisons or mini-research tasks. It is expected that the work will draw on a broad range of skills and demonstrate that a range of methodologies, approaches and resources have been used.

Outcome 2

The learner will:

2 Produce 2D computer-aided design production drawings by:

- 2.1 Applying computer-aided design skills, knowledge and understanding accurately and effectively and using appropriate drawing standards, protocols and conventions to create related orthographic views of single components and assemblies
- 2.2 Applying computer-aided design skills, knowledge and understanding accurately and effectively and using appropriate drawing standards to create three examples of technical detail
- 2.3 Applying computer-aided design skills accurately and effectively and using appropriate drawing standards to add textual and numerical information to orthographic computer-aided design work

Evidence for Outcome 2 is likely to be gathered in a similar fashion to Outcome 1 — by portfolio or collection. Here, the learner may wish to create a short

'command and procedure booklet' for reference and revision for Course assessment. Where more than one application is being used, learners should be aware of the subtle differences in terminology and command words — though more important is the function of the command in producing a graphic action.

Outcome 3

The learner will:

3 Produce preliminary 2D designs and illustrations for a multi-page promotional document by:

- 3.1 Illustrating preliminary orthographic sketches of geometric forms and everyday objects
- 3.2 Conducting preliminary research prior to the design of a promotional publication and preparing an outline specification
- 3.3 Applying knowledge and understanding of graphic elements and principles to produce preliminary layout designs for a multi-page promotional document

Outcome 4

The learner will:

4 Create a multi-page 2D promotional publication and a project set of promotional publications by:

- 4.1 Using software accurately and effectively to construct a master page/template for a multi-page promotional publication
- 4.2 Producing a multi-page promotional publication with complex features, which communicates effectively with its target audience and has relevant visual impact
- 4.3 Describing and justifying the use of promotional graphics in industry and commerce and their impact on the environment and society

It is very likely that the evidence for Outcome 3 and 4 will be gathered together during the same activity or project task. Although not prescribed, this would make the activity more realistic as a connected learning activity. The learner-produced work in this area would normally be focused around a single idea or theme. It is logical therefore that the evidence will be in the form of a portfolio or collection which demonstrates a well-planned leading to a well-executed promotional graphic activity. The planning should relate to and support the execution of the work. The connectedness and flow of the work should be clear and unambiguous. Planning should be thorough and logical.

It is not a requirement for thumbnails or working roughs to be manually created on paper (although this may be the easiest and quickest method). Some learners may have access to, or prefer to use, electronic sketching tablets or similar devices. Sketched and illustrated work may be scanned for electronic incorporation if desired. In either case the standards produced must be comparable in quality, process, relevance and meaning.

General information on Outcome evidence

Centres should be very clear on what represents the capability and creativity of the learner and that of the software when making assessment judgments. Software wizards for items like templates are not representative of the learner's work and should not be accredited to the learner.

Descriptions and justifications, though likely to be in written form, may be presented in a range of ways — videos, blogs, short essays or reports, audio commentaries, or discussions and debates. Centres should take care to ensure that softer evidence is of equal rigour.

All evidence gathered is required to demonstrate that the learner has achieved the Assessment Standard. Where a broad range of techniques and activities have been used in teaching and learning, it is likely that the learner will have benefitted from a rich and meaningful experience. This should be partnered with a clear record of how the evidence has been obtained and how and what it is evidencing.

Combining assessment within Units

It is anticipated that project work will normally cross Unit boundaries and careful planning by the teacher will ensure that Outcomes and Assessment Standards for both Units are covered in a limited number of project items. The ideal is that all Assessment Standards are met in a portfolio or collection of project work that has sufficient evidence to meet the Assessment Standards without being burdensome or excessive. The principle being that quality takes precedence over quantity and that reducing the number of portfolio or collection items allows the learner to spend more time developing and refining skills, underpinned by solid knowledge and understanding.

This is a crucial part of planning and delivering an integrated Course that teaches, develops and assesses skills and knowledge in a graphic design and communication environment. Where the learner has experienced realistic and meaningful graphic design challenges, they will be better placed at the end of the Course to progress through subsequent courses of study or to tackle work and life challenges in a more creative way.

Equality and inclusion

The in-built flexibility of production methods both encourages learning through the entire range of graphic skills and also supports those who might experience some difficulties. Methods can be tailored to suit preferences and ICT undoubtedly has an important supporting role to play.

The choice in setting briefs specific to the learner's needs or to the local environment and local expertise can support learning through personalising the learning process.

