Higher National Unit Specification

General information for centres

Unit title: Colour for Display and Print

Unit code: F0P7 35

Unit purpose: This Unit is designed to enable the candidate to evaluate the processes of colour reproduction used for image capture, display on screen and printing.

On completion of the Unit the candidate should be able to:

1   Evaluate the use of colour in graphic design and typography.
2   Evaluate the processes involved in the reproduction of colour for display.
3   Evaluate the processes involved in the reproduction of colour using printing processes.

Credit points and level: 1 HN Credit at SCQF level 8: (8 SCQF credit points at SCQF level 8*)

*SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.

Recommended prior knowledge and skills: Access to this Unit is at the discretion of the centre. This Unit should be offered to candidates with knowledge of the printing processes. This could be demonstrated by the achievement of the Units Printing Production Processes at SCQF level 7 and Design for Print: Digital Workflows in DTP at SCQF level 7.

Core Skills: There are opportunities to develop the Core Skills of Information Technology, Communications and Numeracy at SCQF level 5 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Context for delivery: If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Assessment: This Unit may be assessed holistically by means of an investigative written report covering all Outcomes. Candidates will also carry out a practical investigation, which may be from any of the three Outcome areas. The report for the investigation will be integrated under the appropriate Outcome section of the main report. An assessment interview will follow the submission of the report.

Higher National Unit specification: statement of standards

Unit title: Colour for Display and Print

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The sections of the Unit stating the Outcomes, knowledge and/or skills, and evidence requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Evaluate the use of colour in graphic design and typography

Knowledge and/or skills

♦ Electromagnetic spectrum and light sources
♦ Colour vision and viewing conditions
♦ Colour in graphic design

Evidence Requirements

Candidates will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can evaluate the use of colour in graphic design and typography.

An integrated investigative assessment is to be used which covers all Outcomes. A sampling of topics is to be used for each of the Outcomes. Please see Outcome 3 for further details of evidence requirements.

Assessment guidelines

Part of the evidence for this Unit will relate to the use of colour in graphic design and typography.

The assessment for this Outcome could be assessed by means of a written report and an oral interview. This should be combined with Outcomes 2 and 3 as part of a single holistic assessment instrument for the unit, details of which are given under Outcome 3 below.

Higher National Unit specification: statement of standards (cont)

Unit title: Colour for Display and Print

Outcome 2

Evaluate the processes involved in the reproduction of colour for display

Knowledge and/or skills

♦ Colour digital images
♦ Colour synthesis
♦ Monitor calibration and colour management
♦ Digital image editing

Evidence Requirements

An integrated investigative assessment is to be used which covers all Outcomes. A sampling of topics is to be used for each of the Outcomes. Please see Outcome 3 for further details of evidence requirements.

Assessment guidelines

The assessment for this Outcome could be assessed by means of a written report and an oral interview. This should be combined with Outcomes 1 and 3 as part of a single holistic assessment instrument for the Unit, details of which are given under Outcome 3 below.

Outcome 3

Evaluate the processes involved in the reproduction of colour using printing processes

Knowledge and/or skills

♦ Subtractive colour synthesis
♦ Colour proofing and printing
♦ Colour measurement
♦ High-Fidelity colour systems

Evidence Requirements

An integrated investigative assessment is to be used which covers all Outcomes. A sampling of knowledge and skills is to be used for each of the Outcomes as follows:

♦ Outcome 1 — two samples from three
♦ Outcome 2 — two samples from four
♦ Outcome 3 — two samples from four

An investigation will be agreed by the candidate and the tutor. This investigation may be within any of the three Outcome areas or integrate more than one Outcome area. This investigation report section will be supplemented with samples, measurements, statistics or other material depending on the nature of the investigation. The Outcome of the investigation will be integrated under the appropriate Outcome section of the main report. An oral interview assessment will follow the

Higher National Unit specification: statement of standards (cont)

Unit title: Colour for Display and Print

submission of the report. The investigation and the report will be carried out under unsupervised open-book conditions.

Assessment guidelines

This could be combined with Outcomes 1 and 2 as part of a single holistic assessment instrument for the Unit. Candidates will carry out a practical investigation, which may be from any of the three Outcome areas or link two or three Outcomes. In the oral interview, the same initial questions will be used for all candidates; supplementary questions may then follow depending on the candidate responses and the specialist area of investigation. A pro-forma checklist will be used by the assessors to record the interview. Candidates could be encouraged to demonstrate knowledge gained by practical involvement with colour reproduction equipment and software, by reference to files, and samples of printing produced during the course of Unit delivery and as specified in the evidence requirements.

It is recommended that, if possible, the interview involves a minimum of two assessors to simulate a realistic client experience.

Administrative Information

Unit code: F0P7 35

Unit title: Colour for Display and Print

Superclass category: KH

Original date of publication: October 2006

Version: 01

History of Changes:

Version	Description of change	Date

Source: SQA

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Higher National Unit specification: support notes

Unit title: Colour for Display and Print

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

This Unit was developed as part of the HNC/HND Printing and is optional in the HND. It is primarily intended to prepare candidates to undertake tasks involving the use of colour within the areas of image capture, on-screen display and print reproduction. It prepares candidates for this role by providing them with the underpinning knowledge needed to carry out this type of task effectively. It is primarily intended for candidates in printing, publishing, graphic design, and photography. It would also be relevant to those with appropriate work experience such as the use of desktop publishing or computer graphic packages, printing or printing management. Candidates will be expected to exercise a degree of autonomy in carrying out the tasks required for the Unit.

