



Manufacturing and Engineering Training Package

Release 2

Case for Endorsement

August 2017

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Prepared on behalf of the Manufacturing and Engineering IRC for the Australian Industry and Skills Committee (AISC)



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Required information

A. Administrative details of the Case for Endorsement

The name of the Industry Reference Committee (IRC) that is representing this Case for Endorsement, is the Manufacturing and Engineering IRC.

The name of the Skills Service Organisation (SSO) that is submitting this Case for Endorsement on behalf of the Manufacturing and Engineering IRC is IBSA Manufacturing SSO.

The Manufacturing and Engineering Training Package, MEM, Release 2 incorporates 18 qualifications and 457 units of competence which are detailed in Appendix A.

The reference number for this Case for Endorsement is IBSA/AA/2017-18/002.

B. Description of work and request for approval

This submission covers revised and new qualifications for the MEM trade and production qualifications, transitioning qualifications that are currently available in MEM05.

The MEM Manufacturing Training Package was developed as a parallel Training Package to MEM05 Metal and Engineering Training Package. It will ultimately fully replace MEM05 when the revision of the MEM technical qualifications is finalised.

The following components are submitted for endorsement:

- Eighteen (18) qualifications
- Four hundred and fifty-seven (457) units of competency

Please refer to Appendix A for a complete list and mapping of the endorsed components, credit arrangements and modification history. The final draft qualifications and units of competency have been transferred to the Training Package Content Management System.

C. Evidence of Industry support

From 2013 to 2015, MSA Training Package development work was overseen by a high-level MSA Board Sub-Committee made up of major stakeholders. The MSA Board Sub-Committee's role was to oversight the development process and provide input and advice, where necessary, relevant to their area of expertise.

Terms of reference for Board Sub-Committees were to:

- Assist in the identification of stakeholders to be consulted for the project
- Identify and assist in the resolution of industry issues in relation to strategic objectives of MSA's projects
- Provide industry input and advice on:
 - Industrial issues
 - Training and assessment issues
 - Priority areas for industry skills development
 - Appropriate methods for collection, collation and consolidation of industry information
 - Validity of the content of project outcomes

- Provide feedback on MSA’s development work undertaken for the area covered
- Exchange information as appropriate between MSA, industry and other relevant professional groups covered
- Provide feedback on the project development work for the area of interest
- Make recommendations to the MSA Board on acceptance of the product of the project.

The individuals and enterprises/organisations represented on the MEM Board Sub-Committee from 2013-2015 are listed below:

Name	Enterprise/organisation
Ian Curry (Chair)	Australian Manufacturing Workers Union
Megan Lilly	Australian Industry Group
Alex Stanojevic	Australian Industry Group
Paul Kennett	Industry consultant
Dave Hicks	Engineering and Automotive Training Council, WA
Matt Murphy	Communications, Electrical, Plumbing Union
Michael Grogan	Sutton Tools

The members of the above committee represent major industry stakeholders in this sector, providing a conduit to expert technical advice and high-level support.

From January 2016, the MSA committee became the interim Manufacturing and Engineering Industry Reference Committee (IRC). The structure and membership of this IRC is scheduled for review in 2017.

At the same time, management of the MEM project was undertaken by Fraser Nelson, MSA Industry Liaison Officer.

Membership of the IRC changed during the course of 2016, with the current members shown in the following table.

Name	Enterprise/organisation
Ian Curry (Chair)	Australian Manufacturing Workers Union
David Tiller	Australian Industry Group
Matt Murphy	Communications, Electrical, Plumbing Union
Michael Grogan	Advanced Manufacturing Growth Centre

From March 2017, MSA transferred the incomplete project to IBSA Manufacturing while the interim Manufacturing and Engineering IRC continued to oversee and manage the project.

Consultations during the development and revision of units of competency and qualifications during the period December 2013 – February 2017 were undertaken with:

- Technical industry experts
- Relevant industry associations and their members
- Unions
- Representatives of public and private Registered Training Organisations (RTOs) who offer the current units of competency and qualifications already and/or are intending to deliver the new units of competency
- Major industry stakeholders.

Consultation was through a combination of face-to-face forums, online web-based contact, webinars and social media, with expert input sought and obtained for the specific needs of the project.

Existing units of competency were revised with input from technical experts and experienced assessment specialists. Specialist groups were established to review the revised units and new Assessment Requirements.

Through the 2014-2015 conversion and redevelopment phase, drafts were made available on the MSA website for validation and stakeholders were advised by email about how to access the site and provide feedback. This included industry stakeholders listed on the MSA database, State and Territory Industry Training Advisory Bodies (ITABs), State and Territory Training Authorities (STAs) and Vocational Educational and Training (VET) Regulators.

During this period feedback was reviewed and changes were incorporated in the draft materials. All draft materials remained available for ongoing feedback into 2016.

From July 2016, MSA worked closely with representatives of the AMWU and Australian Industry Group to review draft materials in preparation for finalisation of the endorsed components.

The following individuals and organisations participated in the development process. The great value of their expertise and input is gratefully acknowledged.

Expertise input group participants

First Name	Family Name	Organisation	State
Ian	Curry	Australian Manufacturing Workers' Union	SA
David	Tiller	Australian Industry Group	NSW
Alex	Stanojevic	Australian Industry Group	QLD
Paul	Baxter	Australian Manufacturing Workers' Union	QLD

Technical reference group participants

First Name	Family Name	Organisation	State
George	Adda	CMM- Engineering Industries	VIC
Luke	Alao	Swinburne University of Technology	VIC
Wayne	Allan	Department of Defence	ACT
Chris	Amos	Hastings Deering	QLD
Phil	Angel	TAFE Riverina	NSW
Lucas	Archer	South Western Sydney Institute of TAFE	NSW
David	Baer	Northern Sydney Institute of TAFE	NSW
Paul	Barry	Caterpillar Underground Mining Pty Ltd	TAS
Paul	Baxter	Manufacturing Industry Skills Training and Assessment Services	QLD
Stephen	Beath	TAFE Western	NSW
Graham	Behrendorff	Locksmiths Guild of Australia	National
Phill	Bovis	Kangan Institute	VIC
Aaron	Boyd	SkillsTech	QLD
Keith	Brown	Department of Defence Army	VIC
Mark	Bullock	NMIT	VIC

First Name	Family Name	Organisation	State
Daniel	Burcombe	GippsTAFE	VIC
Bruce	Burt	Dalby State High School	QLD
Rohan	Butler	The Gordon Institute of TAFE Geelong.	VIC
Michael	Byers	TasTAFE	TAS
Guy	Camilleri	SkillsTech Australia	QLD
Chris	Cheater	Wodonga Institute of TAFE	VIC
Naresh	Chugh	Bonnyrigg High School	NSW
Andrew	Connell	Kangan Institute	VIC
Graham	Creed	TAFE SA	SA
Denis	Crowley	CMM- Engineering Industries	VIC
Nathan	Cryer	Northern Melbourne Institute of TAFE	VIC
Gina	Danaia	Rio Tinto Iron Ore	WA
Stephen	Davies	TAFE NSW - Industry Skills Unit (ISU)	NSW
Tony	Davis	Victoria University	VIC
James	Dawes	CAJE Jewellers	NSW
Doug	De Cean	O-I Australia	NSW
Nick & Leasa	de Klerk	de Klerk and Pinn Jewellers PTY. LTD	NSW
Lyndon	Deane	Hastings Deering (Australia) Pty Ltd	QLD
Paul	Delaney	Swinburne University of Technology	VIC
Peter	Dickinson	DMS Services	VIC
Peter	Dimond	ALS Industrial	NSW
Brad	Diplock	Training Prospects	SA
Leon	Drury	MSA NSW ITAB	NSW
Bruce	Dunn	Hunter Institute of TAFE	NSW
Mark	Earnshaw	Kawana Waters State College	QLD
John	Edwards	TECNQ	QLD
Helen	Einstein	Jeff Einstein Jewellery	NSW
Heidi	Fabian	Academy of Jewellery Manufacture & Design	SA
Len	Farren	Mount Isa Institute of TAFE	QLD
John	Farrow	Goulburn Ovens Institute of TAFE	VIC
Kirsten	Ferguson	Blessington Pty Ltd	NSW
Cliff	Forrester	Fortec Security	QLD
Stephen	Foster	Goulburn Ovens Institute of TAFE	VIC
Kirk	Franks	Sydney Institute of TAFE	NSW
Richard	Griffiths	North Coast TAFE	NSW
Paul	Guntley	Western Sydney Institute of TAFE	NSW
Elizabeth	Hellenpach	Western Sydney Institute of TAFE	NSW
Wayne	Herd	Tam Training and Assessment Mentor	QLD
Stephen	Herring	Careers Australia	QLD
Noel	Higginbotham	N & J Computing Services	QLD
Peter	Hiosan	Pilbara Institute	WA
Leanne	Hixon	QMI Solutions	QLD
Toni	Hoyle	Industry Training & Workplace Services	WA
Karen	Humphreys	Hunter Institute of TAFE	NSW
Heath	Hutcheon	Coolamon Steelworks	NSW
Ken	Jefferies	SkillsTech Australia	QLD

