

# INDUSTRIAL DESIGN

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CREATIVE INDUSTRIES WORKFORCE SKILLS QUALIFICATIONS – DESIGN | COMPETENCY MAP

## INTRODUCTION | INDUSTRIAL DESIGN

### INTRODUCTION TO THE INDUSTRIAL DESIGN COMPETENCY MAP

The Industrial Design Competency Map is part of the Creative Industries Workforce Skills Qualification (WSQ) Framework, which comprises 26 competency maps covering three Creative Industries clusters of Arts and Culture, Design, and Media and Communications.

<b>ARTS AND CULTURE</b>	<b>DESIGN</b>	<b>MEDIA AND COMMUNICATIONS</b>
<b>Creative Practice</b> <b>Cultural Heritage</b> <b>Events Management</b> <b>Performing Arts</b> <b>Technical Theatre</b> <b>Visual Arts</b>	<b>Architecture</b> <b>Exhibition Design</b> <b>Interior Design</b> <b>Industrial Design</b> <b>Visual Communications</b>	<b>Advertising</b> <b>Broadcast</b> <b>Direct &amp; Interactive Marketing</b> <b>Digital Media – Animation</b> <b>Digital Media – Games Development</b> <b>Film &amp; Television</b> <b>Library &amp; Information Services</b> <b>Media</b> <b>Music</b> <b>Public Relations</b> <b>Printing</b> <b>Publishing – Book</b> <b>Publishing – Magazine</b> <b>Publishing – Web</b>

Each competency map of the Creative Industries WSQ Framework has been endorsed by Manpower Skills and Training Council that has been set up to steer the training and development of professionals in the Creative Industries.

This Industrial Design Competency Map provides an overview of the competencies required of different functions and job roles of the Industrial Design industry. The development of the Industrial Design Competency Map was guided by the Industrial Design's Industry Key Purpose (IKP) and it was developed after detailed consultation with representatives from the Industrial Design industry including Design Exchange Pte Ltd, Design Insight Pte Ltd, Hewlett-Packard Singapore Pte Ltd, Ideaspark International Pte Ltd, NTU - School of ADM, and SFIC Institute.

Each of the competency units listed in this competency map are further developed into competency standards that provide information on the expected work activities, expected work outcomes and skills and knowledge required of a person to perform the work activities addressed by the competency standards. The competency units are further grouped together into qualifications to provide competency progression pathways for the Industrial Design industry.

## INTRODUCTION | INDUSTRIAL DESIGN

The Industrial Design Competency Map serves as a resource for employers and individuals to chart training and development and career development pathways and for training providers to identify potential training programmes to develop and deliver.

The details of the competency standards and qualifications documents are recorded in separate documents from the Industrial Design Competency Map and should be read together to serve the needs of employers, individuals and training providers.

The Industrial Design Competency Map would be reviewed on a regular basis (i.e., at least every three years). This will help to ensure that the Industrial Design Competency Map is current and continually meet industry needs.

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## INDUSTRY KEY PURPOSE | INDUSTRIAL DESIGN

### Industry Key Purpose

The Industry Key Purpose describes what the industry delivers in terms of product and services meeting the needs of industry, the attributes/attitudes of workforce, and the aspirations of the industry. The Key Industry Purpose provides guidance and direction in the development of the competency map and identification of competency units so as to ensure that the competency units listed in the competency map would help the industry to achieve its industry key purpose.

**Industrial Design Industry Key Purpose:**      **To excel in the design, creation, planning and sale of quality products, systems and services, capturing the imagination of 'what could be' to achieve value and expectations for the employer, the client and the market, and contribute to enhancing the quality of life by generating social, spiritual and economic wealth.**

