



Higher National Unit specification

General information

Unit title: Lighting: An Introduction

Unit code: H4A4 34

Superclass: KF

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Unit purpose

This Unit is designed to enable learners to acquire the Knowledge and/or Skills necessary to illuminate subjects and scenes safely with various types of lighting for a programme.

Outcomes

On successful completion of the Unit the learner will be able to:

- 1 Describe the physical properties and characteristics of light, lighting equipment and electrical circuits.
- 2 Use lights, fixings and accessories to achieve a three point lighting set-up.
- 3 Apply lighting techniques to meet the requirements of a given brief.

Credit points and level

1 Higher National Unit credit at SCQF level 7: (8 SCQF credit points at SCQF level 7)

Recommended entry to the Unit

Access to this Unit is at the discretion of the Centre. No prior knowledge and/or skills in the use of lighting are required.

Higher National Unit specification: General information (cont)

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Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

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.

The Assessment Support Pack (ASP) for this unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website (<http://www.sqa.org.uk/sqa/46233.2769.html>).

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements

Higher National Unit specification: Statement of standards

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

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. Learners 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

Describe the physical properties and characteristics of light, lighting equipment and electrical circuits.

Knowledge and/or Skills

- ◆ Characteristics of light rays and their effect on and through different materials
- ◆ Properties of converging and diverging light beams
- ◆ Visible spectrum and colour
- ◆ Application of the Inverse Square Law in relation to light
- ◆ Effects of colour temperature
- ◆ Characteristics of various lights and their applications
- ◆ Use of contrast and light intensity
- ◆ Basic electrical power distribution, use of fuses and earth trips

Outcome 2

Use lights, fixings and accessories to achieve a three point lighting set-up.

Knowledge and/or Skills

- ◆ Rig and de-rig lights and accessories
- ◆ Three point lighting techniques
- ◆ Filters, scrims and electrical dimmers
- ◆ Health and safety requirements

Outcome 3

Apply lighting techniques to meet the requirements of a given brief.

Knowledge and/or Skills

- ◆ Assess lighting requirements for a given brief
- ◆ Calculate/measure electrical load
- ◆ Produce a lighting plan for the given brief
- ◆ Health and safety

Higher National Unit specification: Statement of standards (cont)

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Evidence Requirements for the Unit

The most appropriate way of assessing this Unit is Outcome by Outcome.

Outcome 1

This Outcome is a theoretical Outcome and learners will need to demonstrate their understanding of light, lighting equipment and electrical circuits by describing the above knowledge requirements through oral or written responses using appropriate text, diagrams, images, etc.

Outcome 2

Learners will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ Rig and de rig lights and accessories and run cabling safely to achieve a three point lighting set up.
- ◆ Produce recorded footage of a three point lighting set up.
- ◆ Follow current health and safety regulations working safely on location.

Learners will also need to demonstrate their understanding of three point lighting techniques, filters, scrims and electrical dimmers either through their performance and/or questioning.

Outcome 3

Learners will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ Produce a lighting plan to support the requirements of a given brief, taking account of Health and Safety and potential limitations due to electrical load.
- ◆ Identify the total electrical load required for the lighting of the given brief.
- ◆ Select and rig appropriate lights and accessories required to meet the given brief.
- ◆ De-rig the lights safely and pack them away properly.
- ◆ Record the scene to show that the lighting techniques satisfy the given brief.



Higher National Unit Support Notes

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Unit Support Notes are offered as guidance and 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 is primarily concerned with equipping learners with a basic grounding in the theory, properties and characteristics of light. Learners will be able to develop their skills in selecting and positioning lighting equipment required for illuminating subjects and scenes for a television or video programme and adhering to electrical safety in the use of lighting equipment. Learners will be operating as a member of a production team where other members could be undertaking concurrent Units. The emphasis throughout this Unit should be on the application of lighting techniques to meet the requirements of a given brief, and achieving the best possible lighting within the constraints of the brief and available resources.

Guidance on approaches to delivery of this Unit

This Unit is part of a Group Award and ideally could be delivered in conjunction with other Units making up the Group Award. These Units are *Sound: An Introduction*, *Camera: An Introduction* and *Editing: An Introduction*.

This Unit is designed to provide learners with the Knowledge and/or Skills necessary to carry out the role of a TV operations technician, working as a member of a television production crew, with responsibility for applying lighting to television and video programmes.

Outcome 1 concentrates on the physics of light and how it reacts and responds when it passes through a variety of filters and scrims, and when it falls on different surfaces and introduces learners to light and colour. This can be taught in the classroom environment with relevant teaching materials especially those that can show learners the practical Outcomes of light's physical properties.

This Outcome will also introduce learners to the theory of electrical distribution.

Higher National Unit Support Notes (cont)

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Outcome 2 concentrates rigging and setting lights whilst introducing the principles of three point lighting. It will introduce the learner to lighting control mechanisms and methods of lighting quality, including relative light intensity. They will also learn how to quantify electrical load distribution and the relevant safety measures. This is mainly a practical Outcome and would be best delivered in the studio environment with the aid of the TV camera. This delivery could include group work with other members of the class undertaking practical exercises in camera and sound. Learners should have an awareness of the latest version of BS7909 (Code of Practice for Temporary Electrical Systems for Entertainment and Related Purposes) and its implications for lighting set-ups.

