

Furnishing Industry Reference Committee

Skills Forecast and Proposed Schedule of Work 2018-2022



Furniture Design and Technology Case for Change

MSF Furnishing Training Package
May 2018



2018-19 Case for Change

Furnishing Industry Reference Committee (IRC)

MSF Furnishing Training Package

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Furniture Design and Technology

Description: Analysis and redevelopment of the Furniture Design and Technology training products to meet current and future industry skill needs. The project will examine contemporary and emerging work practices in Furniture Design and Technology and ensure training products support this sector.

Rationale: The purpose of the current Furniture Design and Technology qualifications is unclear and the vocational outcomes lack clarity and purpose for the furniture design and technology industry sector. These qualifications have had low enrolments since first offered in 2002 and most recently no enrolments. The thin market makes effective and viable delivery challenging.

Australia's design sector is a strong, diverse and vibrant sector with Australian furniture designers being recognised internationally for their innovative and sustainable products. Furniture Design and Technology offers Australian manufacturing businesses the opportunity to be innovative and creative and maximise the opportunities offered through new building technology and current building trends in high density living associated with urbanisation and small housing design for the ageing population.

Stakeholders identified that there is a need to update the technical units in all design qualifications to reflect the new materials and technologies being used in the sector, and also to ensure that both Australian and international standards are being met. This work is needed to ensure that Australian furniture designers are able to remain competitive in a global market and to support innovation and sustainability within the industry.

Employer feedback indicates that Computer Aided Design development is a critical skill in an environment where time is so expensive. To be competitive, even when producing one-off products, extensive pre-shaping of components and less time spent working hands-on is important in meeting market price expectations, and is the most basic skill that makes a graduate employable. The ability to develop an idea into a realistic image that can first be sold to stakeholders and then translated into production is seen as highly desirable. These skills need to be complemented by skills and knowledge in market research, understanding materials, the capability of machinery and technologies used to build products competitively and cost-effectively. Original design and the design process are seen as important skills, as are business skills to effectively estimate, cost and quote.

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Rationale: A better understanding of the services provided by associated occupations such as industrial designers and interior designers is expected to inform and assist to identify demand for and differentiate the skills required of furniture designers.

These qualifications were part of the 2016-17 activity order, but the associated Technical Advisory Committee sought to withdraw them following a desktop analysis which included discussions with the four RTOs that have the qualifications on scope. Their findings included:

- concerns that the overall industry purpose of the qualifications is unclear and this needs to be thoroughly re-considered to establish a sound starting point for the qualification design – that is, a clear vocational outcome (is it a Furniture Designer, Designer Maker, Production Manager or all three) and clarification around industry expectations
- the qualification requires an extensive review of its content and structure in order to add valuable skills to the industry in which employers are desperately seeking to make their businesses more competitive and innovative in the Australian and international markets
- many units are focused on artisan skills not required by most viable furniture manufacturers, with most of the currently limited delivery focused on the designer-maker outcome – and even if it were a viable job role, it is not possible to achieve the outcome in the current structure unless substantial content is added; basically, it needs a significant suite of underpinning furniture-making skills
- in reviewing any units of competency, it is important to be clear about industry job functions and skill requirements – as noted above, this clarity does not currently exist
- all training providers were adding to or contextualising the qualification to meet local furniture businesses' needs – in one case, the confusion around the purpose of the qualification means that its delivery is being discontinued.

Furniture designers develop and prepare furniture for manufacture. They are particularly concerned with those aspects of furniture that relate to human usage and behaviour, product appeal and fashion. The specific ergonomic knowledge that a furniture designer must apply and the specialised construction methods and pre-manufactured components that undergo constant change in the industry make this a large area of specialisation.

Furniture designers explore solutions to meet marketing, manufacturing and financial requirements and arrive at the optimum design of a furniture item. They consider both functional and aesthetic aspects and pay particular attention to ergonomics, those factors that relate to ease of use and human behaviour.