There is no prescription regarding particular software and hardware facilities. However, tasks should replicate working practices for printing in terms of instrumentation, software and hardware used in the printing industry. The relevant facilities should be available to the candidate throughout the duration of the Unit. Candidates will devise a practical investigation within an area of their own choosing, subject to lecturer approval.

The following notes give some additional information on each Outcome:

Outcome 1

(a)   Electromagnetic spectrum. visible spectrum, light sources, colour terminology, spectrophotometric curves. CIE chromaticity diagram, CIELab colour space.

(b)   Colour vision, viewing conditions, visual evaluation of colour, metamerism and colour matching.

(c)   Psychology of colour, colour wheel, colour in graphic design, colour in typography, colour notation systems: Munsell, Ostwald, Lovibond.

Outcome 2

(a)   Colour digital image capture, filter characteristics, colour resolution, spatial resolution.

(b)   Additive colour synthesis, colour monitor display.

(c)   Monitor calibration, colour management for image capture and display, digital editing of colour images.

Higher National Unit specification: support notes (cont)

Unit title: Colour for Display and Print

Outcome 3

(a)   Subtractive colour synthesis, colour photography, ideal and standard ink specifications.

(b)   Colour proofing and printing, paper characteristics, additivity and proportionality failure, colour management for proofing and printing, types of colour separation, the black printer.

(c)   Colour measurement using densitometers, colorimeters and spectrophotometers, control of colour in printing processes.

(d)   'High-fidelity' colour systems, spot colour specification, trapping.

Guidance on the delivery and assessment of this Unit

A topic for practical investigation will be chosen by the candidate and agreed in advance with the tutor. The practical investigation can be narrowly based, within a single learning Outcome or broadly based linking two or all three Outcomes.

The extent of the candidate's practical involvement will depend on the range of equipment available. Ideally this Unit would be delivered with access to a wide range of equipment and not solely by theoretical presentations, however if distance learning is to be used this may not be possible.

Some aspects may be suitable for group working and where this is the case the contribution of each member of the group should be clearly identified for assessment purposes.

The practical investigation provides opportunity to carry out work in an area of the candidate's own choice, subject to the approval of the tutor.

The practical evidence in the form of digital files and proofs must be included in the report.

When evidence which was not produced under controlled conditions is submitted for assessment eg distance learning it will be a requirement that the candidate sign a declaration that the assessment is his/her own work. Where this work is done at the candidate's place of employment, a supervisor's signature should be provided as confirmation on the declaration or arrangements may need to be made for the candidate to attend an assessment centre.

The interview session will provide verification that the candidate has understood the concepts, processes and systems, and that the written submission is his/her own work.

Higher National Unit specification: support notes (cont)

Unit title: Colour for Display and Print

Opportunities for developing Core Skills

This Unit offers opportunities to further develop and extend the core skills, Using Information Technology, Communication and Numeracy. The Unit does not seek to embed the skill as a development of all elements is seen as a likely pre-requirement of the Unit.

Core Skill extension in Information Technology should result from the candidate gaining experience in the following:

♦   Using instrumentation capable of direct input of data into computer software.
♦   Presentation of data via computer generated graphs and charts.
♦   Use of digital image processing for the editing and evaluation of colour.

Core Skills in Communication will be developed throughout this Unit. Candidates will be expected to produce the results of their investigation in written, oral or presentation format. They will be required to summarise and present their arguments and findings in a coherent, logical manner.

Core Skill extension in Numeracy should result from the candidate gaining experience in the following:

♦   Compilation and computation of colour data derived from instrumentation.
♦   Carry out calculations for eg dot gain, colour contrast, print contrast, and standard deviation.
♦   Interpretation of information displayed in graphical form and in colour space diagrams.

Open learning

This Unit could be delivered by distance learning providing that the candidate has access to suitable computer hardware and software ie a professional digital image processing package, Adobe Acrobat Reader and Microsoft PowerPoint. The teaching notes and pro formas can be provided as PDF or Word files. Digital files can be provided in various formats as required. Microsoft PowerPoint presentations would be suitable for illustration of colour principles, equipment design, image structures etc.

If this Unit is delivered by open or distance learning methods, additional planning and resources may be required for candidate support, assessment and quality assurance. Each candidate could be questioned on the investigative information produced. A combination of new and traditional authentication tools may have to be devised for assessment and reassessment purposes. For further information and advice, please see the SQA guide, *Assessment and Quality Assurance of Open and Distance Learning* (**www.sqa.org.uk**).

Candidates with disabilities and/or additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Alternative Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs,* which is available on SQA's website: **www.sqa.org.uk**.

General information for candidates

Unit title: Colour for Display and Print

This Unit is designed to enable you to be able to evaluate the use of colour in: design and typography, digital image capture and processing, on-screen display and in printing by a range of processes for various kinds of printed work. Colour management, calibration and quality control are essential to production processes and the coverage of this area will provide information required by management and clients. The use of various types of colour measuring instrumentation will involve the recording and computation of values for different applications. The evaluation of the images and numerical values relative to quality requirements will familiarise you with the industry quality control requirements. The coverage of factors giving rise to problems will be of value for those candidates considering careers in administration as well as technical occupations.

Once agreed with your tutor, you will be asked to carry out a practical investigation in an area of your choice. You will submit a written report as a result of your investigation, and this will be followed by an oral interview to confirm your understanding of the subject.

In undertaking this Unit you will also develop your IT, Communication and Numeracy skills.