First Name	Family Name	Organisation	State
Daniel	Jenkins	Careers Australia	QLD
Mark	Johnson	Careers Australia	QLD
Peter	Johnson	Master Locksmiths Association	National
Stephen	Johnson	TAFE NSW - Industry Skills Unit (ISU)	NSW
Ted	Johnson	South Western Sydney Institute of TAFE	NSW
Tony	Johnson	Training Prospects	SA
Alan	Kay	Kangan Institute	VIC
Peter	Keep	Central Institute of Technology	WA
Gordon	Kelso	Carter Holt Harvey	VIC
Andrew	Key	South Western Sydney Institute of TAFE	NSW
Kodanda	Kottampally	Box Hill Institute	VIC
Peter	Lausberg	Queensland Studies Authority - VET Branch	QLD
Mark	Lester	Challenger Institute of Technology	WA
Ross	Lidbury	Hunter Institute of TAFE	NSW
Phil	Lowe	Wodonga TAFE	VIC
Ricky	Luke	Manufacturing Industry Skills Training and Assessment Services	QLD
Geoff	Manton	SMA Australia	NSW
Ian	McDonald	Challenger Institute of Technology	WA
Steven	McMahon	CIT	ACT
Pani	Meda	TAFE SA	SA
Scott	Mengel	Defence	ACT
Julie	Micallef	Polytechnic West	WA
John	Miles	Guilford Young College	TAS
Grant	Mills	Blue Dog Training	QLD
Jason	Morgan	TAFE NSW	NSW
Wayne	Morris	South Western Sydney Institute of TAFE	NSW
Peter	Munn	Oz Assess	WA
Joe	Naidoo	SkillsTech Australia	QLD
John	O' Neill	Sandvik Mining	NSW
Jeff	OHalloran	Polytechnic West	WA
Peter	O'Reilly	Hunter Institute of TAFE	NSW
Susan	Pardel	South Western Sydney Institute of TAFE	NSW
Dave	Peall	Axial	QLD
Dr Gita	Pendharkar	RMIT	VIC
Hashim	Poonawala	SKF Australia	VIC
Kyle	Probert	APT Training	NSW
Noel	Ramsden	Edwin Ramsden Pty Ltd T/AS Miranne Jewellers	NSW
Ray	Ransome	Engineering Technical & Training Services	QLD
Paul	Regan	DTWD WA	WA
Adrian	Reivers	Kangan Institute	VIC
Chris	Richardson	Southern Queensland Institute of TAFE	QLD
Amy	Robson	Amy Robson Jewellery	NSW
Phil	Ronald	The Bloomfield Group	NSW
Charlotte	Rose	Custom Fluid Power	QLD

First Name	Family Name	Organisation	State
Peter	Rundle-Curry	Process Automation Learning Services (PALS)	QLD
Anthony	Ryan	TasTAFE	TAS
Peter	Saffo	Saffo Jewellery	NSW
Eric	Sandberg	Victoria University	VIC
Michael	Sanders	Holmesglen Institute	VIC
Peter	Schreiner	University of Ballarat	VIC
David	Scott	Victoria University	VIC
Peter	Sheehan	GippsTAFE	VIC
Graham	Smith	Chisholm Institute	VIC
Les	Smith	Hunter Institute of TAFE	NSW
Ashley	Spain	Emerald State High School	QLD
Stephen	Spence	Polytechnic West	WA
Mitch	Spooner	Northern Sydney Institute of TAFE	NSW
Simon	Stanning	Polytechnic West	WA
John	Stathakis	South Western Sydney Institute of TAFE	NSW
Raven	Steadman	Axial Training	QLD
Laura	Steedman	Air Conditioning and Mechanical Contractors Association	VIC, ACT, NSW, QLD
Christine	Stephens	The City of Newcastle	NSW
Simon	Taylor	Gold Coast Institute of TAFE	QLD
Wayne	Theisenger	NMIT	VIC
Ashley	Tilley	TAFE SA	SA
Keith	Tonkies	SkillsTech Australia	QLD
Mark	Topliss	ALS Industrial	NSW
Cathie	Usher	Chisholm Institute	VIC
Shayne	van der Heide	CLB Training & Development	VIC
John	Verner	MISTAS	VIC
John	Waghorn	Challenger Institute of Technology	WA
Rod	Wallace	Western Sydney Institute of TAFE	NSW
Gary	Walsh	Sunraysia Institute of TAFE	VIC
Murray	Warren	Polytechnic West	WA
Darren	Wiggins	Bureau Veritas Asset Integrity and Reliability Services	NSW
John	Williams	Australian Pacific Training College	QLD
John	Williams	SkillsTech Australia	QLD
David	Wilson	Chisholm Institute	VIC
Mark	Wilson	Sydney Institute of TAFE	NSW
Jim	Wolf	TAFE SA	SA
Eddy	Zussa	South Western Sydney Institute of TAFE	NSW

Consultations with State Training Authorities (STAs) were undertaken in August 2017 and made available on VETNet for two weeks.

The following STA personnel were provided with drafts of the Case for Endorsement, Companion Volume Implementation Guide and training package components:

STA Personnel

<u>First Name</u>	<u>Family Name</u>	<u>Organisation</u>	<u>State</u>
Jodie	Kafer	ACT Chief Minister, Treasury and Economic Development Directorate	ACT
Nelson	Brown	Department of Business	NT
Howard	Lai	Department of Business	NT
Lee	Carter	Department of Education and Training	VIC
Marina	Borrello	Department of State Development	SA
Lisa	Barron	Department of Training and Workforce Development	WA
Marilyn	Ng	NSW Department of Industry	NSW
Guy	Valentine	Strategic Engagement Skills Investment and Market Strategy Department of Education and Training	QLD
Stuart	Hollingsworth	Skills Tasmania	TAS

Feedback and expressed competing views were dealt with through consultation and the outcomes were approved in IRC meetings. As such there are no cases for exception resulting from this Case for Endorsement.

The scoping reports for the redevelopment of the MEM05 Metal and Engineering Training Package indicated that there was no requirement for a major structural change to either units or qualifications. In fact, there was strong support for the current structures, but many suggestions for additional explanatory and guidance materials to assist users to better understand the application of units and qualifications. The revised units and expanded range of qualifications reflect current and projected industry skills recognition and training needs.

Throughout the conversion and development process there have been extensive presentations and consultation with key stakeholders (including training providers) in all Australian States and Territories. Presentations, forums and workshops were conducted in the following locations throughout 2014, 2015 and 2016, presenting proposed changes and changes as outlined in the transition requirements.