## ORGANISATION STRUCTURE | INDUSTRIAL DESIGN

<b>Industrial Design Organisation Structure</b>				
The Industrial Design Organisation Structure provides an overview of the various functions and job roles within a typical Industrial Design firm. Competency Units are identified and sorted based on the functions, job role and WSQ qualifications level, to enable identification and development of appropriate training and development interventions by employers, individuals and training providers and to enable planning of progression and development pathways.				
WSQ Qualifications Levels / WSQ Competency Levels			Functions in an Industrial Design Firm	
			Business Management	Creative
WSQ Graduate Certificate	6	<b>Job Roles</b>	<ul style="list-style-type: none"> <li>Managing Director</li> </ul>	
WSQ Specialist Diploma	5		<ul style="list-style-type: none"> <li>Industrial Design Manager</li> <li>Design Director</li> <li>Engineering Design Manager</li> </ul>	<ul style="list-style-type: none"> <li>Principal Designer</li> </ul>
WSQ Diploma	4		<ul style="list-style-type: none"> <li>Account Manager</li> </ul>	<ul style="list-style-type: none"> <li>Senior Designer</li> <li>Human Factors Specialist</li> <li>Colour / Materials / Finishes Designer</li> <li>Interaction Designer</li> <li>Ethnographer</li> </ul>
WSQ Advanced Certificate	3		<ul style="list-style-type: none"> <li>Account Executive</li> </ul>	<ul style="list-style-type: none"> <li>Designer</li> <li>Craftsman/ Prototype Maker</li> </ul>

**WSQ Qualifications Level:** There are four levels of WSQ qualifications in the Industrial Design Competency Map. Each level indicates the corresponding complexity of knowledge, depth of skills and accountability that the job role demands.

**Functions:** Functions are not meant to be equivalent to Departments. Functions indicate the typical broad work areas in an Industrial Design firm.

**Job Roles:** Job roles are not meant to be equivalent to Job Titles. An individual holding a job title of "Designer" may assume a number of job roles such as managing an account.

## COMPETENCY CATEGORY | INDUSTRIAL DESIGN

<b>Competency Categories</b>	
<p>The Competency Category indicates the functional nature of the skills and knowledge identified under a competency unit. The competency categories that are found within the Creative Industries WSQ framework and relevant to the Industrial Design Competency Map and their descriptors are presented below.</p>	
<p><b><u>Business Operations (BO)</u></b> Covers the activities involved in the running of a business for the purpose of producing goods / services and creating value.</p>	<p><b><u>Marketing Research (MR)</u></b> Covers the process of systematic gathering, recording and analysing of data about customers, competitors and the market.</p>
<p><b><u>Copyright, Licensing and Intellectual Property Rights (CLR)</u></b> Covers skills and knowledge required for negotiating, protecting and avoiding exploitation of intellectual property and creative work.</p>	<p><b><u>Project Management (PM)</u></b> Covers organising and managing resources in such a way that the project is completed within defined scope, quality, time and cost constraints.</p>
<p><b><u>Change and Innovation (CI)</u></b> Covers skills and knowledge required for inspiring an environment to encourage change and innovation within the working environment.</p>	<p><b><u>Problem Solving (PS)</u></b> Covers research into problems, generation of solutions, selection and application of solutions and evaluating the solution applied.</p>
<p><b><u>Contract Management (CM)</u></b> Covers the management of contracts made with customers, vendors or employees. Contract management includes negotiating the terms and conditions in contracts and ensuring compliance with the terms and conditions, as well as documenting and agreeing any changes that may arise during its implementation or execution.</p>	<p><b><u>Quality Management (QM)</u></b> Covers methods for ensuring that all the activities necessary to design, develop and implement a product or service are effective and efficient with respect to the system and its performance.</p>
<p><b><u>Communications (COM)</u></b> This covers the transmission of thoughts, ideas and feelings from one mind to another to accomplish tasks and to achieve goals.</p>	<p><b><u>Research (RES)</u></b> Covers using gathering, analysing and interpreting information relevant to a specific area of enquiry.</p>
<p><b><u>Design (DES)</u></b> Covers skills and knowledge required for conceptualising, designing, developing, implementing and realising the design product as agreed with the client.</p>	<p><b><u>Build Relationship (RTL)</u></b> Covers long term plan of action designed to achieve the vision and goals of the organisation.</p>
<p><b><u>Finance (FIN)</u></b> Covers skills and knowledge required for basic budgeting to offering full coverage of financial operations within an organisation.</p>	<p><b><u>Strategy (STR)</u></b> Covers long term plan of action designed to achieve the vision and goals of the organisation.</p>
<p><b><u>Human Resource (HR)</u></b> Covers the activities of recruitment, pay, performance management, promotions, management relations and planning in an effective, legal, fair, and consistent manner.</p>	<p><b><u>Sales (SAL)</u></b> Covers the act of meeting prospective buyers and providing them with a product or service in turn of money or other required compensation.</p>
<p><b><u>Job Safety Skills (JS)</u></b> Covers the skills and knowledge required for managing safety within the work environment and the personal safety of the worker.</p>	<p><b><u>Strategy Planning and Implementation (SPI)</u></b> Develop business strategies and plans aligned with organisational objectives, make strategic decisions and implement action plans to achieve long-term goals</p>

## COMPETENCY CATEGORY | INDUSTRIAL DESIGN

### Competency Category

#### **Marketing and Public Relations (MPR)**

Covers skills and knowledge required for conceptualising, designing, implementing opportunities for maximising sales and promotion of goods, services and people.

