Australian Government

Department of Education, Employment and Workplace Relations

CUFLGT401A Implement lighting designs

Revision Number: 1

CUFLGT401A Implement lighting designs

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to implement lighting designs for screen, media and entertainment productions. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	Senior lighting technicians apply the skills and knowledge outlined in this unit. On large-scale productions, they are most likely to work collaboratively with a lighting designer who has devised the lighting plan. On smaller productions (including televised outside broadcasts), a senior lighting technician may be required to devise and implement a lighting plan which includes filler lighting and lights for presenters on location. A significant aspect of the role described in this unit is the need to understand fully the correlation between lighting and the cameras, lenses and stock formats being used in a given film or television production. Skills associated with developing lighting designs are covered in: • CUFLGT501A Conceive and develop lighting designs.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Clarify design requirements	1. Discuss lighting designs/plans with relevant ***production personnel*** to determine overall ***production*** needs 2. Generate a range of ideas for the execution of lighting that provide creative solutions to technical and production issues 3. Seek feedback on ideas with relevant production personnel to maximise creative input into lighting effects 4. Confirm availability of ***lighting equipment*** and ***lighting accessories*** to implement different options for lighting effects 5. Use a range of ***criteria*** to decide which options are most feasible and obtain necessary ***equipment and accessories*** according to enterprise procedures 6. Ensure that options selected provide a correct visual interpretation of the script/production
Set up and test lighting options	7. Set up lighting equipment and accessories to test different options for lighting effects using appropriate light and exposure meters 8. Interpret ***information readouts*** and make necessary adjustments to achieve desired ***light quality*** 9. Ensure lighting equipment and lighting accessories are adjusted to take account of ***camera types*** and ***capture media*** to be used 10. Correct mixed light sources to achieve a uniform colour balance, using corrective filters to meet creative and technical requirements 11. Participate in ongoing production meetings and evaluation of work in progress on lighting effects 12. In consultation with relevant production personnel, agree on the final lighting configuration to be used and inform others as required
Participate in technical rehearsals	13. Rehearse technical aspects of a production and execute changes to the lighting set-up according to production requirements 14. Modify cue sheets and update pre-programmed automated systems according to final shooting requirements 15. In consultation with relevant production personnel, amend lighting effects to take account of limitations imposed by the type of camera or other aspects of

ELEMENT	PERFORMANCE CRITERIA
	productions 16. Check that required changes to lighting operations are implemented and that relevant ***documentation*** is completed prior to actual production 17. Ensure appropriate supervision is arranged to maintain continuity of lighting throughout the production period
Monitor lighting operations during productions	18. Check operational aspects of lighting equipment and lighting set-up to ensure they are correctly prepared for productions 19. Ensure placement of lighting equipment and accessories is mapped and connections to correct power sources and consoles are implemented and recorded 20. Maintain lighting conditions throughout filming to ensure that image and light quality meet the stylistic effect required 21. Identify and rectify basic problems and faults using appropriate ***test equipment*** and according to enterprise and OHS procedures 22. Ensure that technical quality is consistent with editing and post-production requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, literacy and teamwork skills sufficient to:
  - work collaboratively with other production staff to devise lighting effects that meet production requirements
  - convey changes to production staff in an effective and efficient manner
  - modify production documentation as required, e.g. lighting plan, cues
  - interpret script requirements in both creative and technical contexts
- initiative and flexibility in the context of:
  - generating a range of options for implementing lighting designs
  - employing a range of techniques to create lighting effects
  - adapting to changes in lighting requirements during rehearsals and productions
  - solving problems while under pressure with minimum disruption to work flows
- technical skills in the context of:
  - implementing and adjusting lighting set-ups
  - operating and interpreting information readouts from a colour temperature meter
  - undertaking basic maintenance of lighting equipment
  - accurately documenting the positions of luminaires/lanterns
  - using light meters and different types of light-measuring devices
- numeracy skills sufficient to:
  - complete simple mathematical calculations using a scale ruler
  - measure and recalculate lighting cues
  - memorise channel numbers on lighting boards

Required knowledge

- industry knowledge, including:
  - roles and responsibilities of personnel in the film and television production industry
  - impact of technology on production planning and operations
  - Recommended Safety Code for Film and Television
  - OHS legislation in the context of film and television production
  - sound understanding of the creative and technical elements of productions
  - general lighting terminology as it relates to a range of different lighting systems
  - issues and challenges that arise in the context of implementing lighting designs
- basic elements of the lighting design process

REQUIRED SKILLS AND KNOWLEDGE

- comprehensive knowledge of a range of:
  - lighting equipment and accessories, e.g. lanterns, luminaires, shutters
  - lighting systems and concepts, e.g. manual, computerised, DMX distribution, back-up systems used in conjunction with lighting control
- a sound understanding of the attributes of cameras and lenses used in film and television productions and their potential impact on lighting designs
- characteristics of a range of film, tape and digital capture formats, including:
  - black and white/colour
  - light sensitivity (speed and latitude)
  - temperature requirements
- properties and behaviour of light and effects on film and television production, e.g.:
  - absorption
  - refraction
  - reflection
  - visible light waves
  - division by wavelength into colours
- photographic principles, including:
  - exposures and tonal relationships
  - light sources
  - sensitivity and balancing
  - camera interpretation of colour
  - colour correction techniques
  - colour temperature and compensation
  - factors affecting the selection of gels and filters and colour media
- the effect of different light sources, diffusion materials, filters and reflectors on the lighting environment, e.g. on performers and sets
- well-developed understanding of a range of techniques for creating lighting effects
- general knowledge of electricity and application of safe electrical work practices
- duty of care to colleagues and the general public, especially on location