Key stakeholder engagement

2014		
Jan	Acacia Ridge	QLD
Feb	Bracken Ridge	QLD
Feb	Terrigal	NSW
Feb	Wollongbar	NSW
Mar	Adamstown	NSW
Mar	Kurri Kurri	NSW
April	Preston	VIC
April	Liverpool	NSW
April	Casuarina	NT
April	Eight Mile Plains	QLD
May	Dandenong	VIC
May	Regency Park	SA
May	Rosewater	SA
May	Granville	NSW
May	Newcastle	NSW
May	Orange	NSW
May	Wagga Wagga	NSW
May	Tamworth	NSW
June	Toowoomba	QLD
June	Townsville	QLD
June	Cairns	QLD
June	Osborne Park	WA
June	Malaga	WA
June	Wetherill Park	NSW
July	North Melbourne	VIC
July	Wollongong	NSW
Aug	Traralgon	VIC
Aug	Box Hill	VIC
Sept	Ultimo	NSW
Sept	Acacia Ridge	QLD
Sept	Melbourne	VIC
Sept	Main Beach	QLD
Oct	West Melton	VIC
Oct	North Melbourne	VIC
Nov	Acacia Ridge	QLD
Nov	Hunter Region	NSW
Nov	Townsville Region	QLD
Dec	Fyswick	ACT

2015		
Jan	Milton	QLD
Jan	North Melbourne	VIC
Jan	Ultimo	NSW
Jan	Enmore	NSW
Jan	St Leonards	NSW
Feb	Adelaide Region	SA
Feb	Newham	TAS
Feb	Crows Nest	NSW
Feb	Tamworth	NSW
Feb	Osborne Park	WA
Feb	Midland	WA
Feb	Rockingham	WA
Feb	Perth Region	WA
Mar	Bruce	ACT
Mar	Wollongong	NSW
Mar	Heidelberg	VIC
Mar	Moree	NSW
April	Eagle Farm	QLD
April	Port Kembla	NSW
May	Moree	NSW
May	Kurri Kurri	NSW
May	North Sydney	NSW
June	Bayswater	VIC
June	Toowoomba	QLD
Aug	Bowen Hills	QLD
Aug	Acacia Ridge	QLD
Aug	Berwick	VIC
Aug	Gosford	NSW
Nov	Osborne Park	WA
Nov	Derwent Park	TAS
Nov	Hobart	TAS

2016		
Jan	Kingscliff	NSW
Feb	Springwood	QLD
Mar	Dandenong	VIC
Mar	Osborne Park	WA
April	Perth	WA
May	Regency Park	SA
May	Ringwood	VIC
May	North Sydney	NSW
June	Bilinga	QLD
June	Bendigo	VIC
June	Griffith	ACT
July	Geelong	VIC
July	Acacia Ridge	QLD
Aug	Melbourne	VIC
Aug	Pymble	NSW
Sept	Healesville	VIC
Sept	Emu Plains	NSW
Sept	Melbourne	VIC
Sept	Balcatta	WA
Oct	Townsville	QLD
Oct	Belmont	WA
Oct	Wollongong	NSW
Nov	Wodonga	VIC
Nov	Wangarratta	VIC
Nov	North Wollongong	NSW
Nov	Darwin	NT
Dec	North Sydney	NSW

D. Industry expectations about training delivery

MEM05 is the basis for directly determining the classification and pay of persons employed under the terms of the Manufacturing and Associated Industries and Occupations Award 2010 and related Awards and Certified Agreements and as such, industry expects people holding MEM05 qualifications and units of competence to be competent in the workplace. The MEM training package will be this basis as it supersedes MEM05. The direct alignment with classification and pay arrangements dates back to decisions made by the Australian Industrial Relations Commission in 1990 and predates the emergence of contemporary Training Packages in 1998.

All qualifications are competency based and as such can be achieved through a formal skills recognition process that could conceivably result in no gap training being required. Where formal training is required, competence will be realised through a combination of on and off the job skills and knowledge development.

A number of critical qualifications associated with key trades and vocations contain directions in the Application that reflect the proper application of the qualification, as the following examples indicate:

“This qualification must be undertaken through a Training Contract associated with an Australian Trade Apprenticeship or through formal trade recognition.”

Or

“This qualification must not be used as a pre-employment or pre-apprenticeship program. It is specifically designed to cover the skills and knowledge required of workers employed as Engineering/Manufacturing Employees - Level IV as defined in the Manufacturing and Associated Industries and Occupation Award. It must not be undertaken by school students unless they are formally engaged in a Training Contract associated with an Australian Traineeship. “

These statements contain critical information about the intended purpose of the qualification and are necessary to ensure that the occupational outcome associated with the qualifications meets the industry definitions for the respective trades/vocations as contained in the Award, and that the qualifications are used for their intended purpose.

The use of Certificate III level Trade qualifications as either VET in Schools programs or fully institutional programs is inappropriate and it is the clear intention of industry that these qualifications not be used outside an apprenticeship or formal trade recognition process.

Consigning that statement to a non-endorsed Companion Volume would frustrate the legitimate objectives of industry and potentially diminish the integrity of the qualifications themselves.

The use of Certificate II and III production qualifications designed to meet the needs of skilled workers employed in sophisticated manufacturing environments as pre-employment or pre-apprenticeship programs is equally inappropriate.

E. Implementation of the new training packages

The flexibility of the MEM Manufacturing and Engineering Training Package enhances opportunities for employment and mobility for trade and production employees across many industry sectors. Currently, the MEM Manufacturing and Engineering Training Package addresses the training and skills recognition needs of workers in critical manufacturing/engineering, trade and technical occupations in manufacturing, including meeting the skill needs of the resources and many other sectors. The key trade and other occupational outcomes served by the MEM Manufacturing and Engineering Training Package

remain broadly dispersed throughout the economy and the package supports this broad employment distribution.

It is envisaged there will be no, or at worst case only minor, implementation issues.

In some cases, certain units of competency and qualifications contain content that, whilst capable of being interpreted as inconsistent with the Standards for Training Packages, is necessary given the importance of the direct association between competency and skills related pay structures contained in key industrial instruments including Awards and Certified Agreements.

The content in question is designed to give unambiguous and enforceable direction to users of the Training Package about how the unit or qualification is intended to be applied in order to ensure that duplication is minimised, skills pathways are not compromised and that unit selection is appropriate from an industrial outcome perspective.

For example, some of the units and qualifications contain directions in relation to the application of the units and/or qualifications that are required to ensure that they are applied as intended and in a manner that is consistent with longstanding industrial arrangements. The nature of the direction takes a number of forms.

1. Directions that limit the scope of a unit and make clear what the unit does or does not cover:

For example, unit MEM05011 Assemble fabricated components contains a statement in the application:

“Where skills for the assembly of fabricated engineering components are required unit MEM18006 should also be selected”

This statement is required to ensure that proper consideration is given to the selection of critical additional units in the selection of the primary unit under consideration. The statement gives coherence to the application of the principal unit by indicating that the:

‘skills for the assembly of fabricated engineering components’ are not covered by the unit.

2. Directions that prevent inappropriate selections or duplication of units

Alternatively, some units contain statements with the reverse effect, which is to advise that certain units should not be selected together as they effectively duplicate much of their content but from the perspective of different vocational fields, i.e. Production Machining units should not be selected with Trade Level Machining units as they are designed for specifically different applications.

For example, the application of Unit MEM07001 Perform operational maintenance of machines/equipment contains directions that:

“This unit of competency defines the skills and knowledge required to carry out programmed safety and maintenance checks on machines/equipment.

It applies in a manufacturing setting where routine programmed operational maintenance to machines/equipment is required. It is not intended to be used where higher level maintenance activities are performed.

This unit should not be selected when any of the following are selected:

- MEM18055 Dismantle, replace and assemble engineering components

- MEM18006 Repair and fit engineering components
- MEM07005 Perform general machining.”

This direction is necessary where experience indicates that users often inadvertently package inappropriate units together or fail to select critical units required to reflect the totality of the skills required where the unit in question is not specifically designated as a prerequisite. This can occur when the user assumes that certain contingent applications are covered by a unit when in fact they are not and require the selection of additional units.

