

**-SQA-SCOTTISH QUALIFICATIONS AUTHORITY**

**NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION**

**GENERAL INFORMATION**

**-Module Number-** 8170105

**-Session-** 1995-96

**-Superclass-** KE

**-Title-** PHOTOGRAPHY: COLOUR THEORY AND USE

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**-DESCRIPTION-**

**GENERAL COMPETENCE FOR UNIT:** Demonstrating an understanding of Colour Theory and producing images showing effective use of colour.

**OUTCOMES**

1. explain basic theory of propagation of light and of colour perception;
2. explain additive and subtractive colour mixing and the colour wheel;
3. describe colour temperature and colour film types;
4. demonstrate effective use of colour in photographs.

**CREDIT VALUE:** 1 NC Credit

**ACCESS STATEMENT:** NC module 91844 Introduction to Photography, and/or evidence to show competence in the use of camera controls.

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For further information contact: Committee and Administration Unit, SQA, Hanover House, 24 Douglas Street, Glasgow G2 7NQ.

Additional copies of this unit may be purchased from SQA (Sales and Despatch section). At the time of publication, the cost is £1.50 (minimum order £5.00).

**NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION****STATEMENT OF STANDARDS****UNIT NUMBER:** 8170105**UNIT TITLE:** PHOTOGRAPHY: COLOUR THEORY AND USE

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

**OUTCOME**

1. EXPLAIN THE BASIC THEORY OF PROPAGATION OF LIGHT AND OF COLOUR PERCEPTION

**PERFORMANCE CRITERIA**

- (a) Explanation is accurate in terms of the 'wave' theory of light.
- (b) Explanation is accurate in terms of the 'particle' theory of light.
- (c) Explanation is accurate in terms of types of cell in the retina of the eye.
- (d) Explanation is accurate in terms of hue, brightness and saturation.

**RANGE STATEMENT**

Dual nature of light: colour explained as wavelengths and 'size' of photon; rod cells and three types of cone cells responsive to three different wavelength groups; hue as direction of position in spectrum; brightness as intensity/quantity; saturation as 'purity' of wavelength.

**EVIDENCE REQUIREMENTS**

Written evidence of the correct identification and understanding of the factors detailed in Performance Criteria (a)-(d) across all appropriate classes in the range statement.

**OUTCOME**

2. EXPLAIN ADDITIVE AND SUBTRACTIVE COLOUR MIXING AND THE COLOUR WHEEL

**PERFORMANCE CRITERIA**

- (a) Explanation of additive mixing is accurate in terms of identifying the 'primary' colours of light and the 'secondary' colours produced by each combination of two 'primaries'.
- (b) Explanation of subtractive mixing is accurate in terms of identifying the effects of using the 'secondary' colours in combination to filter white light.
- (c) Explanation of the colour wheel is accurate in terms of the correct juxtaposition of colours.

**RANGE STATEMENT**

Primary colours of light: red; blue; green; additive mixing of primaries to give yellow; magenta; cyan and white.

Secondaries: cyan; magenta; yellow; superimposed as filters on white light source to give red, blue, green and black; arrangement of primaries and secondaries into a six-segment colour wheel; why pigments do not mix additively.

**EVIDENCE REQUIREMENTS**

Written evidence of the correct identification and understanding of the factors detailed in Performance Criteria (a)-(c) across all appropriate classes in the range statement.

**OUTCOME**

3. DESCRIBE COLOUR TEMPERATURE AND COLOUR FILM TYPES

**PERFORMANCE CRITERIA**

- (a) Correct understanding is demonstrated of colour temperature expressed as a scale in Degrees Kelvin.
- (b) Awareness is demonstrated of colour temperature of different light sources and of changes to daylight in the course of a day.
- (c) Awareness is demonstrated of film types suited to different light sources and of the use of colour correction filters.

**RANGE STATEMENT**

Colour temperature scale: degrees Kelvin.

Colour temperature of different light sources: sunlight; tungsten lamps; candlelight; colour temperature of sunlight through the day.

Film types: daylight balanced film; tungsten balanced film; colour correction filters.

**EVIDENCE REQUIREMENTS**

Written and performance evidence of the correct understanding and awareness as detailed in Performance Criteria (a)-(c) across all appropriate classes in the range statement.

**OUTCOME**

- 4. PRODUCE PHOTOGRAPHS SHOWING EFFECTIVE USE OF COLOUR

**PERFORMANCE CRITERIA**

- (a) Use of colour is effective in terms of colour harmony, colour contrast, monochrome.
- (b) Saturated and desaturated colours shown in photographs.

**RANGE STATEMENT**

Colour contrast: opposite in colour wheel.

Colour harmony: adjacent in colour wheel.

Colours: saturated 'strong'; desaturated 'pastel'; monochromaticism.

**EVIDENCE REQUIREMENTS**

Performance evidence that the candidate can produce ten different photographs as detailed in Performance Criterion (a), demonstrating all the factors in the range statement.

Written explanation of the colour content of each photograph.

