Australian Government

Department of Education, Employment and Workplace Relations

# LMFID5006A Design interior lighting

**Revision Number: 1**

# LMFID5006A Design interior lighting

## Modification History

Not applicable.

## Unit Descriptor

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| **Unit descriptor** | This unit specifies the outcomes required to design lighting for an interior space to achieve lighting effects required by a design brief. |

## Application of the Unit

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| **Application of the unit** | This unit supports the attainment of skills and knowledge required to design a space and specify required lighting to achieve lighting effects of a design brief.<br><br>This unit requires employability skills in initiative and enterprise and problem solving in order to design lighting to achieve design objectives. Communication skills are used to access and interpret information using information technologies and complete required documentation. Self management and learning skills are applied in the review of information and design to ensure project needs are met. |

## Licensing/Regulatory Information

Not applicable.

## Pre-Requisites

| **Prerequisite units** | | |
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| | *LMFID4008A* | *Assess interior light and recommend light fittings* |
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# Employability Skills Information

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| **Employability skills** | This unit contains employability skills. |

# Elements and Performance Criteria Pre-Content

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| 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 |
|---|---|
| 1. Assess project | 1.1. Applicable ***OHS***, ***legislative*** and ***organisational requirements*** relevant to researching and recommending ***lighting design*** are verified and complied with<br>1.2. ***Project brief*** is reviewed, confirmed and clarified with ***client***<br>1.3. ***Parameters*** for the project are assessed and confirmed<br>1.4. ***Resources*** are selected appropriate to work requirements and checked for operational effectiveness<br>1.5. ***Communication*** with others is established and maintained |
| 2. Assess current light sources | 2.1. ***Site analysis*** is conducted to assess the ***natural light*** and ***artificial light*** sources<br>2.2. Project plans and drawings and site documents are analysed to determine current and potential influences on light source<br>2.3. ***Factors for consideration*** are analysed with regards to their impact on lighting<br>2.4. Environmental sustainability of design is assessed in terms of lighting<br>2.5. Design is analysed to determine requirements for achieving desired lighting effects |
| 3. Design lighting for interior project | 3.1. Research is conducted to determine cost and energy efficient lighting options to meet the requirements of the integrated design solution<br>3.2. ***Light fittings*** and ***light control devices*** and their locations are selected and specified on design documentation<br>3.3. ***Structural design features*** are reviewed in terms of effect on lighting and specifications determined to support the overall design solution<br>3.4. ***Non-structural design features*** are reviewed in terms of effect on lighting and potential improvements identified<br>3.5. ***Special effects*** are selected and specified for design<br>3.6. Electrician is consulted to confirm potential complications with changes to lighting design, estimate costings and determine wiring requirements |

| ELEMENT | PERFORMANCE CRITERIA |
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| | to implement lighting schedule<br>3.7. Lighting design is assessed for conformance to industry standards and regulations |
| 4. Draw and present lighting design | 4.1. Structural and non-structural design features required to achieve lighting effects are documented on design drawings<br>4.2. Work and product schedules are developed<br>4.3. Costings are determined and documented<br>4.4. Lighting features are presented to client |

# Required Skills and Knowledge

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required skills**

- collecting, organising and understanding information related to work briefs, basic plans and safety procedures
- communicating ideas and information
- accurately recording and maintaining information
- using computer operations for internet searches computer aided drafting (CAD) operations
- analysing performance characteristics
- comparing findings
- communicating with suppliers
- maintaining accurate records
- clarifying and checking taskrelated information
- carrying out work according to OHS practices
- recognising and responding to circumstances outside instructions or personal competence
- efficiently and safely contributing to innovative interior decoration and design processes
- using mathematical ideas and techniques to correctly complete measurements, calculate area and volume, and estimate other material requirements
- maintaining current knowledge of interior decoration and design techniques
- using the workplace technology related to the use of tools including calculators, measuring and recording devices

**Required knowledge**

- State or Territory OHS legislation, regulations, standards and codes of practice relevant to the full range of processes for assessing interior light and recommending light design
- organisational and site standards, requirements, policies and procedures
- Australian lighting Standards and drawing conventions
- research sources for lighting
- ergonomics, anthropometrics, proxemics and aesthetic values
- natural light characteristics and controls
- artificial light characteristics and controls
- structural influences on lighting
- design themes and design development
- sketching and drawing techniques
- procedures for the recording, reporting and maintenance of workplace records and information

| REQUIRED SKILLS AND KNOWLEDGE |
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| • appropriate mathematical procedures for estimation and measurement<br>• environmental protection requirements<br>• established communication channels and protocols<br>• problem identification and resolution techniques |