This information has been included in previous iterations of the training package and provides crucial practical information to the many non-training provider users who rely on the training package, including employers, workers and industry regulators who are used to dealing with information like this. Experience shows that these users are unlikely to access the Companion Volume for information of this type.

Not including this information in the training package could have significant flow-on effects for industry, with the wrong unit of competency being chosen for the circumstances, a critical unit of competency not being included when it should be included, or additional units being undertaken unnecessarily. This has significant pay and classification implications for both workers and employers and clear direction is required to mitigate that risk.

3. Directions in relation to licencing to ensure that users are aware that licencing requirements vary from jurisdiction to jurisdiction and that elective unit choice can affect licencing arrangements.

Regulatory requirements associated with some qualifications are contingent on either the nature of the work being performed or elective unit choices in some circumstances.

For example, in New South Wales certain metal fabrication work is subject to regulatory requirements which is not the case in other jurisdictions. There are licensing requirements associated with the qualification, however not all work associated with the qualification is licensed.

This means that two people holding the same qualification could be subject to different regulatory impact due simply to the elective unit choice and the nature of the work they perform.

It is for this reason that additional advice in relation to regulatory requirements is contained at both the unit of competency level and the qualification level.

The trade and production qualifications included in MEM Release 2 are all designated to be undertaken through either a formal Training Contract associated with an Australian Trade Apprenticeship or Traineeship or through formal skills recognition where substantial industry experience is evident. Work placement and experience is either a component of the Training Contracts or a component of the evidence for the skills recognition process.

There are six (6) units available in MEM05 qualifications that are not being carried forward into MEM Release 2. All six (6) units have been superseded/replaced by new units. There is no overall impact on funding or qualification requirements as a result of these changes.

There are no qualification deletions. Any qualification in MEM05 that is not included in either Release 1 or Release 2 of MEM will remain current in MEM05 until the transition work is completed. There are four (4) trade qualifications, Certificate III in Refrigeration and Air Conditioning (HVAC), Certificate III in

Engineering – Fixed and Mobile Plant Mechanic, Certificate III in Engineering – Toolmaking Trade and Certificate III in Engineering – Casting and Moulding Trade that were available in MEM05 as specialisations in the Mechanical and Fabrication Trade streams. These 4 qualifications have been developed as stand-alone qualifications in response to industry requests. State/Territory jurisdictions will need to adjust their apprenticeship documentation to reflect these changes. There will be minimal changes to funding arrangements as the specialisations were previously available.

F. Editorial assurance reports

The following editorial report was undertaken by an independent editor.

Section 1 – Details of draft training package components

Information required	Detail
Training Package title and code	MEM Manufacturing and Engineering Training Package (Release 2)
Number of new or revised qualifications	Eighteen (18) new qualifications
Number of new or revised units of competency	Four hundred and fifty seven (457) new units of competency
Confirmation that the draft endorsed components meet the requirements in Section 2	All draft endorsed components were edited against the Standards for Training Packages. All components comply with the Standards for Training Package Development and meet the requirements as outlined in Section 2. MEM Manufacturing Training Package consists of all required endorsed components and a quality assured Companion Volume Implementation Guide has been provided.
Person completing the Editorial Report and organisation. ¹	Trish Gamper (Gamper Consulting Services)
Date completed	26 February 2017

¹ Persons not a member of the panel are required to provide the following additional information: demonstrated experience in editing technical and industry publications, preferably including education and/or training; demonstrated commitment by the applicant to ongoing professional development; details of relevant qualifications and/or professional membership(s).

Section 2 – Editorial checklist of draft training package components

Editorial Requirements	Comments	SSO comments
<p>Draft endorsed components have been proofread and edited against the <i>Standards for Training Packages 2012</i>, the <i>Training Package Products Policy</i> and the <i>Training Package Development and Endorsement Process Policy</i> by the SSO/developer prior to the formal Editorial review.</p>	<p>Draft endorsed components were proof read by MSA and final editorial review against the Standards and Training Package policies conducted by Trish Gamper.</p>	

The standards for training packages

Training packages – products

Editorial Requirements	Comments	SSO comments
<p>Standard 1: Training Packages consist of the following:</p> <ol style="list-style-type: none"> 1. AISC endorsed components: <ul style="list-style-type: none"> • units of competency • assessment requirements (associated with each unit of competency) • qualifications • credit arrangements. 2. One or more quality assured companion volumes. 	<p>MEM Manufacturing and Engineering Training Package consists of all AISC endorsed components, including units of competency and associated assessment requirements, qualifications and a quality assured Companion Volume Implementation Guide.</p> <p>At the time of endorsement of this Training Package no national credit arrangements exist.</p>	

Training Packages - Policy

Editorial Requirements	Comments	SSO comments
<p>Standard 2: Training Package developers comply with the Training Package Products Policy.</p>	<p>The development of MEM Manufacturing and Engineering Training Package complies with the AISC Training Package Products Policy.</p> <p>The Training Package has the required code and title. It provides flexible qualifications and pathways and contains appropriate advice on foundation skills.</p> <p>Units of competency have required codes and titles, imported units of competency have been checked against TGA to ensure they are current, and each unit of competency has been mapped for equivalence against previous units.</p> <p>Qualifications have the required codes and titles. Each qualification has been clearly mapped to previous versions. Relevant pathways advice and occupational outcomes are clearly described in the Companion Volume Implementation Guide.</p> <p>Pathways advice has been provided in the Companion Volume Implementation Guide.</p>	

Editorial Requirements	Comments	SSO comments
<p>Standard 3: Training Package developers comply with the AISC Training Package Development and Endorsement Process Policy.</p>	<p>The Case for Endorsement clearly outlines the development process for MEM Manufacturing and Engineering Training Package. The consultation and validation process for development of MEM Manufacturing and Engineering Training Package and final approval for the endorsed components has been undertaken in accordance with the TP Development and Endorsement Process Policy.</p>	

Training Packages – Components

Units of competency

Editorial Requirements	Comments	SSO comments
<p>Standard 4: Units of competency specify the standards of performance required in the workplace.</p>	<p>All units of competency specify the standards of performance required in the workplace. Units are written clearly and are consistent across the industry sector.</p>	
<p>Standard 5: The structure of units of competency complies with the unit of competency template.</p>	<p>The structure of units of competency complies with the unit of competency template and all components are included.</p>	

Assessment Requirements

Editorial Requirements	Comments	SSO comments
<p>Standard 6: Assessment requirements specify the evidence and required conditions for assessment.</p>	<p>Assessment requirements for all units of competency specify the evidence and required conditions for assessment.</p> <p>Performance evidence clearly identifies the required frequency and/or volume of evidence required, and directly relate to the unit of competency. Aspects of evidence that did not relate to the unit were queried with the developer and corrected as necessary.</p> <p>Knowledge evidence clearly specifies the required knowledge a candidate would need in order to achieve competency. Queries relating to the depth of knowledge required for particular units were forwarded to the developer for clarification/confirmation.</p> <p>All units of competency contain clear and specific assessment conditions, including assessor requirements, conditions for assessment, and the required access to tools, materials and equipment necessary for assessment of the unit.</p>	

Editorial Requirements	Comments	SSO comments
Standard 7: Every unit of competency has associated assessment requirements. The structure of assessment requirements complies with the assessment requirements template.	Provide brief commentary on whether the draft endorsed components meet each of the Editorial Requirements/Standards for Training Packages Every unit of competency has associated assessment requirements. The structure of the assessment requirements complies with the required template.	