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

Alternative approaches to Unit assessment to take account of the specific needs of learners can be used. However, the centre must be satisfied that the integrity of the assessment is maintained and that the alternative approaches to assessment will, in fact, generate the necessary evidence of achievement.

Appendix 1: Reference documents

The following reference documents will provide useful information and background.

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www.sqa.org.uk/sqa/14977.html.
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- ◆ SQA e-assessment web page: www.sqa.org.uk/sqa/5606.html

Administrative information

Published: May 2015 (version 3.0)

History of changes to Unit Support Notes

Version	Description of change	Authorised by	Date
2.0	Assessment Standards aligned with Unit Specifications.	Qualifications Development Manager	June 2014
3.0	'Computer-aided Design/Draughting' replaced with 'Computer-aided Design' in Outcome 2 and throughout the document.	Qualifications Manager	May 2015

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Unit Support Notes — 3D and Pictorial Graphic Communication (Higher)



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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).

Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing the *3D and Pictorial Graphic Communication* (Higher) Unit. They are intended for teachers and lecturers who are delivering this Unit. They should be read in conjunction with:

- ◆ the *Unit Specification*
- ◆ the *Course Specification*
- ◆ the *Course Assessment Specification*
- ◆ the *Course Support Notes*
- ◆ appropriate assessment support materials

General guidance on the Unit

Aims

The general aim of this Unit is to help learners to develop their creativity and presentation skills within a 3D and pictorial graphic communication context. It will enable learners to initiate, plan, develop and communicate ideas graphically, using three-dimensional graphic techniques. Learners will develop a number of skills and attributes within a 3D graphic communication context, including spatial awareness, visual literacy, and the ability to interpret given drawings, diagrams and other graphics. Learners will evaluate the effectiveness of their own and given graphic communications to meet their purpose.

Learners will develop their presentation skills through the use of analysis and evaluative skills. They will develop their knowledge and understanding of graphic communication techniques and improve their skill in sketching and 3D modelling. The Unit also develops transferable skills — application, creativity, numeracy and ICT in a graphic communication context.

The Unit can be delivered:

- ◆ as a stand-alone Unit
- ◆ as part of the Higher Graphic Communication Course

This Unit is a mandatory Unit of the Higher Graphic Communication Course.

Progression into this Unit

Entry into this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ◆ National 5 Graphic Communication Course
- ◆ 3D and Pictorial Graphics (National 5) Unit

Where learners' experiences derive from employment or other areas, centres should satisfy themselves as to the appropriateness of the Unit for study, the capabilities of the learner, and hence the likelihood of success.

Skills, knowledge and understanding covered in this Unit

Information about skills, knowledge and understanding is given in the Higher Graphic Communication *Course Support Notes*.

In summary, learners who complete this Unit will be able to:

- 1 Produce and interpret pictorial sketches⁶ and drawings
- 2 Produce 3D computer-aided designed models and associated production drawings
- 3 Produce pictorial and 3D illustrations everyday objects
- 4 Plan and produce promotional publications incorporating pictorial and/or 3D models

Progression from this Unit

This Unit may provide progression to:

- ◆ Advanced Higher Graphic Communication or its relevant component Units

In addition, success in this Unit may also support progression to:

- ◆ Higher Design and Manufacture
- ◆ Higher Art and Design

This Unit may support a learner's access to further education or employment as part of a wider entrance portfolio.

Centres should take account of the learner's strengths and the appropriateness of this Unit for entry to other courses or programmes of study.

⁶ Drawing, unless otherwise dictated by Outcome, refers to manual and/or electronic methods.

Approaches to learning and teaching

The Higher Graphic Communication Course is designed around graphic skills development partnered with a high degree of personalisation, choice, independence and expression. This Unit focuses on communicating ideas, technical, informative, and expressive information using three-dimensional and pictorial graphic designs and representations. Throughout the Unit, learners will be working and learning in a range of graphic formats and contexts. Centres should plan thoroughly to ensure that the experience is a connected one rather than a 'bit-piece' approach.

Information with regard to knowledge and skills can be found in the 'Further mandatory information on Course coverage' section of the *Course Assessment Specification*, which will provide a useful guide to centres as to what content must be covered. Most centres will be very 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 might be utilised or adapted, where appropriate, using electronic methods where a learner's preference dictates.

For example, where the learner is demonstrating knowledge rather than process, alternative methods may be able to reveal evidence of learning — view identification, errors, omissions or standards and conventions might not always require a paper-based resource or activity. Where process-based or skill demonstration is required, the centre may wish to consider a mixture of response techniques, including manual and/or electronic. The purpose is to introduce greater flexibility in learning and teaching and personalisation and choice but without loss of rigour and while still recognising the importance of graphic principles.