### Competency Units

**Competency unit:** A competency unit represents a set of work activities that can be undertaken by an individual, and the skills, knowledge and abilities associated with the work activities that can be used to certify an individual's competence in performing the set of work activities

**Competency unit code:** A competency unit code is assigned to each competency unit to identify the WSQ framework and competency category that the competency unit originates from. The competency unit code also identifies the WSQ qualifications level that is associated with the competency unit providing an indication of the level of complexity of skills and knowledge required under the competency unit.

For example, for a competency unit coded as CI-DES-504S-0:

- 'CI' indicates that the competency unit originates from the Creative Industries WSQ framework;
- 'DES' indicates that the competency unit originates from the competency category of Design; '5' indicates that it is pegged to WSQ qualifications level 5 which is WSQ Specialist Diploma level;
- '04' is the serial number assigned to the competency unit;
- 'S' indicates that the competency unit is usually a specialization unit when used by an individual to achieve a WSQ qualification, other types of units include core units ('C') and elective units ('E'); and
- '0' indicates the version number of the competency unit which would increase as the competency unit is reviewed at every review cycle.

The competency units of the Industrial Design Competency Map are presented according to the Functions in an Industrial Design Organisation in subsequent sections:

- Business Management
- Creative

# **BUSINESS MANAGEMENT | COMPETENCIES**

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**INDUSTRIAL DESIGN COMPETENCY MAP**



## BUSINESS MANAGEMENT | COMPETENCIES – INDUSTRIAL DESIGN

WSQ Qual Level	Job Roles	Competency Unit Code	Specialisation Competency Units	Competency Unit Code	Core Competency Units
6	Managing Director	CI-BO-601C-0	Develop and implement an operational plan	CI-BO-504C-0	Manage risk *
		CI-FIN-502E-0	Develop and manage budgets and financial plans *	CI-DES-511C-1	Apply a holistic user-centric approach for strategic design thinking *
		CI-MPR-601S-0	Build client relationships	CI-STR-602C-0	Provide leadership across the organisation *
		CI-MPR-603S-0	Evaluating and manage international marketing opportunities	LPM-RLT-601C-0	Establish organisational relationships *
		CI-STR-601C-0	Develop, implement and review a business / strategic plan	ES-JS-401G-1	Manage workplace safety and health system *
5	Industrial Design Manager / Design Director / Engineering Design Manager	CI-DES-502S-0	Administer, coordinate and monitor contract works for a design project	BM-PM-402E-1	Manage project scope *
		CI-DES-503S-0	Appoint and coordinate specialist consultants and suppliers for design project	BM-PM-411E-1	Manage project knowledge and communication *
		CI-DES-507C-0	Plan, monitor and evaluate design work provided to the client *	CI-COM-502S-0	Present effectively to engage and manage your audience *
		CI-DES-444S-0	Prepare a design presentation *	CI-DES-511C-1	Apply a holistic user-centric approach for strategic design thinking *
		CI-DES-510C-0	Prepare and evaluate design proposal and project cost for design services *	CI-HR-601C-0	Manage people
		CI-FIN-405E-0	Prepare financial reports	ES-JS-401G-1	Manage workplace safety and health system *
		CI-MPR-418S-0	Develop and manage business development strategies to expand client base		

\*Competency Standard available

### Legend of Competency Unit

**BM** Business Management WSQ Framework  
**CI** Creative Industries WSQ Framework  
**ES** Employability Skills WSQ Framework  
**LPM** Leadership & People Management WSQ Framework  
**BO** Business Operations Competency Category  
**COM** Communications Competency Category  
**DES** Design Competency Category