Qualifications

Editorial Requirements	Comments	SSO comments
Standard 8: Qualifications comply with the Australian Qualifications Framework specification for that qualification type.	Provide brief commentary on whether the draft endorsed components meet each of the Editorial Requirements/Standards for Training Packages All qualifications comply with the AQF specification for the qualification type. Qualification descriptors are cross-referenced with the AQF descriptors in the Companion Volume Implementation Guide and contain volume of learning.	
Standard 9: The structure of the information for the Australian Qualifications Framework qualification complies with the qualification template.	The structure of all qualifications complies with the required qualification template. They contain correct codes and titles, and provide clear descriptors of the required outcomes, including required licensing, legislative or certification requirements, where necessary. All qualifications have clear and appropriate packaging rules that specify the total number of units required, including	

Editorial Requirements	Comments	SSO comments
	<p>Provide brief commentary on whether the draft endorsed components meet each of the Editorial Requirements/Standards for Training Packages</p> <p>core and elective units. Core and elective units are listed and were checked against the unit list provided in the Case for Endorsement. Units containing prerequisites were checked against the list of units contained in the Companion Volume Implementation Guide.</p> <p>All qualifications have been mapped to previous qualifications, where necessary, and contain links to the Companion Volume Implementation Guide.</p>	

Credit Arrangements

Editorial Requirements	Comments	SSO comments
<p>Standard 10: Credit arrangements existing between Training Package qualifications and Higher Education qualifications are listed in a format that complies with the credit arrangements template.</p>	<p>At the time of endorsement of this Training Package no national credit arrangements exist.</p>	

Companion Volumes

Editorial Requirements	Comments	SSO comments
<p>Standard 11: A quality assured companion volume implementation guide produced by the Training Package developer is available at the time of endorsement and complies with the companion volume implementation guide template.</p>	<p>Provide brief commentary on whether the draft endorsed components meet each of the Editorial Requirements/Standards for Training Packages</p> <p>A quality assured Companion Volume Implementation Guide was provided and edited concurrently with the Training Package. It will be available on the developer’s website at the time of endorsement and complies with the required template. It contains a detailed overview of the Training Package, including a full list of qualifications and units of competency, a detailed mapping of qualifications and units of competency, including equivalence, and imported units of competency.</p> <p>It also contains detailed work and training outcomes and regulation and licensing implications, where they are required. Implementation advice is provided, including impacts, pathways information, and access and equity considerations.</p> <p>A detailed table is provided outlining foundation skills essential to competent performance in every unit of competency.</p> <p>The SSO provided evidence of their internal quality assurance process for development of the Implementation Guide.</p>	

Editorial Requirements	Comments	SSO comments
Standard 12: Training Package developers produce other quality assured companion volumes to meet the needs of their stakeholders as required.	NA	

Other

Editorial Requirements	Comments	SSO comments
<p>Unit codes and titles and qualification codes and titles are accurately cross-referenced throughout the templates including mapping information and packaging rules, and in the <i>companion volume implementation guide</i>.</p>	<p>All unit and qualification codes and titles have been cross-referenced throughout the editorial review. They have been checked against the mapping information, packaging rules and unit lists in the Companion Volume Implementation Guide. Minor corrections to titles were made, where necessary, and all imported unit codes and titles were cross-referenced with TGA to ensure the latest version was included.</p>	
<p>Units of competency and their content are inserted in full, including any imported units of competency</p>	<p>All MEM Manufacturing and Engineering Training Package units of competency were provided for editing.</p> <p>All units and imported units will be available in full when published on TGA.</p>	

G. Equity assurance reports

The following equity report was undertaken by Manufacturing Skills Australia.

Section 1 – Details of draft training package components

Information required	Detail
Training Package title and code	MEM Manufacturing and Engineering Training Package – Release 2
Number of new or revised qualifications	18 qualifications
Number of new or revised units of competency	457 MEM new units of competency
Confirmation that the draft endorsed components meet the requirements in Section 2	<p>The draft endorsed components meet the requirements in Section 2 and comply with the NSSC Access and Equity Policy as set out in the Training Package Products Policy, namely:</p> <ul style="list-style-type: none"> • Training Package developers, and the Australian Industry and Skills Committee (AISC) in endorsing Training Packages, must meet their obligations under Commonwealth anti-discrimination legislation and associated standards and regulations. • Training Package developers must ensure that Training Packages are flexible and that they provide guidance and recommendations to enable reasonable adjustments in implementation.
Person completing the Equity Report and organisation. ¹	<p>Barbara Wallace, Manufacturing Skills Australia</p> <p>Equity experience: 20 years' experience in development of training products and working in the industry training advisory industry.</p>
Date completed	17 February 2017

¹ Persons not a member of the Training Package Quality Assurance Panel are required to provide the following additional information: demonstrated experience in analysis of equity issues in the training or educational context; demonstrated understanding of vocational education and training; demonstrated commitment by the person to ongoing professional development; details of relevant qualifications and/or professional membership(s).

Section 2 – Equity checklist of draft training package components

Equity requirements	Equity reviewer comments Provide brief commentary on whether the draft endorsed components meet each of the equity requirements	SSO comments
Draft endorsed components comply with the Training Package Products Policy (see Training Package Standard 2).	Yes. see edit report.	

Training Package Quality Principles

Quality Principle 4

Be flexible to meet the diversity of individual and employer needs, including the capacity to adapt to changing job roles and workplaces.

Key features

Do the units of competency meet the diversity of individual and employer needs and support equitable access and progression of learners.

What evidence demonstrates that the units of competency and their associated assessment requirements are clearly written and have consistent breadth and depth so that they support implementation across a range of settings?

Are there other examples that demonstrate how the key features of flexibility are being achieved?

Equity requirements	Equity reviewer comments Provide brief commentary on whether the draft endorsed components meet each of the equity requirements	SSO comments
1. What evidence demonstrates that the draft components provide flexible qualifications that enable application in different contexts?	The MEM qualifications have clear and appropriate packaging rules. There is a clear link between qualifications and pathways information has been clearly identified in the Companion Volume Implementation Guide.	

Equity requirements	Equity reviewer comments Provide brief commentary on whether the draft endorsed components meet each of the equity requirements	SSO comments
	<p>Within the draft qualifications, the units of competency that support employment in the different sectors are clearly identified. Where a qualification includes a specific specialisation, the units needed to be undertaken to achieve that specialisation are clearly identified and explicit instruction is provided.</p>	
<p>2. Is there evidence of multiple entry and exit points?</p>	<p>Yes. The MEM R2 Companion Volume Implementation Guide provides clear guidance in relation to entry and exit points. There is also clear information in the qualifications themselves.</p>	
<p>3. Have pre requisite units of competency been minimised? Are there other examples of evidence that demonstrate how the key features of the flexibility principle are being achieved?</p>	<p>Yes. Prerequisite units of competency have been used only where essential to the building of skills.</p>	

Quality Principle 5

Facilitate **recognition** of an individual's skills and knowledge and support movement between the school, vocational education and higher education sectors.

Key features

Support learner transition between education sectors.

Equity requirements	Equity reviewer comments Provide brief commentary on whether the draft endorsed components meet each of the equity requirements	SSO comments
1. What evidence demonstrates pathways from entry and preparatory level as appropriate to facilitate movement between schools and VET, from entry level into work, and between VET and higher education qualifications?	In the MEM Companion Volume Implementation Guide there is a table which provides clear guidance on pathways from entry and preparatory level. All qualifications have direct entry pathways and have clearly defined occupational outcomes that are aligned with industry needs. Opportunity for progression to higher education is provided via Diploma and Advanced Diploma qualifications.	

Quality Principle 6

Support interpretation by training providers and others through the use of simple, **CONCISE LANGUAGE** and clear articulation of assessment requirements.

Key features

Support implementation across a range of settings and support sound assessment practices.

Units of competency are clearly written

Training Package components are compliant with the TGA/National Register requirements for publication.

Equity requirements	Equity reviewer comments Provide brief commentary on whether the draft endorsed components meet each of the equity requirements	SSO comments
<p>1. Does the Companion Volume Implementation Guide include advice about:</p> <ul style="list-style-type: none"> • Pathways • Access and equity • Foundation skills? <p>(see Training Package Standard 11)</p>	<p>The MEM Release 2 Companion Volume Implementation Guide provides specific guidance and advice on:</p> <ul style="list-style-type: none"> • choosing appropriate qualifications • career pathways • access and equity and reasonable adjustment • foundation skills. 	

