

Title	Demonstrate knowledge of electrical theory and lighting equipment for stage lighting for a performance or event		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to explain: electrical theory for stage lighting; the purpose and function of luminaires, effects, data distribution and control equipment for a performance or event; and the functions and qualities of light.
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Classification	Performing Arts General > Entertainment and Event Technology
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Available grade	Achieved
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Guidance Information

- 1 All learning and assessment leading to this unit standard must be carried out in accordance with the following as relevant:
 - legislation including Health and Safety at Work Act 2015 and subsequent amendments;
 - current industry best practice and industry guidelines (where available) including *Safe Rigging Practices for the Entertainment Industry in New Zealand*, June 2015, and *A Guide for Safe Working Practices in the New Zealand Theatre & Entertainment Industry*, April 2011, or replacements that supersede these guidelines, available from the WorkSafe website, www.worksafe.govt.nz.
- 2 The Entertainment and Event Technology programme guidance document should be consulted when developing assessments leading to this unit standard. It can be found at www.skillsactive.org.nz.
- 3 Definition
DMX refers to a communication protocol, used to communicate between lighting consoles and other devices such as dimmers and intelligent fixtures.

Outcomes and performance criteria

Outcome 1

Explain electrical theory for stage lighting.

Performance criteria

- 1.1 Explain electrical systems in terms of stage lighting.

- 1.2 Use industry terminology to interpret lighting plan requirements.
- 1.3 Explain the difference and relative advantages of Class 1 and Class 2 electrical equipment, in terms of safety, earthing and testing requirements.
- 1.4 Explain components of simple dimmer and control circuits.

Outcome 2

Explain the purpose and function of luminaires, effects, data distribution and control equipment for a performance or event.

Performance criteria

- 2.1 Explain the types, purpose and function of luminaires or lighting instruments in terms of their use for entertainment and events.
- 2.2 Explain the purpose and function of optical systems in lighting instruments in terms of their use for entertainment and events.
- 2.3 Explain the importance of cleaning and maintaining optimum condition of luminaires in terms of optical performance.
- 2.4 Explain the types and purpose of effects equipment, lighting accessories, and control equipment in terms of their use for entertainment and events.
- 2.5 Explain the types and purpose of moving lights, lamps, and low voltage lights in terms of their use for entertainment and events.
- 2.6 Explain the types, purpose and function of data distribution in terms of its different parts and limitations.

Range may include but is not limited to – DMX.
- 2.7 Explain risks and procedures to prevent accidents or injuries associated with lighting instruments in terms of safety guidelines.

Outcome 3

Explain the functions and qualities of light.

Performance criteria

- 3.1 Explain how light works and how the eye and brain process light and colour.
- 3.2 Explain the difference between additive and subtractive colour mixing.

Planned review date	31 December 2022
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 September 2017	N/A

Consent and Moderation Requirements (CMR) reference

0099

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Skills Active Aotearoa Limited info@skillsactive.org.nz if you wish to suggest changes to the content of this unit standard.