Spatial awareness, cognition and reasoning can be approached in a number of ways which support the activity of graphic communication. Holding, rotating, disassembling, re-assembling, folding, photographing, predicting, formal drawing, sketching and modelling are all useful techniques to build learners' capacity and understanding.

In three-dimensional and pictorial drawing, sketching and representation, learners should be permitted to use a range of techniques and media to approach the creation of three-dimensional representations. Learners should build skills and confidence in producing work quickly, accurately, effectively and with sufficient detail to be convincing and realistic. Small, short skill-building proficiency tasks will assist in the development of these skills, and can be carried out during class or in out-of-school learning activities. It is likely that learners will collect a range of activities within a portfolio or similar.

It is likely that learners will be sketching both manually and electronically, where resources permit this. This would allow development of skills in both formats — similar to that required in design and graphic environments. Progression would involve more complex objects or geometric forms, which would require greater treatments in terms of texture, colour, tone, light, shade, etc.

A broad range of techniques should be employed not only to develop the learner's awareness of the availability of these techniques but also to allow them to make informed choices should they undertake the Course assessment. Although not exhaustive, the following table gives some indication of what is likely to be explored throughout the Unit.

Type	
Perspective Isometric Planometric Oblique	
Characteristic	Media
Position Outline Shade Texture Reflection Shadow Gradient Material Free sketching Shape Form	Pencil Markers Airbrush/pen/ink Pastel Artists' gouache or highlighting pen Electronic
Technicality	Resources (excluding above)
Line weighting Technical detail Surface detail Construction Presentation Exploded Cut away Assemblies Moving parts Connections Auxiliary views Annotation	Templates Stencils Straight edges Guides French curves Eraser shields Tracing paper Masking tapes Masking film Card, paper Mounting adhesive Plotter cutter (if available) Computer Digital input and capture devices Drawing boards and instruments

At the core of the Unit is the principle that learners will develop skills and acquire knowledge which they will use to create three-dimensional and pictorial graphics and to aid the continued development and honing of problem solving and design skills. Over the Course, learners should be able to demonstrate increased independence in thinking and in the ability to apply previously learned skills and knowledge to new situations, graphic projects and tasks.

Depending on the skills and prior knowledge of learners, it may be likely that the time required for Outcomes 2 and 3 may be significant. Centres should evaluate their learners' capabilities and adjust time planning accordingly. Where a learner has a particular strength in computer-aided design work, there may be opportunities to peer-educate or to focus on other areas of the Unit or Course. In Higher Graphic Communication there is likely to be a significant amount of work generated by learners which can be used as evidence. In addition, it is likely that much of this evidence is electronic. Evidence stored electronically must be

secure — back-up copies are recommended. Time will be needed to ensure that learners can meet all the Assessment Standards. All Assessment Standards must be met to pass the Unit.

Centres should consider all learners when planning learning and teaching and strive to accommodate the needs of all learners. Planning for learning and teaching should take account of learners' interests and preferences to ensure personalisation and choice. Studies in Graphic Communication lend themselves well to this dimension of learning. Supporting learners in choosing an appropriate and familiar context should focus the learner's interest in the activities being undertaken.

ICT is an integral part of learning and teaching in Graphic Communication and should be utilised effectively and appropriately. As developments take place in technology, learning and teaching approaches should reflect and embrace the changes where they can assist learning in a positive way. For example, where a learner has the facility and desire to demonstrate sketching using electronic devices or applications, this is permitted. This development in learning can be captured and evidenced digitally using blogs, capture, e-mail or other methods.

E-learning

There are a number of online resources which will be familiar to most centres. These provide a range of step-by-step tutorials from relative novice to advanced user. Centres might consider these for school and out-of-school learning activities to support development of skills and understanding and in accelerating the production of graphics.

Sequence of Outcomes

There is no prescribed order in which centres must deliver the Unit Outcomes. Resources and techniques will vary between centres, so it is likely that a preferred approach will emerge quickly or might follow an existing well proven strategy within the centre.

There are four Outcomes to this Unit. Broadly speaking:

- 1 Produce and interpret pictorial sketches⁷ and drawing
- 2 Produce 3D computer-aided design production drawings
- 3 Produce pictorial and 3D illustrations of everyday objects
- 4 Plan and produce promotional publications incorporating pictorial and/or 3D models

It is left for the centre to decide which approach will best suit their learners.

Whatever approach is adopted, centres must satisfy themselves that the planned delivery best supports their own needs and in particular those of their learners. More information is given in the *Course Support Notes* to assist in strategies for cross-Unit planning — with particular reference to tasks.