Declaration

IBSA Manufacturing, the SSO for the Manufacturing and Engineering IRC, declares that the proposed training package component(s) meet the requirements of the *Standards for Training Packages 2012*, *Training Package Products Policy* and *Training Package Development and Endorsement Process Policy*.

Furthermore, IBSA Manufacturing, the SSO for the Manufacturing and Engineering IRC, declares that the Companion Volume Implementation Guide is available and has been quality assured.

H. Implementation of the COAG Industry Skills Council reforms to training packages

The transition to MEM Release 2 has eliminated obsolete, superfluous and/or duplicative qualifications or units.

Where training delivery is required, industry expects a combination of institutional and operational workplace development of skills and knowledge. Where access to an operational workplace is not possible because there are personal safety or possible environmental damage limiting factors, skills and knowledge development must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

A number of critical qualifications associated with key trades and vocations contain directions in the Application that reflect the application of the qualification.

These directions contain critical information about the intended purpose of the qualifications and are necessary to ensure that the occupational outcome associated with the qualifications meets the industry definitions for the respective trades/vocations as contained in the Award, and that the qualifications are used for their intended purpose.

The use of Certificate III level Trade qualifications as either VET in Schools programs or fully institutional programs is inappropriate and it is the clear intention of industry that these qualifications not be used outside an apprenticeship or formal trade recognition process.

Further, the use of Certificate II and III Production qualifications designed to meet the needs of skilled workers employed in sophisticated manufacturing environments as pre-employment or pre-apprenticeship programs is equally inappropriate.

All qualifications in the MEM Release 2 are designed with a significant consideration for upskilling, cross-skilling and skills transfer into related occupations. Every MEM Release 2 qualification articulates into higher AQF level qualifications and they contain units that are also in the other qualifications. Individuals can readily transfer between related occupations, cross-skill between related occupations and upskill to higher AQF level qualifications.

No MEM units of competence are developed exclusively for the manufacturing and engineering industries. All units can be accessed by any industry sector.

Recognition of skills already developed to industry standards is encouraged throughout the training package. There are industrial opportunities available to enable this to happen, not only in learning institutions but also in workplaces.

The training package development work assigned by the AISC, Order reference: IBSA/AA/2017-18/002, as outlined for MEM Release 2 is completed and copies of training package components will be provided to the AISC. All components will be loaded onto the Training Package Content Management System (TPCMS) in preparation for publication upon approval by the AISC.

I. A copy of the full content of the proposed training package component(s)

The AISC will be provided with a copy of the developed training package components to be approved under the Case for Endorsement.

Appendix A: Draft endorsed components

MEM Release 2 Qualifications – mapped to MEM05 Qualifications

Code	MEM Release 2 Title			Equivalence
MEM10117	Certificate I in Engineering	MEM10105	Certificate I in Engineering	Release 1. Not equivalent.
MEM20117	Certificate II in Engineering	MEM20105	Certificate II in Engineering	Release 1. Equivalent.
MEM20217	Certificate II in Engineering - Production Technology	MEM20205	Certificate II in Engineering - Production Technology	Release 1. Equivalent.
MEM30117	Certificate III in Engineering - Production Systems	MEM30105	Certificate III in Engineering - Production Systems	Release 1. Equivalent.
MEM30217	Certificate III in Engineering - Mechanical Trade	MEM30205	Certificate III in Engineering - Mechanical Trade	Release 1. Equivalent.
MEM30317	Certificate III in Engineering - Fabrication Trade	MEM30305	Certificate III in Engineering - Fabrication Trade	Release 1. Equivalent.
MEM30617	Certificate III in Jewellery Manufacture	MEM30605	Certificate III in Jewellery Manufacture	Release 1. Equivalent.
MEM30717	Certificate III in Marine Craft Construction	MEM30705	Certificate III in Marine Craft Construction	Release 1. Equivalent.
MEM30817	Certificate III in Locksmithing	MEM30805	Certificate III in Locksmithing	Release 1. Equivalent.
MEM30917	Certificate III in Boating Services	MEM30905	Certificate III in Boating Services	Release 1. Equivalent.
MEM31017	Certificate III in Watch and Clock Service and Repair	MEM31010	Certificate III in Watch and Clock Service and Repair	Release 1. Equivalent.
MEM31117	Certificate III in Engineering - Composites Trade	MEM31112	Certificate III in Engineering - Composites Trade	Release 1. Equivalent.
MEM31317	Certificate III in Refrigeration and Air conditioning (HVAC)	Release 1. No equivalent qualification		Release 1.

Code	MEM Release 2 Title			Equivalence
MEM31417	Certificate III in Engineering – Fixed and Mobile Plant Mechanic	Release 1. No equivalent qualification		Release 1.
MEM31517	Certificate III in Engineering – Toolmaking Trade	Release 1. No equivalent qualification		Release 1.
MEM31717	Certificate III in Engineering – Casting and Moulding Trade	Release 1. No equivalent qualification		Release 1.
MEM40117	Certificate IV in Engineering	MEM40105	Certificate IV in Engineering	Release 1. Equivalent.
MEM50117	Diploma of Engineering - Advanced Trade	MEM50105	Diploma of Engineering - Advanced Trade	Release 1. Equivalent.