Furniture designers may work as part of a product development team on the overall structure of the product and its appearance, and are commonly employed within manufacturing companies that prioritise the development and maintenance of product lines as a core requirement rather than an occasional need. Fewer furniture designers operate as designer/maker businesses producing limited ranges of their own designs or designing custom furniture for individual clients. This means the packaging rules need to recognise the different skill and knowledge requirements of different types of employers.

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Rationale:	<p>The risks of not proceeding with this project include:</p> <ul style="list-style-type: none"> • fewer skilled furniture designers being available for the furniture industry • the current lack of skill sets limiting opportunities for existing skilled workers to upskill into creative and innovative careers in furniture design • the Australian furnishing industry <ul style="list-style-type: none"> • offshoring design work • not remaining at the forefront of furniture design • not exploiting the opportunities presented by new technologies and materials.
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Ministers' Priorities Addressed:	<p>Ministers' Priorities:</p> <p>Obsolete qualifications removed from the system</p> <p>The current Furniture Design and Technology qualifications do not meet industry requirements, have no clear vocational outcomes and a history of low enrolments. This review will determine what changes are required to better meet industry requirements.</p> <p>More information about industry's expectations of training delivery is available to training providers to improve their delivery and to consumers to enable more informed choices</p> <p>Updates to the Companion Volume after this work will provide training providers with clarity on vocational outcomes and pathways and discussions with industry will provide the opportunity to promote vocational pathways.</p> <p>The training system better supports individuals to move more easily between related occupations</p> <p>The linkages between design qualifications is evident with some overlaps in units and flexible packaging rules allowing customisation of delivery to meet the learner and industry requirements. The Companion Volume updates will show linkages with related occupations.</p> <p>Improved efficiency of the training system through units that can be owned and used by multiple industry sectors</p> <p>Units from other training packages will be reviewed for relevance to this industry and used wherever possible to improve efficiency of the training system. Cross-sectoral project outputs will be considered and, where available, incorporated into this work. Skills Impact (SSO) projects on 'Cross Laminated Timber Building Systems and Prefabricated Building Systems' Project will be monitored for relevance of their unit development in new technologies.</p> <p>Foster greater recognition of skill sets</p> <p>Skill sets will be considered as part of this work as they may provide a means of upskilling trade qualified workers.</p>
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Consultation Plan: IBSA Manufacturing Training Development Projects follow the Training Package Development and Endorsement Process Policy and use a five-phase methodology. The IBSA Furnishing Industry Manager will coordinate the project and keep the IRC informed on progress.

Phase 1 – Initial analysis

Establishment of a Technical Advisory Committee (TAC) to validate the project scope and contribute to consultation with the industry to determine the industry need and undertake a job role functional analysis. The IRC will appoint the Technical Advisory Committee that will have current skills and knowledge across a broad range of industry job roles such as furniture designer, designer/maker, furniture production, new technologies and materials. People with specialist knowledge of Australian standards relating to design, manufacture and use of furniture and testing procedures for furniture compliance will be sought.

Proposed membership will include representatives from:

- Australian Furniture Association AFA
- Cabinet Makers and Designer Association CMDA
- Furniture Industry Association Australia FIAA
- Kitchen and Bathroom Design Institute KBDI
- Western Australia Furniture Manufacturers Association WAFMA
- One or more furniture design practitioners/subject matter experts.

Phase 2 – Draft 1 and public consultation

Develop first draft of training package components for feedback from the TAC and then the broader furniture industry and RTOs.

Phase 3 – Draft 2 and public consultation

Respond to feedback and develop second draft of training package components. Feedback to be sought from the broader furniture industry and RTOs.

Phase 4 – Approval process

Adjust training package components in response to further feedback and seek approval from respective committees, namely the TAC and IRC and endorsement from state training authorities.

Phase 5 – Submission to Department

Submit to the Department of Education and Training for AISC approval.