Outcome 3 concentrates on the requirements of lighting creatively to a specific brief. This is again primarily a practical based Outcome concentrating on different techniques and applications. However tutors should refer to the theoretical knowledge taught in Outcome 1 which underpins this Outcome. This delivery could, as in Outcome 2, include group work with other members of the class undertaking practical exercises in camera and sound.

Learners will be required to produce a lighting plan which acts as supporting documentation to the lighting used to satisfy the brief. Learners will select the appropriate lights, position and adjust them to produce the desired lighting effect, rig and de-rig the equipment using current health and safety procedures.

Learners should be taught about the use of both soft and hard light sources and electrical load. They should also be made aware of lighting techniques such as silhouette, trapdoor, high and low key lighting.

The lighting requirements may arise from other pre-production activities that may not be the work of the learner undertaking the Unit.

Course tutors may also use an assessor's checklist to authenticate the learner's individual performance.

Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of instruments of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

Each Outcome has methods of assessment explained above. However, it should be noted that for Outcome 3 an integrated assessment which includes *Camera: An Introduction* and *Sound: An Introduction* could be assessed concurrently.

Outcome 1 can be assessed separately in a closed-book environment by short response answers either orally or written.

Higher National Unit: Support Notes (cont)

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The assessments for Outcomes 2 and 3 could be integrated by providing two distinct assessment briefs which could be completed during the same session. These could be assessed by observation, the presentation of documentation in the form of a lighting plot and the recorded video material for which the lighting was produced

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment

Opportunities for developing Core and other essential skills

Depending on the learning and teaching/assessment approaches adopted, all Outcomes of this Unit provide opportunities for developing the three components of the *Communication* at SCQF level 6 and two components of *Problem Solving* at SCQF level 6 and two of *Numeracy* at SCQF level 5.

Communication: Oral Communication at SCQF level 6

Learners will need to convey information, ideas and opinions accurately, coherently and succinctly using vocabulary and language structures appropriate to the audience. If contributing orally to discussion, they will respond to others and take account of their contributions. On occasion learners will also need to ask pertinent questions, seek clarification of instructions and consider and evaluate received responses.

Communication: Written Communication (Writing) at SCQF level 6

Learners will produce a lighting plan as part of the evidence for Outcome 3. The plan may include diagrams and explanations and use specialist technical vocabulary.

Communication: Written Communication (Reading) at SCQF level 6

This Unit requires learners to operate different types of equipment, which will involve reading instructions, operating manuals or other informative and explanatory text, including information about health and safety. They will use the information gained to make decisions about the selection of equipment and accessories.

Problem Solving: Critical Thinking at SCQF level 6

Learners will have to analyse a brief and identify an effective approach to the task. Before doing this they will need to consider alternative ways of doing it and assess the advantages and disadvantages of each. Relevant information and a variety of factors will need to be identified and analysed in order to produce a satisfactory solution to the brief.

Higher National Unit: Support Notes (cont)

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Problem Solving: Planning and Organising at SCQF level 6

Before starting the task, learners will need to plan their approach. This will involve generating a number of ideas and selecting the best combinations of equipment, positions etc for including in the final set-up.

Numeracy: Using graphical information at SCQF level 5

Ray diagrams will be used to explain the properties of light, mirrors and lenses and learners will need to draw, explain and/or interpret them correctly and apply the information provided to their practical work.

Numeracy: Using Number at SCQF level 5

This Unit requires learners to carry out a range of numerical skills in specialised situations. They will apply the Inverse Square Law in relation to light and also use appropriate formulae and calculations with regard to basic electrical power distribution and assessment of load. Accuracy is essential as errors have significant health and safety implications for both learners and colleagues.

Other essential skills

Throughout the Unit learners will develop knowledge and skills which are specifically intended to enhance their employability as a lighting person in the Creative Industries sector. Because these and other soft skills such as punctuality, presentability and efficient time management are readily transferable, they could also be applied to many other media and areas of employment such as photography and film and video making.

History of changes to Unit

Version	Description of change	Date

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General information for learners

Unit title: Lighting: An Introduction

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

This Unit is designed to provide you with the Knowledge and/or Skills necessary to carry out the role of a TV operations technician, working as a member of a television production crew, with responsibility for applying lighting to television and video programmes.

You will learn about the physics of light and how it reacts and responds when it passes through a variety of filters and scrims, and when it falls on different surfaces.

You will also learn how to select and position different lights to obtain the desired lighting effect on a given scene and to understand and appreciate why and how these effects are formed, and how to overcome problems encountered in basic lighting set ups.

This Unit will also assist in the development of your Core Skills profile with opportunities to work as a member of a team on the various productions where problems will need to be solved. You will improve your communication skills both orally and written. Numeracy will be addressed when working out the total electrical load required by the different lights.

During the delivery of this Unit there will be opportunities to identify and discuss other skills such as employability, enterprise and sustainability