MEM Release 2 Units of Competency – mapped to MEM05 Units of Competency

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM03001B	Perform manual production assembly	MEM03001	Perform manual production assembly	New format. Equivalent
MEM03002B	Perform precision assembly	MEM03002	Perform precision assembly	New format. Equivalent
MEM03003B	Perform sheet and plate assembly	MEM03003	Perform sheet and plate assembly	New format. Equivalent
MEM03004B	Perform electronic/electrical assembly (production)	MEM03004	Perform electronic/electrical assembly (production)	New format. Equivalent
MEM03005B	Rework and repair (electrical/electronic production)	MEM03005	Rework and repair (electrical/electronic production)	New format. Equivalent
MEM03006B	Set assembly stations	MEM03006	Set assembly stations	New format. Equivalent
MEM04001B	Operate melting furnaces	MEM04001	Operate melting furnaces	New format. Equivalent
MEM04002B	Perform gravity die casting	MEM04002	Perform gravity die casting	New format. Equivalent
MEM04003B	Operate pressure die casting machine	MEM04003	Operate pressure die casting machine	New format. Equivalent
MEM04004B	Prepare and mix sand for metal moulding	MEM04004	Prepare and mix sand for metal moulding	New format. Equivalent
MEM04006B	Operate sand moulding and core making machines	MEM04006	Operate sand moulding and core making machines	New format. Equivalent
MEM04007B	Pour molten metal	MEM04007	Pour molten metal	New format. Equivalent
MEM04008B	Fettle and trim metal castings/forgings	MEM04008	Fettle and trim metal castings/forgings	New format. Equivalent
MEM04010B	Develop and manufacture wood patterns	MEM04010	Develop and manufacture wood patterns	New format. Equivalent
MEM04011B	Produce polymer patterns	MEM04011	Produce polymer patterns	New format. Equivalent
MEM04012B	Assemble plated patterns	MEM04012	Assemble plated patterns	New format. Equivalent
MEM04013B	Develop and manufacture polystyrene patterns	MEM04013	Develop and manufacture polystyrene patterns	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM04014B	Develop and manufacture production patterns	MEM04014	Develop and manufacture production patterns	New format. Equivalent
MEM04015B	Develop and manufacture vacuum forming moulds and associated equipment	MEM04015	Develop and manufacture vacuum forming moulds and associated equipment	New format. Equivalent
MEM04016C	Develop and manufacture precision models	MEM04016	Develop and manufacture precision models	New format. Equivalent
MEM04017B	Develop and manufacture gear, conveyor screw and propeller patterns	MEM04017	Develop and manufacture gear, conveyor screw and propeller patterns	New format. Equivalent
MEM04018B	Perform general woodworking machine operations	MEM04018	Perform general woodworking machine operations	New format. Equivalent
MEM04019B	Perform refractory installation and repair	MEM04019	Perform refractory installation and repair	New format. Equivalent
MEM04020A	Supervise individual ferrous melting and casting operation	MEM04020	Supervise individual ferrous melting and casting operation	New format. Equivalent
MEM04021A	Supervise individual non-ferrous melting and casting operation	MEM04021	Supervise individual non-ferrous melting and casting operation	New format. Equivalent
MEM04022A	Examine appropriateness of methoding for mould design	MEM04022	Examine appropriateness of methoding for mould design	New format. Equivalent
MEM04023A	Undertake prescribed tests on foundry related materials	MEM04023	Undertake prescribed tests on foundry related materials	New format. Equivalent
		MEM04024	Produce moulds and cores by hand	New unit. Supersedes MEM04005C - not equivalent
		MEM04025	Produce moulds and cores by hand (advanced)	New unit. Supersedes MEM04005C - not equivalent.
MEM05001B	Perform manual soldering/desoldering -	MEM05001	Perform manual soldering/desoldering -	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
	electrical/electronic components		electrical/electronic components	
MEM05002B	Perform high reliability soldering and desoldering	MEM05002	Perform high reliability soldering and desoldering	New format. Equivalent
MEM05003B	Perform soft soldering	MEM05003	Perform soft soldering	New format. Equivalent
MEM05004C	Perform routine oxy acetylene welding	MEM05004	Perform routine oxy fuel gas welding	New title and format. Equivalent
MEM05005B	Carry out mechanical cutting	MEM05005	Carry out mechanical cutting	New format. Equivalent
MEM05006C	Perform brazing and or silver soldering	MEM05006	Perform brazing and or silver soldering	New format. Equivalent
MEM05007C	Perform manual heating and thermal cutting	MEM05007	Perform manual heating and thermal cutting	New format. Equivalent
MEM05008C	Perform advanced manual thermal cutting, gouging and shaping	MEM05008	Perform advanced manual thermal cutting, gouging and shaping	New format. Equivalent
MEM05009C	Perform automated thermal cutting	MEM05009	Perform automated thermal cutting	New format. Equivalent
MEM05010C	Apply fabrication, forming and shaping techniques	MEM05010	Apply fabrication, forming and shaping techniques	New format. Equivalent
MEM05011D	Assemble fabricated components	MEM05011	Assemble fabricated components	New format. Equivalent
MEM05012C	Perform routine manual metal arc welding	MEM05012	Perform routine manual metal arc welding	New format. Equivalent
MEM05013C	Perform manual production welding	MEM05013	Perform manual production welding	New format. Equivalent
MEM05014C	Monitor quality of production welding/fabrications	MEM05014	Monitor quality of production welding/fabrications	New format. Equivalent
MEM05015D	Weld using manual metal arc welding process	MEM05015	Weld using manual metal arc welding process	New format. Equivalent
MEM05016C	Perform advanced welding using manual metal arc welding process	MEM05016	Perform advanced welding using manual metal arc welding process	New format. Equivalent
MEM05017D	Weld using gas metal arc welding process	MEM05017	Weld using gas metal arc welding process	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM05018C	Perform advanced welding using gas metal arc welding process	MEM05018	Perform advanced welding using gas metal arc welding process	New format. Equivalent
MEM05019D	Weld using gas tungsten arc welding process	MEM05019	Weld using gas tungsten arc welding process	New format. Equivalent
MEM05020C	Perform advanced welding using gas tungsten arc welding process	MEM05020	Perform advanced welding using gas tungsten arc welding process	New format. Equivalent
MEM05022C	Perform advanced welding using oxy acetylene welding process	MEM05022	Perform advanced welding using oxy acetylene welding process	New format. Equivalent
MEM05023C	Weld using submerged arc welding process	MEM05023	Weld using submerged arc welding process	New format. Equivalent
MEM05024B	Perform welding supervision	MEM05024	Perform welding supervision	New format. Equivalent
MEM05025C	Perform welding/fabrication inspection	MEM05025	Perform welding/fabrication inspection	New format. Equivalent
MEM05026C	Apply welding principles	MEM05026	Apply welding principles	New format. Equivalent
MEM05027A	Perform aluminothermic welding	MEM05027	Perform aluminothermic welding	New format. Equivalent
MEM05036C	Repair/replace/modify fabrications	MEM05036	Repair/replace/modify fabrications	New format. Equivalent
MEM05037C	Perform geometric development	MEM05037	Perform geometric development	New format. Equivalent
MEM05038B	Perform advanced geometric development - cylindrical/rectangular	MEM05038	Perform advanced geometric development - cylindrical/rectangular	New format. Equivalent
MEM05039B	Perform advanced geometric development - conical	MEM05039	Perform advanced geometric development - conical	New format. Equivalent
MEM05040B	Perform advanced geometric development - transitions	MEM05040	Perform advanced geometric development - transitions	New format. Equivalent
MEM05041B	Weld using powder flame spraying	MEM05041	Weld using flame powder spraying	New format. Equivalent
MEM05042B	Perform welds to code standards using flux core arc welding process	MEM05042	Perform welds to code standards using flux core arc welding process	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM05043B	Perform welds to code standards using gas metal arc welding process	MEM05043	Perform welds to code standards using gas metal arc welding process	New format. Equivalent
MEM05044B	Perform welds to code standards using gas tungsten arc welding process	MEM05044	Perform welds to code standards using gas tungsten arc welding process	New format. Equivalent
MEM05045B	Perform pipe welds to code standards using manual metal arc welding process	MEM05045	Perform pipe welds to code standards using manual metal arc welding process	New format. Equivalent
MEM05046B	Perform welds to code standards using manual metal arc welding process	MEM05046	Perform welds to code standards using manual metal arc welding process	New format. Equivalent
MEM05047B	Weld using flux core arc welding process	MEM05047	Weld using flux core arc welding process	New format. Equivalent
MEM05048B	Perform advanced welding using flux core arc welding process	MEM05048	Perform advanced welding using flux core arc welding process	New format. Equivalent
MEM05049B	Perform routine gas tungsten arc welding	MEM05049	Perform routine gas tungsten arc welding	New format. Equivalent
MEM05050B	Perform routine gas metal arc welding	MEM05050	Perform routine gas metal arc welding	New format. Equivalent
MEM05051A	Select welding processes	MEM05051	Select welding processes	New format. Equivalent
MEM05052A	Apply safe welding practices	MEM05052	Apply safe welding practices	New format. Equivalent
MEM05053A	Set and edit computer controlled thermal cutting machines	MEM05053	Set and edit computer controlled thermal cutting machines	New format. Equivalent
MEM05054A	Write basic NC/CNC programs for thermal cutting machines	MEM05054	Write basic NC/CNC programs for thermal cutting machines	New format. Equivalent
		MEM05055	Weld using oxy fuel gas welding process	New Unit
		MEM05056	Perform routine flux core arc welding	New Unit
		MEM05057	Perform routine submerged arc welding	New Unit