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Consultation Plan:	<p>Consultation Plan</p> <p>IBSA will create a project web page to provide project updates, gather feedback from stakeholders and validate training package components.</p> <p>Proposed consultations include:</p> <ul style="list-style-type: none"> • employers such as large furniture manufacturers and specialised furniture manufacturers; furniture, interior and industrial designers to identify the industry, job requirements, trends and work opportunities • RTOs with these qualifications on scope and recent or current students if accessible to gain feedback on the actual qualifications and employment outcomes • State Training Authorities to ensure all jurisdictions are engaged. <p>Phase 1 will see the investigation of contemporary and emerging work practices through analytical work and consultations to inform a Discussion Paper. The paper will be used to stimulate broader discussions with industry around the need for the current qualifications and assist the TAC and IRC in decision making.</p>
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Scope of Project

Timing	<p>Estimated Project Duration: 12 months</p> <p>Anticipated Start Date: October 2018</p> <p>Anticipated Completion Date: Case for Endorsement to be submitted to the Department October 2019</p>
Training Package	<p>Training package to be developed/revised:</p> <p>MSF Furnishing Training Package</p>
Qualifications	<p>A total of 2 qualifications to be developed/revised as part of this project.</p> <p>2 existing qualifications to be revised:</p> <ul style="list-style-type: none"> • MSF40213 Certificate IV in Furniture Design and Technology • MSF50313 Diploma of Furniture Design and Technology. <p>While this project focuses on the emerging skills needs for job roles related to the Furniture Design and Technology qualifications. The following qualification will also be impacted due to the degree of common units:</p> <ul style="list-style-type: none"> • Certificate IV in Design of Kitchens, Bathrooms and Interior Spaces.
Skill Sets	<p>There are currently no skill sets associated with Furniture Design and Technology but new skill sets will be identified in consultation with the stakeholders.</p>