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**ASSESSMENT**

In order to achieve this unit, candidates are required to present sufficient evidence that they have met all the performance criteria for each outcome within the range specified. Details of these requirements are given for each outcome. The assessment instruments used should follow the general guidance offered by the SQA assessment model and an integrative approach to assessment is encouraged. (See references at the end of support notes).

Accurate records should be made of the assessment instruments used showing how evidence is generated for each outcome and giving marking schemes and/or checklists, etc. Records of candidates' achievements should be kept. These records will be available for external verification.

**SPECIAL NEEDS**

In certain cases, modified outcomes and range statements can be proposed for certification. See references at end of support notes.

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**NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION****SUPPORT NOTES**

**UNIT NUMBER:** 8170105

**UNIT TITLE:** PHOTOGRAPHY: COLOUR THEORY AND USE

**SUPPORT NOTES:** This part of the unit specification is offered as guidance. None of the sections of the support notes is mandatory.

**NOTIONAL DESIGN LENGTH:** SQA allocates a notional design length to a unit on the basis of time estimated for achievement of the stated standards by a candidate whose starting point is as described in the access statement. The notional design length for this unit is 40 hours. The use of notional design length for programme design and timetabling is advisory only.

**PURPOSE** To explore colour theory as related to photography (as incidentally to printing and graphics processes) and to practise awareness and creative use of colour in taking photographs. This module may be taken as a free-standing module but it is advisable that candidates have already successfully completed NC module 91844 Introduction to Photography.

SQA publishes summaries of NC units for easy reference, publicity purposes, centre handbooks, etc. The summary statement for this unit is as follows:

This module will enable you to gain an understanding of concepts related to light and colour and their place in photography. You will learn about additive and subtractive colour and will produce a set of photographs demonstrating appreciation of various aspects of the impact of colour.

**CONTENT/CONTEXT** Throughout this module safety must be stressed. Safe working practices should be an integral part of all module activities. Use of photographic equipment and materials must conform to current COSHH regulations.

Corresponding to outcomes 1-4:

1. The content of Outcome 1 will likely be delivered mainly by formal exposition. Information presented should be fairly basic - candidates should be helped to grasp concepts, rather than detailed physics.
2. It is anticipated that the most effective approach to Outcome 2 will definitely involve practical demonstration, along with discussion.

Additive mixing can be demonstrated by the tutor using three slide projectors, each one projecting one of the primary colours of light. The projectors can be shone onto a screen in the various combinations to demonstrate additive mixing to produce secondary colours, with all three producing white.

Subtractive mixing can be demonstrated using an Overhead Projector as a white light source, onto which can be overlaid yellow, magenta and cyan filters in the various combinations to subtract out parts of the white light, with all three filters overlaid to leave black.

Arrangement of the three primaries and the three secondaries to form a six-segment colour wheel can be explained and examples of colour wheels shown from textbooks.

3. Candidates can be given a simple explanation of the concept of colour temperature, perhaps in domestic terms - heating a poker in a fire - how does the colour it glows change as the temperature rises? Candidates should be helped to avoid confusion over the fact that lower colour temperatures may seem emotionally 'warmer'; ie. red seems a warmer colour than white, but which is actually hotter - 'red hot' or 'white hot'?

Candidates can be given tables of the colour temperatures of different light sources. They can be shown photographs of different colour temperatures of daylight according to season/time of day.

Explanation should be given of Daylight Balanced/Tungsten Balanced film. Candidates may wish to try using these inappropriately to compare the effects. The use of colour correction filters should be explained and possibly demonstrated (textbook examples would suffice).

4. The content of the brief should be devised by the tutor/trainer. Commercially processed colour prints are acceptable.

**APPROACHES TO GENERATING EVIDENCE** While formal tutor-led exposition will be required for some aspects, a candidate-centred learning approach is recommended where possible, especially for Outcome 4. Terminology should be presented in context throughout the module.

Where the candidate is unsuccessful in achieving an outcome, provision should be made for remediation and reassessment.

**ASSESSMENT PROCEDURES** Centres may use the instruments of assessment which are considered to be most appropriate. Examples of instruments of assessment which could be used to generate and gather evidence of achievement are as follows:

Corresponding to outcomes 1-4:

1. Restricted response questions which will generate evidence for all the performance criteria.

2. Restricted response questions which will generate evidence for all the performance criteria.
3. Restricted response questions which will generate evidence for all the performance criteria.
4. Practical exercise to produce a range of colour photographs.

**RECOGNITION** Many SQA NC units are recognised for entry/recruitment purposes. For up-to-date information see the SQA guide 'Recognised Groupings of National Certificate Modules'.

## REFERENCES

1. Guide to unit writing. (A018).
2. For a fuller discussion on assessment issues, please refer to SQA's Guide to Assessment. (B005).
3. Procedures for special needs statements are set out in SQA's guide 'Candidates with Special Needs'. (B006).
4. Information for centres on SQA's operating procedures is contained in SQA's Guide to Procedures. (F009).
5. For details of other SQA publications, please consult SQA's publications list. (X037).

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