**FIN** Finance Competency Category  
**HR** Human Resource Competency Category  
**JS** Job Safety Skills Competency Category  
**MPR** Marketing and Public Relations Competency Category  
**PM** Project Management Competency Category  
**RTL** Build Relationship Competency Category  
**STR** Strategy Competency Category

## BUSINESS MANAGEMENT | COMPETENCIES – INDUSTRIAL DESIGN

WSQ Qual Level	Job Roles	Competency Unit Code	Specialisation Competency Units	Competency Unit Code	Core Competency Units
4	Account Manager	BM-PM-302E-1	Apply project cost management techniques *	BM-SPI-501E-1	Develop organisational strategies and policies *
		CI-BM-401C-0	Establish and maintain work and contractual relationship *	CI-DES-511C-1	Apply a holistic user-centric approach for strategic design thinking *
		CI-BO-406S-0	Enable, develop and support growth of a client's business	CI-PS-502E-0	Resolve problems which impact on the work
		CI-CLR-302E-1	Administer and manage the use of licensed copyright materials created *	CI-QM-501C-0	Deliver and maintain products / services to standards agreed by the organisation and the customer
		CI-CM-405E-0	Apply contract procurement techniques	ES-JS-301G-1	Maintain workplace safety and health policies and procedures *
		CI-DES-413S-0	Oversee design brief development and negotiation to meet client needs *		
		CI-DES-419S-0	Develop a proposal and quotation for design and design services for presentation to client *		
3	Account Executive	BM-PM-303E-1	Apply project time management techniques *	BM-COM-303E-1	Present information *
		CI-COM-303C-0	Write project briefs which meet client's requirements	CI-DES-331E-0	Maintain an awareness of trends and developments in design, materials, techniques and technology *
		CI-DES-330S-0	Develop and negotiate design briefs to meet the needs of the client	CI-DES-342C-1	Implement design thinking *
		CI-DES-334C-0	Plan work to meet production requirements	CI-DES-343C-1	Apply professional practices in design projects *
		CI-DES-416S-0	Prepare, produce and present a final detailed design proposal to the client *	CI-DES-420C-0	Source and apply production knowledge for the design industry *
		CI-FIN-306E-0	Manage budgets	CI-HR-407C-0	Participate in, facilitate and promote effective working of individuals and teams
		CI-SAL-311S-0	Sell and promote designs and design services to clients	ES-JS-301G-1	Maintain workplace safety and health policies and procedures *

\*Competency Standard available

### Legend of Competency Unit

**BM** Business Management WSQ Framework

**CI** Creative Industries WSQ Framework

**ES** Employability Skills WSQ Framework

**BO** Business Operations Competency Category

**CLR** Copyright, Licensing and Intellectual Property Rights Competency Category

**CM** Contract Management Competency Category

**DES** Design Competency Category

**FIN** Finance Competency Category

**HR** Human Resource Competency Category

**JS** Job Safety Skills Competency Category

**PM** Project Management Competency Category

**PS** Problem Solving Competency Category

**QM** Quality Management Competency Category

**SAL** Sales Competency Category

**SPI** Strategy Planning and Implementation Competency Category

# **CREATIVE | COMPETENCIES**

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**INDUSTRIAL DESIGN COMPETENCY MAP**

## CREATIVE | COMPETENCIES – INDUSTRIAL DESIGN

WSQ Qual Level	Job Roles	Competency Unit Code	Specialisation Competency Units	Competency Unit Code	Core Competency Units
5	Principal Designer	CI-BO-601C-0	Develop and implement an operational plan	BM-PM-411E-1	Manage project knowledge and communication *
		CI-PM-605C-0	Direct the scope and integration of multiple projects / programmes *	BM-PM-402E-1	Manage project scope *
		CI-DES-505S-0	Oversee realisation of final design to meet client's needs *	CI-HR-601C-0	Manage people
		CI-DES-601C-0	Develop design vision to direct conceptualisation of design product in accordance to the design brief *	CI-COM-502S-0	Present effectively to engage and manage your audience *
		CI-DES-504S-0	Establish criteria and oversee production and testing of prototypes *	ES-JS-401G-1	Manage workplace safety and health system *
		CI-DES-344C-1	Apply knowledge of history and theory of design and culture to develop a design brief *	CI-DES-511C-1	Apply a holistic user-centric approach for strategic design thinking *
4	Senior Designer	CI-DES-412C-0	Manage conceptualisation, development and refinement of design solutions according to design brief	CI-QM-501C-0	Deliver and maintain products / services to standards agreed by the organisation and the customer
		CI-DES-422S-0	Supervise, produce and realise suitable design prototypes to meet the needs of client *	BM-SPI-501E-1	Develop organisational strategies and policies *
		CI-DES-418S-0	Develop design knowledge by inquiry in the design process *	CI-PS-502E-0	Resolve problems which impact on the work
		CI-DES-420C-0	Source and apply production knowledge for the design industry *	ES-JS-301G-1	Maintain workplace safety and health policies and procedures *
		CI-DES-344C-1	Apply knowledge of history and theory of design and culture to develop a design brief *	CI-DES-511C-1	Apply a holistic user-centric approach for strategic design thinking *
		CI-DES-413S-0	Oversee design brief development and negotiation to meet client needs *		