# Evidence Guide

| EVIDENCE GUIDE | |
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| 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** | • Assess light for its environmental impact and ability to meet lighting design requirements<br>• Provide the client with cost effective and efficient lighting solutions<br>• Apply design elements and principles in recommending light design<br>• Provide documented lighting layout and schedule<br>• Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures for lighting design<br>• Communicate effectively and work safely with others in the work area |
| **Context of and specific resources for assessment** | • The application of competency is to be assessed in the workplace or realistically simulated workplace<br>• Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints<br>• Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context<br>• Assessment is to comply with relevant regulatory or Australian Standards requirements<br>• The following resources should be made available:<br>  • workplace location or simulated workplace<br>  • materials and equipment relevant to designing interior lighting<br>  • specifications and work instructions |
| **Method of assessment** | • Assessment must satisfy the endorsed assessment guidelines of the Furnishing Industry Training Package<br>• Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge<br>• Assessment methods must be by direct observation of tasks and include questioning on underpinning |

| **EVIDENCE GUIDE** | |
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| | knowledge to ensure its correct interpretation and application<br>• Assessment may be applied under project related conditions (real or simulated) and require evidence of process<br>• Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances<br>• Assessment may be in conjunction with assessment of other units of competency |
| **Guidance information for assessment** | |

# Range Statement

| RANGE STATEMENT | |
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| 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. | |
| **OHS requirements** | • are to be in accordance with Commonwealth, State or Territory legislation and regulations, organisational safety policies and procedures. Requirements may include but not be limited to the use of personal protective equipment and clothing, fire fighting equipment, first aid equipment, hazard and risk control and elimination of hazardous materials and substances, manual handling including lifting and carrying |
| **Legislative requirements** | • are to be in accordance with applicable legislation from all levels of government that affect organisational operation. Requirements may include but not be limited to award and enterprise agreements, industrial relations, Australian Standards, confidentiality and privacy, OHS, the environment, equal opportunity, anti-discrimination, relevant industry codes of practice, duty of care and heritage |
| **Organisational requirements** | • may include but not be limited to legal, organisational and site guidelines, policies and procedures relating to own role and responsibility, quality assurance, procedural manuals, quality and continuous improvement processes and standards, OHS, emergency and evacuation, ethical standards, recording and reporting, access and equity principles and practices, equipment use, maintenance and storage, environmental management (waste disposal, recycling and re-use guidelines) |
| **Lighting design** | • may include but not be limited to selection of light fittings, determination of window positions and dimensions, uses of skylights, position of walls, balance of artificial and natural light sources and inclusion of light |

| RANGE STATEMENT | |
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| | control devices |
| **Project brief** | • may include but not be limited to client needs and objectives, client aims and objectives and criteria for evaluation, milestones, organisational or personal profiles and aims, image requirements and function, target market, budget, timeline, consultation requirements and colour requirements |
| **Client** | • may include but not be limited to suppliers, manufacturers, private clients, colleagues, retailers or the public |
| **Parameters** | • may include but not be limited to scope of brief, approval to make changes (legislative and planning), effect or feel trying to be achieved, functionality (short and long term), budget restrictions and established timelines |
| **Resources** | • may include but not be limited to computers, computer software, design software, computer aided drafting (CAD) software, ching System (PMS), journals (directions magazines), artistic equipment and products and model making equipment |
| **Communication** | • may include but not be limited to verbal and non-verbal language, constructive feedback, active listening, questioning to clarify and confirm understanding, use of positive, confident and cooperative language, use of language and concepts appropriate to individual social and cultural differences, control of tone of voice and body language |
| **Site analysis** | • may include but not be limited to a visit to the building (home, office or other) to achieve a feel for the intention of the project brief and how natural light may effect it, to assess the level of radiation from the sun into the space and the angles and obstructions caused by other buildings, vegetation or man made objects. It includes recording information and taking photos |
| **Natural light** | • may include but not be limited to light emitted directly by the sun or reflected from it |
| **Artificial light** | • may include but not be limited to lamps, ceiling lights, spotlights, dimmers, wall lights, |

| RANGE STATEMENT | |
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| | LED, energy efficient globes |
| **Factors for consideration** | • may include but not be limited to ultraviolet exposure, aspect and orientation, window treatments, light characteristics, colour, space layout and construction methods and materials |
| **Light fittings** | • may include but not be limited to lamps, ceiling lights, wall lights, spot lights, flood lights |
| **Light control devices** | • may include but not be limited to motorised or automated mechanisms linked to window treatments |
| **Structural design features** | • may include but not be limited to placement and dimensions of walls, windows, doors, flooring and ceiling features, poles, posts and columns |
| **Non-structural lighting design features** | • may include but not be limited to use of colour, fixtures, fittings, finishes, soft furnishings and furniture |
| **Special effects** | • may include but not be limited to dimming, spotlight, flooding, brightness, creating space and creating focus |

# Unit Sector(s)

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| **Unit sector** | Interior decoration and design. |

# Competency field

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| **Competency field** | |

# Co-requisite units

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| **Co-requisite units** | | |
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| **Co-requisite units** | | |
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