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • ability to implement lighting designs in ways that address both the creative and technical requirements of productions • efficient set-up and testing of lighting options • knowledge of lighting terminology • effective teamwork skills • knowledge and application of relevant OHS legislation • application of knowledge about how lighting set-ups need to take account of camera types and capture media being used.
Context of and specific resources for assessment	Assessment must ensure: • practical demonstration of skills through the implementation of a lighting design for a minimum of two productions • involvement of and interaction with a production team to reflect the collaborative nature of the production process • assessment over an extended period of time to assess the experimental aspects of this unit • access to a range of locations, e.g. studio, theatre and outdoors • access to production scripts/performance outlines on which designs can be based. • access to a variety of production venues (e.g. indoor and outdoor) and a selection of industry-standard lighting equipment and cameras as identified in the range statement • access to appropriate learning and assessment support when required • use of culturally appropriate processes and techniques appropriate to the language and literacy capacity of learners and the work being performed.

EVIDENCE GUIDE	
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance • evaluation of the lighting aspects of productions for which the candidate was responsible to determine whether design requirements have been met • direct observation of the candidate during technical rehearsals or productions to determine their ability to work effectively as a member of a production team • written or verbal questioning to test knowledge as listed in the required skills and knowledge section of this unit.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • CUFLGT501A Conceive and develop lighting designs • CUFLGT402A Set up, record and operate lighting cues and effects • BSBCRT402A Collaborate in a creative process.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Production personnel may include:	• choreographer • director • director of photography • gaffer • lighting designer • producer • production manager • senior lighting technician • stage manager • supervisor • technical director • other technical/specialist staff.
Productions may include:	• animated productions • commercials • day • documentaries • EFP (electronic field production) • ENG (electronic news gathering) • feature films • filmed events or performances • in a studio • live or pre-recorded television productions, e.g. music, drama, comedy, variety, sport • multi-camera • music video • night • on location - exterior • on location - interior • outside broadcast • short films • single-camera.
Lighting equipment may include:	• architectural fixtures, e.g. wall lights

RANGE STATEMENT	
	• cyclorama lights • ellipsoidal profile • floods • fresnels • outside broadcast equipment • PAR (parabolic aluminised reflector) lamps • PC (pebbled convex) lamps • profile • snoots • studio and theatre-based equipment.
Lighting accessories may include:	• animation discs • cables, e.g. DMX • colour frames • colour scrollers • computers • cookies • cut-outs • filters • flags • flood mechanisms • fresnel/PC barn doors • gels • gobo holders • gobo rotators • irises • manually operated colour changers • power sources • profile shutters • snoots • spots.
Criteria may include:	• availability of lighting equipment and accessories • availability of lighting operators • budget • creative requirements • pre-production timeframe • type of production.

Equipment and accessories may include:	• dimmers:
	  • analogue
	  • multiplex: analogue and digital

RANGE STATEMENT	

	• single-unit, e.g. follow spot
	• lighting consoles and peripherals, e.g.:
	  • monitors
	  • printers
	  • memory storage
	  • effects unit
	  • fader wings
	• luminaires and lanterns, e.g.:
	  • fresnel
	  • profile
	  • HMI
	  • PAR (parabolic aluminised reflector) lamps
	  • plasma
	  • theatre-based units
	  • studio and location units
	  • special effects
	  • moving/digital moving lights
	  • intelligent/automated lighting
	• production equipment, e.g.:
	  • tripods
	  • video stock
	  • microphones
	  • recording devices (e.g. audiotape recorder)
	  • headphones
	  • batteries
	  • lenses and filters
	  • cameras (see 'camera types' for examples)
	• rigging accessories, e.g.:
	  • safety chains
	  • hook clamps
	  • boom arms
	  • spigots
	  • telescopic stands
	  • H-stands
	  • winch-up stands
	  • mobile booms
	  • T-bars
	  • scaffold clamps

RANGE STATEMENT	
	• truss • chain blocks/motors
Information readout may include:	• colour temperatures • exposures • heat • intensity.
Light quality may include:	• colour quality • direction • dispersion • filters • intensity • object • pictorial lighting style • pictorial quality • sources • temperature • tonal differences and range • type of surface.
Camera types may include:	• Betacam • Betacam SP • digital Betacam • digital DVC Pro • DV Cam (4:3, 16:9) • film cameras, e.g. Arricam ST, Bolex 16 • HDTV • mini DV.
Capture media may include:	• disk • DVD • film • videotape (digital).
Documentation may include:	• accident reports • building specifications, room layouts • call sheet • colour coding schedules • colour lists, plots • cue sheets and modifications to cue sheets • equipment instructions • equipment lists • fault reports

RANGE STATEMENT	
	• floor sheets • focus notes • lantern schedules • lighting plan • manufacturer specifications/manuals • patch sheets • power requirements • production schedule • running sheet • script • venue procedures.
Test equipment may include:	• analogue or digital multimeters • continuity tester • DMX, cable tester • test lamps.

Unit Sector(s)

Unit sector	

Competency field

Competency field	Media and entertainment production - lighting

Co-requisite units

Co-requisite units		