\*Competency Standard available

### Legend of Competency Unit

**BM** Business Management WSQ Framework  
**CI** Creative Industries WSQ Framework  
**ES** Employability Skills WSQ Framework  
**BO** Business Operations Competency Category  
**COM** Communications Competency Category  
**DES** Design Competency Category

**HR** Human Resource Competency Category  
**JS** Job Safety Skills Competency Category  
**PM** Project Management Competency Category  
**PS** Problem Solving Competency Category  
**QM** Quality Management Competency Category  
**SPI** Strategy Planning and Implementation Competency Category

## CREATIVE | COMPETENCIES – INDUSTRIAL DESIGN

WSQ Qual Level	Job Roles	Competency Unit Code	Specialisation Competency Units	Competency Unit Code	Core Competency Units
4	Human Factors Specialist	CI-DES-323S-0	Apply anthropometric and human factors engineering data to comply with project objectives	CI-QM-501C-0	Deliver and maintain products / services to standards agreed by the organisation and the customer
		CI-DES-418S-0	Develop design knowledge by inquiry in the design process *	BM-SPI-501E-1	Develop organisational strategies and policies *
		CI-RES-407S-0	Conduct usability studies and testing	CI-PS-502E-0	Resolve problems which impact on the work
		CI-DES-422S-0	Supervise, produce and realise suitable design prototypes to meet the needs of client *	ES-JS-301G-1	Maintain workplace safety and health policies and procedures *
		CI-DES-446S-0	Develop user interfaces for products	CI-DES-511C-1	Apply a holistic user-centric approach for strategic design thinking *
		CI-DES-412C-0	Manage conceptualisation, development and refinement of design solutions according to design brief		
		CI-DES-420C-0	Source and apply production knowledge for the design industry *		
		CI-DES-344C-1	Apply knowledge of history and theory of design and culture to develop a design brief *		
4	Colour / Materials / Finishes Designer	CI-DES-324S-1	Apply colour theory in response to a brief *	CI-QM-501C-0	Deliver and maintain products / services to standards agreed by the organisation and the customer
		CI-DES-340S-0	Visualise 2D graphics and 3D objects and translate into digital and/or paper media	BM-SPI-501E-1	Develop organisational strategies and policies *
		CI-DES-327C-0	Demonstrate knowledge of production *	CI-PS-502E-0	Resolve problems which impact on the work
		CI-DES-418S-0	Develop design knowledge by inquiry in the design process *	ES-JS-301G-1	Maintain workplace safety and health policies and procedures *
		CI-DES-344C-1	Apply knowledge of history and theory of design and culture to develop a design brief *	CI-DES-511C-1	Apply a holistic user-centric approach for strategic design thinking *

\*Competency Standard available

### Legend of Competency Unit

**BM** Business Management WSQ Framework  
**CI** Creative Industries WSQ Framework  
**ES** Employability Skills WSQ Framework  
**CI** Change Innovation Competency Framework  
**DES** Design Competency Category

**JS** Job Safety Skills Competency Category  
**PS** Problem Solving Competency Category  
**QM** Quality Management Competency Category  
**RES** Research Competency Category  
**SPI** Strategy Planning and Implementation Competency Category