Meeting the needs of all learners

The Higher Graphic Communication Course is designed to be hierarchical. This should support multi-level teaching where required. It is likely that most centres

⁷ Drawing, unless otherwise dictated by Outcome, refers to manual and/or electronic methods.

will be familiar with many strategies for multi-level approaches from existing good practice.

Many of the skill sets between National 5 and Higher are similar, with Higher generally requiring additional depth of study and treatment. Introductory skills development, tuition and demonstration will serve both levels, with Higher being extended.

In each of the Outcomes there are some key differences in the expectations of learners between National 5 and Higher. These key differences can be found in the detail of the Unit Specifications for both National 5 and Higher in the section 'Standards'.

In the case of 3D and Pictorial Graphic Communication, teachers and lecturers should note the following.

Higher has four Outcomes; National 5 has three Outcomes. The additional Outcome (identified in Higher as Outcome 2) is in producing 3D computer-aided designed production drawings.

It is likely that, when teaching, centres should be able to align Higher Outcomes 1, 3 and 4 to National 5 Outcomes 1, 2 and 3. Planning will be required to allow Higher Course learners to accomplish and provide evidence for Outcome 2.

Suggestion for Outcome pairing (not an order of teaching)			
National 5	Outcome 1	Outcome 2	Outcome 3
Higher	Outcomes 1 and 2	Outcome 3	Outcome 4

It is possible that National 5 and Higher Course learners will be tackling different tasks or completing different drawings within the same theme. This remains a logical and acceptable approach and is already common practice in many centres.

Centres are discouraged from repeating the same theme or context where a learner has progressed from National 5 to Higher in subsequent academic sessions to avoid potential repetition. This might suggest bi-annual themes.

Very often the software applications will include a tutorial which may be able to support learners in setting up templates and manipulating images, in addition to user group forums. In addition, learners are encouraged to explore the capabilities of the software in extending their creativity.

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

Learners are expected to develop broad generic skills as an integral part of their learning experience. The *Unit Specification* lists the skills for learning, skills for life and skills for work that learners should develop through this Unit. These are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and must be built into the Unit where there are appropriate opportunities. The level of these skills will be appropriate to the level of the Unit.

The table below highlights opportunities to develop these skills during this Unit.

2 Numeracy	
2.2 Money, time and measurement	<ul style="list-style-type: none"> ◆ Measurement, dimension, tolerance
4 Employability, enterprise and citizenship	
4.2 Information and communication technology (ICT)	<ul style="list-style-type: none"> ◆ Using graphic packages ◆ Digital input and graphic devices
5 Thinking skills	
5.3 Applying	<ul style="list-style-type: none"> ◆ Graphic design knowledge to complex problems, modelling and conceptual thinking in communicating ideas
5.4 Analysing and evaluating	<ul style="list-style-type: none"> ◆ Situational analysis, graphic evaluation, thinking and analysing through sketching and drawing
5.5 Creating	<ul style="list-style-type: none"> ◆ Ideas, innovation and solutions to problems and requirements

Approaches to assessment and gathering evidence

Outcome 1

The learner will:

1 Produce and interpret pictorial sketches and drawings by:

- 1.1 Applying graphic communication skills to produce pictorial line sketches of everyday objects or buildings with complex features that demonstrate good proportion, line quality, and representation of the item
- 1.2 Applying graphic communication skills to produce pictorial line drawings of everyday objects or buildings with complex features that demonstrate accuracy in proportion, line quality, type and representation of the item
- 1.3 Describing and justifying the use of the main types of 3D and pictorial graphic communication employed in the design, manufacturing and marketing of a product

Notes on Outcome 1

Outcome 1 might be assessed via a Unit portfolio or collection which may comprise Unit-standard tasks that demonstrate appropriate coverage of three-dimensional graphics, as shown in the 'Further mandatory information on Course coverage' section within the *Course Assessment Specification*. A suitable method might be a portfolio or collection which utilises a set of Unit-standard tasks which can be selected and completed at times best suited to the learner.

Such a portfolio or collection may well include a range of sketches, practice work, drawings, annotations, written commentaries, tables, comparisons or mini-research tasks. It is expected that the work will draw on a broad range of skills and demonstrate that a range of methodologies, approaches and resources have been used.