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Units of Competency	<p>A total of 109 units of competency to be developed/ revised as part of this project.</p> <p>New units of competency will be identified during the development. It is envisaged these will address technical drawing, CAD modelling, new technologies and materials.</p> <p>66 existing native units of competency to be revised:</p> <ul style="list-style-type: none"> • MSFAH4001 Advise on security technology, hardware and services • MSFAH4002 Prepare door hardware schedules • MSFDN4001 Produce drawings from design concepts • MSFDN4002 Produce line and component production drawings • MSFDN4003 Produce patterns and templates • MSFDN4004 Design, construct and test jigs • MSFDN4005 Work within a furniture design team • MSFDN5001 Generate and transfer complex computer-aided drawings and specifications • MSFFDT4001 Apply finishing techniques to custom furniture • MSFFDT4002 Assemble custom furniture • MSFFDT4003 Assess and record the lifecycle of a product • MSFFDT4004 Assess environmental impact of a design • MSFFDT4005 Construct and evaluate furniture prototypes and samples • MSFFDT4006 Determine work health and safety (WHS) implications of designs • MSFFDT4007 Prepare and present furniture design information • MSFFDT4008 Produce and evaluate developmental furniture models to scale • MSFFDT4009 Set up, operate and maintain basic static woodworking machines for furniture designs • MSFFDT4010 Research and select furniture finishes • MSFFDT4011 Research and select furniture materials and technology • MSFFDT4012 Research furniture styles and movements • MSFFDT4013 Select, use and maintain hand tools for the creation of custom furniture • MSFFDT4014 Set up and operate a wood-turning lathe to produce off-centre work • MSFFDT4015 Produce templates and jigs for custom-made furniture • MSFFDT5001 Apply ergonomics, anthropometrics and proxemic considerations to a product • MSFFDT5002 Assess and resolve technical integrity of a design • MSFFDT5003 Develop self as a furniture designer • MSFFDT5004 Construct custom furniture using advanced techniques • MSFFDT5005 Design a batch or limited production item of furniture • MSFFDT5006 Design a furniture product using high volume technology services (HVTs) in production
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Units of Competency	<ul style="list-style-type: none"> • MSFFDT5007 Design a one-off item of furniture • MSFFDT5008 Research and recommend alternative manufacturing processes • MSFFDT5009 Research and recommend machine technology • MSFFDT5010 Evaluate furniture design proposals and concepts • MSFFDT5011 Assess economic impact of a design • MSFFDT5012 Design for mass production • MSFFDT5013 Evaluate and participate in design industry networks • MSFFDT5014 Investigate legal requirements for design • MSFFDT5015 Work collaboratively on a design project • MSFFM4001 Hand carve wood to custom design • MSFFM4002 Construct joints for custom furniture • MSFFM4003 Produce curved and shaped components for custom furniture • MSFFM4004 Produce timber veneered components for custom furniture • MSFFT4001 Coordinate on-site installation of furnishing products • MSFFT4002 Customise stock lines • MSFFT4003 Organise production processes • MSFFT4004 Establish and monitor production inventory requirements • MSFFT4005 Install and commission computer numerically controlled (CNC) software • MSFFT4006 Construct prototypes and samples • MSFFT4007 Sample, inspect and test products to specifications • MSFFT4008 Interpret and use workplace information • MSFFT4009 Match furnishing style and materials to customer requirements • MSFFT4010 Identify and calculate production costs • MSFFT4011 Purchase materials and consumables • MSFFT4012 Prepare a tender submission • MSFFT5001 Evaluate and select production materials and equipment • MSFFT5002 Establish and develop production processes and area layout • MSFFT5003 Manage installation and commissioning of equipment • MSFFT5004 Develop and document procedures and specifications • MSFFT5005 Organise enterprise maintenance programs • MSFFT5006 Plan production • MSFFT5007 Optimise computer numerically controlled (CNC) operations • MSFFT5008 Develop, trial and evaluate prototypes
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Units of Competency	<ul style="list-style-type: none"> • MSFFT5009 Determine production feasibility of designs • MSFFT5010 Develop products and related processes • MSFPP4001 Design and construct ornamental frames • MSFPP4002 Determine and apply gilding techniques <p>43 existing units of competency from other training packages to be reviewed for relevance:</p> <ul style="list-style-type: none"> • BSBCRT401 Articulate, present and debate ideas • BSBCRT402 Collaborate in a creative process • BSBCRT403 Explore the history and social impact of creativity • BSBCRT501 Originate and develop concepts • BSBDES301 Explore the use of colour • BSBDES303 Explore and apply the creative design process to 3D forms • BSBDES305 Source and apply information on the history and theory of design • BSBDES401 Generate design solutions • BSBDES403 Develop and extend design skills and practice • BSBDES502 Establish, negotiate and refine a design brief • BSBDES601 Manage design realisation • BSBINM501 Manage an information or knowledge management system • BSBMKG501 Identify and evaluate marketing opportunities • BSBOHS404B Contribute to the implementation of strategies to control OHS risk • BSBPMG522 Undertake project work • BSBSMB403 Market the small business • BSBSMB404 Undertake small business planning • BSBSMB407 Manage a small team • BSBWHS504 Manage WHS hazards and risks • CUAACD302 Produce computer-aided drawings • CUAACD303 Produce technical drawings • CUAANM303 Create digital 3D models • CUADIG303 Produce and prepare photo images • CUADIG304 Create visual design components • CULMS010B Contribute to the preservation of cultural material • MEM15001B Perform basic statistical quality control • MEM16006A Organise and communicate information • MEM16007A Work with others in a manufacturing, engineering or related environment
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Units of Competency	<ul style="list-style-type: none"> • MEM16008A Interact with computing technology • MEM16013A Operate in a self-directed team* (pre-requisite MEM16007A) • MEM30024A Participate in quality assurance techniques* (pre-requisite MEM15001B) • MEM30031A Operate computer-aided design (CAD) system to produce basic drawing elements • MEM30033A Use computer-aided design (CAD) to create and display 3-D models* (pre-requisite MEM30031A) • MSMENV272 Participate in environmentally sustainable work practices • MSMENV472 Implement and monitor environmentally sustainable work practices • MSS015002 Develop strategies for more sustainable use of resources • MSS402030 Apply cost factors to work practices • MSS403030 Improve cost factors in work practices • MSS404050 Undertake process capability improvements • MSS404052 Apply statistics to processes in manufacturing • MSS405031 Undertake value analysis of product costs in terms of customer requirements • PSPPCM008 Manage contract performance • PSPPCM011 Plan to manage a contract
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