## CREATIVE | COMPETENCIES – INDUSTRIAL DESIGN

WSQ Qual Level	Job Roles	Competency Unit Code	Specialisation Competency Units	Competency Unit Code	Core Competency Units
4	Interaction Designer	CI-CI-303C-0	Originate, develop and communicate ideas in the workplace	BM-SPI-501E-1	Develop organisational strategies and policies *
		CI-DES-327C-0	Demonstrate knowledge of production *	CI-DES-511C-1	Apply a holistic user-centric approach for strategic design thinking *
		CI-DES-344C-1	Apply knowledge of history and theory of design and culture to develop a design brief *	CI-PS-502E-0	Resolve problems which impact on the work
		CI-RES-405C-0	Research user trends and consumer tracks	CI-QM-501C-0	Deliver and maintain products / services to standards agreed by the organisation and the customer
		CI-DES-418S-0	Develop design knowledge by inquiry in the design process *	ES-JS-301G-1	Maintain workplace safety and health policies and procedures *
		CI-DES-422S-0	Supervise, produce and realise suitable design prototypes to meet the needs of client *		
		CI-DES-446S-0	Develop user interfaces for products		
		CI-DES-447S-0	Demonstrate knowledge of human-computer interaction to design user interface		
4	Ethnographer	CI-DES-344C-1	Apply knowledge of history and theory of design and culture to develop a design brief *	BM-SPI-501E-1	Develop organisational strategies and policies *
		CI-DES-418S-0	Develop design knowledge by inquiry in the design process *	CI-DES-511C-1	Apply a holistic user-centric approach for strategic design thinking *
		CI-MR-404S-1	Assess demand for products and services *	CI-PS-502E-0	Resolve problems which impact on the work
		CI-RES-405C-0	Research user trends and consumer tracks	CI-QM-501C-0	Deliver and maintain products / services to standards agreed by the organisation and the customer
		CI-RES-408S-0	Conduct ethnographic research and analyse data for a design project	ES-JS-301G-1	Maintain workplace safety and health policies and procedures *

\*Competency Standard available

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**ES** Employability Skills WSQ Framework  
**CI** Change Innovation Competency Framework  
**DES** Design Competency Category  
**JS** Job Safety Skills Competency Category

**MR** Marketing Research  
**PS** Problem Solving Competency Category  
**QM** Quality Management Competency Category  
**RES** Research Competency Category  
**SPI** Strategy Planning and Implementation Competency Category

## CREATIVE | COMPETENCIES – INDUSTRIAL DESIGN

WSQ Qual Level	Job Roles	Competency Unit Code	Specialisation Competency Units	Competency Unit Code	Core Competency Units
<b>3</b>	<b>Designer</b>	BM-PM-303E-1	Apply project time management techniques *	BM-COM-303E-1	Present information *
		CI-DES-317S-0	Produce drawings manually and digitally *	CI-DES-331E-0	Maintain an awareness of trends and developments in design, materials, techniques and technology *
		CI-DES-326C-0	Generate design concepts and develop design ideas for effective design solutions *	CI-DES-342C-1	Implement design thinking *
		CI-DES-327C-0	Demonstrate knowledge of production *	CI-DES-343C-1	Apply professional practices in design projects*
		CI-DES-329S-0	Design and produce applied design artwork, design illustrations and graphic documents using a range of manual and digital techniques and media	CI-DES-420C-0	Source and apply production knowledge for the design industry *
		CI-DES-335S-0	Prepare and render design drawings using a range of techniques and media *	CI-HR-407C-0	Participate in, facilitate and promote effective working of individuals and teams
		CI-DES-338S-0	Record measurements, information for design reference, work constructed, and produce design calculations	ES-JS-301G-1	Maintain workplace safety and health policies and procedures *
		CI-DES-339S-0	Formulate and develop a brief for a design project *		
		CI-DES-340S-0	Visualise 2D graphics and 3D objects and translate into digital and/or paper media		
		CI-DES-411E-0	Document designs *		
		CI-DES-415S-0	Prepare new design *		
		CI-DES-344C-1	Apply knowledge of history and theory of design and culture to develop a design brief *		

\*Competency Standard available

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**CI** Creative Industries WSQ Framework  
**ES** Employability Skills WSQ Framework  
**CI** Change Innovation Competency Framework  
**DES** Design Competency Category  
**JS** Job Safety Skills Competency Category

**MR** Marketing Research  
**PS** Problem Solving Competency Category  
**QM** Quality Management Competency Category  
**RES** Research Competency Category  
**SPI** Strategy Planning and Implementation Competency Category