Outcome 2

The learner will:

2 Produce 3D computer-aided designed models and associated production drawings by:

- 2.1 Applying computer-aided design skills accurately and effectively and using appropriate assembly techniques to create 3D models of everyday objects with complex features and technical detail
- 2.2 Describing and justifying 3D modelling techniques used to generate models of everyday objects with complex features
- 2.3 Applying computer-aided design skills, knowledge and understanding accurately and effectively and using appropriate drawing standards to add textual and numerical information to pictorial computer-aided designed work

Notes on Outcome 2

Evidence for Outcome 2 is likely to be gathered in a similar fashion to Outcome 1 — by portfolio or evidence collection. Here, the learner may wish to create a short

'command book and procedure booklet' for reference and revision for Course assessment. Where more than one application is being used, learners should be aware of the subtle differences in terminology and command words — though more important is the function of the command in producing a graphic action. As the Outcome refers specifically to computer-based activity, the evidence may be either paper-based in printout or in digital format. Technical details shown will be in accordance with recognised standards and conventions. Computer-aided designed assemblies should be completed in accordance with recognised software assembly commands and procedures.

Outcome 3

The learner will:

3 Produce pictorial and 3D illustrations of everyday objects by:

- 3.1 Illustrating preliminary pictorial sketches or drawings of everyday objects, to interpret the light source, surface texture and materials
- 3.2 Creating a rendered 3D computer-aided designed model of a complex everyday object to interpret the light source, with tonal change, surface texture and materials
- 3.3 Using computer-aided design software appropriately to create an environment or scene with relevant visual impact, applying surface texture and materials, to situate and effectively enhance a pictorial illustration

Notes on Outcome 3

Evidence for this Outcome is likely to be in paper and/or digital format. It must be clear how and why the learner has applied enhancing aspects such as lighting, texture and application of materials. It must be logical and realistic. Backgrounds, scenes and environments must be in an appropriate and relevant context for the object. The object should be placed correctly and proportionally in the environment for relevant visual effect.

Outcome 4

The learner will:

4 Plan and produce promotional publications incorporating pictorial and/or 3D models by:

- 4.1 Designing a preliminary layout to incorporate a pictorial and/or 3D model to create relevant visual impact in response to a brief or theme
- 4.2 Producing promotional publications to incorporate a pictorial and/or 3D model
- 4.3 Evaluating the effectiveness of the format to its target audience in relation to design principles and elements
- 4.4 Describing the purpose of 3D modelling in commercial/industrial settings, the impact on the environment and society

Notes on Outcome 4

Outcome 4 evidence may be produced in any number of ways. Clearly there will be an endpoint graphic which will communicate corporate identity in an effective manner. Careful and logical planning must also be part of the evidence produced. If taking this Unit as part of the Course, some of this may already be available from the *2D Graphic Communication (Higher) Unit*, depending on the nature of

the task activity undertaken. If this Unit is undertaken as a stand-alone then separate evidence will be required.

It is not necessary for learners to use an 'actual' corporation for this task; indeed it is likely that copyright will be infringed if they do. It must be clear that a corporate identity is carried across the promotional graphics and can be easily observed in learners' work.

In evaluating the effectiveness of the work, the learner could take a number of approaches. The work could be wholly self-evaluated against criteria set, or the learner might consider an analysis of the views of others — at Higher level this is a valuable and acceptable skill. In both cases the findings must be summarised effectively and provide a meaningful evaluation.

General information on Outcome evidence

Centres should be very clear on what represents the capability and creativity of the learner and that of the software when making assessment judgments. Software wizards for items like templates are not representative of the learner's work and should not be accredited to the learner.

Descriptions, justifications, evaluations, although likely to be in written form, may be presented in a range of ways — videos, blogs, short essays or reports, audio commentaries, or discussions and debates. Centres should take care to ensure that softer evidence is of equal rigour and that the time taken is merited.

All evidence gathered is required to demonstrate that the learner has achieved the Assessment Standard. Where a broad range of techniques and activities have been used in teaching and learning, it is likely that the learner will have benefitted from a rich and meaningful experience. This should be partnered with a clear record of how the evidence has been obtained and how and what it is evidencing.

Combining assessment within Units

Centres are encouraged to devise their own assessment structure and timetable. Integrating assessment across Outcomes also supports a learner's higher order skills development through application of knowledge and evaluative skills in a creative project-based learning experience. Centres may also find the combination of assessments across Units beneficial to a learner's development as this supports the links in learning between the Units of work in Graphic Communication.

Equality and inclusion

The in-built flexibility of production methods both encourages learning through the entire range of graphic skills and also supports those who might experience some difficulties. Methods can be tailored to suit preferences and ICT undoubtedly has an important supporting role to play.

The choice in setting briefs specific to the learner's needs or to the local environment and local expertise can support learning through personalising the learning process.

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