## CREATIVE | COMPETENCIES – INDUSTRIAL DESIGN

WSQ Qual Level	Job Roles	Competency Unit Code	Specialisation Competency Units	Competency Unit Code	Core Competency Units
3	Craftsman / Prototype Maker	CI-DES-326C-0	Generate design concepts and develop design ideas for effective design solutions *	BM-COM-303E-1	Present information *
		CI-DES-327C-0	Demonstrate knowledge of production *	CI-DES-331E-0	Maintain an awareness of trends and developments in design, materials, techniques and technology *
		CI-DES-329S-0	Design and produce applied design artwork, design illustrations and graphic documents using a range of manual and digital techniques and media	CI-DES-342C-1	Implement design thinking *
		CI-DES-333S-0	Plan and contribute to the realisation of final design *	CI-DES-343C-1	Apply professional practices in design projects*
		CI-DES-336S-1	Develop 2D visuals using computer software *	CI-DES-420C-0	Source and apply production knowledge for the design industry *
		CI-DES-338S-0	Record measurements, information for design reference, work constructed, and produce design calculations	CI-HR-407C-0	Participate in, facilitate and promote effective working of individuals and teams
		CI-DES-340S-0	Visualise 2D graphics and 3D objects and translate into digital and/or paper media	ES-JS-301G-1	Maintain workplace safety and health policies and procedures *
		CI-DES-344C-1	Apply knowledge of history and theory of design and culture to develop a design brief *		
		CI-DES-345S-0	Demonstrate woodwork techniques		
		CI-DES-346S-0	Demonstrate glasswork techniques		
		CI-DES-347S-0	Demonstrate welding techniques		
		CI-DES-348S-0	Demonstrate casting and moulding techniques		
		CI-DES-354S-0	Develop 3D visuals using computer software		
		CI-DES-422S-0	Supervise, produce and realise suitable design prototypes to meet the needs of client *		

\*Competency Standard available

### Legend of Competency Unit

**BM** Business Management WSQ Framework  
**CI** Creative Industries WSQ Framework  
**ES** Employability Skills WSQ Framework

**COM** Communications Competency Category  
**DES** Design Competency Category  
**JS** Job Safety Skills Safety Competency Category



## **GENERIC / CROSS-SECTORAL WSQ CU ADOPTION | INDUSTRIAL DESIGN**

### **DEVELOPMENT OF T-SHAPED PROFESSIONALS IN INDUSTRIAL DESIGN - GENERIC / CROSS-SECTORAL WSQ FRAMEWORK COMPETENCY UNITS ADOPTION**

Generic or cross-sectoral competencies refer to horizontal multi-disciplinary skills which workers serving in different occupations and job roles across different industries and sectors may apply in the course of their work. These competencies are encapsulated in WSQ frameworks such as Business Management (BM) and Leadership & People Management (LPM) WSQ.

Practitioners serving in the Creative Industries (CI) are expected to possess specialised job-specific competencies as well as a range of generic horizontal skills in functional areas including people management, communications and project management. To support their development into T-shaped professionals, appointed CI WSQ training partners (e.g. National CET Institute, CET Centres and Programme Partners) may adopt CUs from the BM and LPM WSQ frameworks for CI WSQ programme implementation on a modular, integrated or qualification basis, subject to fulfilling applicable WSQ accreditation and funding related requirements.

While selected BM and LPM WSQ CUs are already imported into the CI WSQ Competency Maps, the range of job roles and associated competencies in CI Industries continue to expand and evolve rapidly such that other generic skills-in-demand may not have been readily imported. The flexibility accorded will enable CI WSQ training partners to design and implement WSQ programmes rapidly to meet the holistic skills development needs of CI practitioners while maintaining the integrity of CI WSQ and the WSQ system as a whole.

## VERSION CONTROL | INDUSTRIAL DESIGN

### VERSION CONTROL

Version	Effective Date	Changes
1.0	February 2008	Initial Version
2.0	April 2013	First review version
2.1	March 2014	<ul style="list-style-type: none"><li>• Inclusion of the following components into the competency map<ul style="list-style-type: none"><li>• Introduction to Industrial Design Competency Map</li><li>• Industry Key Purpose</li><li>• Competency Category</li></ul></li><li>• Update competency unit codes of new/revised competency units</li></ul>