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
		MEM05058	Perform welds to code standards using oxy fuel gas welding process	New Unit
MEM06001B	Perform hand forging	MEM06001	Perform hand forging	New format. Equivalent
MEM06002B	Perform hammer forging	MEM06002	Perform hammer forging	New format. Equivalent
MEM06003C	Carry out heat treatment	MEM06003	Carry out heat treatment	New format. Equivalent
MEM06004B	Select heat treatment processes and test finished product	MEM06004	Select heat treatment processes and test finished product	New format. Equivalent
MEM06005B	Perform drop and upset forging	MEM06005	Perform drop and upset forging	New format. Equivalent
MEM06006C	Repair springs	MEM06006	Repair springs	New format. Equivalent
MEM06007B	Perform basic incidental heat/quenching, tempering and annealing	MEM06007	Perform basic incidental heat/quenching, tempering and annealing	New format. Equivalent
MEM06008A	Hammer forge complex shapes	MEM06008	Hammer forge complex shapes	New format. Equivalent
MEM06009A	Hand forge complex shapes	MEM06009	Hand forge complex shapes	New format. Equivalent
MEM07001B	Perform operational maintenance of machines/equipment	MEM07001	Perform operational maintenance of machines/equipment	New format. Equivalent
MEM07002B	Perform precision shaping/planing/slotting operations	MEM07002	Perform precision shaping/planing/slotting operations	New format. Equivalent
MEM07003B	Perform machine setting (routine)	MEM07003	Perform machine setting (routine)	New format. Equivalent
MEM07004B	Perform machine setting (complex)	MEM07004	Perform machine setting (complex)	New format. Equivalent
MEM07005C	Perform general machining	MEM07005	Perform general machining	New format. Equivalent
MEM07006C	Perform lathe operations	MEM07006	Perform lathe operations	New format. Equivalent
MEM07007C	Perform milling operations	MEM07007	Perform milling operations	New format. Equivalent
MEM07008D	Perform grinding operations	MEM07008	Perform grinding operations	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM07009B	Perform precision jig boring operations	MEM07009	Perform precision jig boring operations	New format. Equivalent
MEM07010B	Perform tool and cutter grinding operations	MEM07010	Perform tool and cutter grinding operations	New format. Equivalent
MEM07011B	Perform complex milling operations	MEM07011	Perform complex milling operations	New format. Equivalent
MEM07012B	Perform complex grinding operations	MEM07012	Perform complex grinding operations	New format. Equivalent
MEM07013B	Perform machining operations using horizontal and/or vertical boring machines	MEM07013	Perform machining operations using horizontal and/or vertical boring machines	New format. Equivalent
MEM07014B	Perform electro-discharge (EDM) machining operations	MEM07014	Perform electro-discharge machining (EDM) operations	New format. Equivalent
MEM07015B	Set computer controlled machines/processes	MEM07015	Set computer controlled machines/processes	New format. Equivalent
MEM07016C	Set and edit computer controlled machines/processes	MEM07016	Set and edit computer controlled machines/processes	New format. Equivalent
MEM07018C	Write basic NC/CNC programs	MEM07018	Write basic NC/CNC programs	New format. Equivalent
MEM07019C	Program NC/CNC machining centre	MEM07019	Program NC/CNC machining centre	New format. Equivalent
MEM07020C	Program multiple spindle and/or multiple axis NC/CNC machining centre	MEM07020	Program multiple spindle and/or multiple axis NC/CNC machining centre	New format. Equivalent
MEM07021B	Perform complex lathe operations	MEM07021	Perform complex lathe operations	New format. Equivalent
MEM07022C	Program CNC wire cut machines	MEM07022	Program CNC wire cut machines	New format. Equivalent
MEM07023C	Program and set up CNC manufacturing cell	MEM07023	Program and set up CNC manufacturing cell	New format. Equivalent
MEM07024B	Operate and monitor machine/process	MEM07024	Operate and monitor machine/process	New format. Equivalent
MEM07025B	Perform advanced machine/process operation	MEM07025	Perform advanced machine/process operation	New format. Equivalent
MEM07026B	Perform advanced plastic processing	MEM07026	Perform advanced plastic processing	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM07027B	Perform advanced press operations	MEM07027	Perform advanced press operations	New format. Equivalent
MEM07028B	Operate computer controlled machines/processes	MEM07028	Operate computer controlled machines/processes	New format. Equivalent
MEM07029B	Perform routine sharpening/maintenance of production tools and cutters	MEM07029	Perform routine sharpening/maintenance of production tools and cutters	New format. Equivalent
MEM07030C	Perform metal spinning lathe operations (basic)	MEM07030	Perform metal spinning lathe operations (basic)	New format. Equivalent
MEM07031C	Perform metal spinning lathe operations (complex)	MEM07031	Perform metal spinning lathe operations (complex)	New format. Equivalent
MEM07032B	Use workshop machines for basic operations	MEM07032	Use workshop machines for basic operations	New format. Equivalent
MEM07033B	Operate and monitor basic boiler	MEM07033	Operate and monitor basic boiler	New format. Equivalent
MEM07039A	Write programs for industrial robots	MEM07039	Write programs for industrial robots	New format. Equivalent
MEM07040A	Set multistage integrated processes	MEM07040	Set multistage integrated processes	New format. Equivalent
MEM07041A	Perform production machining	MEM07041	Perform production machining	New format. Equivalent
MEM07042A	Undertake corrections and basic maintenance to aluminium extrusion dies and die support systems	MEM07042	Undertake corrections and basic maintenance to aluminium extrusion dies and die support systems	New format. Equivalent
MEM07043A	Identify causes of faulty aluminium extrusions	MEM07043	Identify causes of faulty aluminium extrusions	New format. Equivalent
MEM07044A	Test a new aluminium extrusion die	MEM07044	Test a new aluminium extrusion die	New format. Equivalent
MEM08001B	Perform wire, jig and barrel load/unload work	MEM08001	Perform wire, jig and barrel load/unload work	New format. Equivalent
MEM08002C	Pre-treat work for subsequent surface coating	MEM08002	Pre-treat work for subsequent surface coating	New format. Equivalent
MEM08003C	Perform electroplating operations	MEM08003	Perform electroplating operations	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM08004B	Finish work using wet, dry and vapour deposition methods	MEM08004	Finish work using wet, dry and vapour deposition methods	New format. Equivalent
MEM08005B	Prepare and produce specialised coatings	MEM08005	Prepare and produce specialised coatings	New format. Equivalent
MEM08006B	Produce clear and/or coloured and/or sealed anodised films on aluminium	MEM08006	Produce clear and/or coloured and/or sealed anodised films on aluminium	New format. Equivalent
MEM08007B	Control surface finish production and finished product quality	MEM08007	Control surface finish production and finished product quality	New format. Equivalent
MEM08008B	Operate and control surface finishing waste treatment process	MEM08008	Operate and control surface finishing waste treatment process	New format. Equivalent
MEM08009C	Make up solutions	MEM08009	Make up solutions	New format. Equivalent
MEM08010B	Manually finish/polish materials	MEM08010	Manually finish/polish materials	New format. Equivalent
MEM08011B	Prepare surfaces using solvents and/or mechanical means	MEM08011	Prepare surfaces using solvents and/or mechanical means	New format. Equivalent
MEM08012B	Prepare surfaces by abrasive blasting (basic)	MEM08012	Prepare surfaces by abrasive blasting (basic)	New format. Equivalent
MEM08013B	Prepare surfaces by abrasive blasting (advanced)	MEM08013	Prepare surfaces by abrasive blasting (advanced)	New format. Equivalent
MEM08014B	Apply protective coatings (basic)	MEM08014	Apply protective coatings (basic)	New format. Equivalent
MEM08015B	Apply protective coatings (advanced)	MEM08015	Apply protective coatings (advanced)	New format. Equivalent
MEM08016B	Control blast coating by-products, materials and emissions	MEM08016	Control blast coating by-products, materials and emissions	New format. Equivalent
MEM08018B	Electroplate engineering coatings	MEM08018	Electroplate engineering coatings	New format. Equivalent
MEM08019B	Electroplate protective finishes	MEM08019	Electroplate protective finishes	New format. Equivalent
MEM08020B	Electroplate decorative finishes	MEM08020	Electroplate decorative finishes	New format. Equivalent
MEM09002B	Interpret technical drawing	MEM09002	Interpret technical drawing	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM09003B	Prepare basic engineering drawing	MEM09003	Prepare basic engineering drawing	New format. Equivalent
MEM09004B	Perform electrical/electronic detail drafting	MEM09004	Perform electrical/electronic detail drafting	New format. Equivalent
MEM09005B	Perform basic engineering detail drafting	MEM09005	Perform basic engineering detail drafting	New format. Equivalent
MEM09006B	Perform advanced engineering detail drafting	MEM09006	Perform advanced engineering detail drafting	New format. Equivalent
MEM09007B	Perform advanced mechanical detail drafting	MEM09007	Perform advanced mechanical detail drafting	New format. Equivalent
MEM09008B	Perform advanced structural detail drafting	MEM09008	Perform advanced structural detail drafting	New format. Equivalent
MEM09009C	Create 2D drawings using computer aided design system	MEM09009	Create 2-D drawings using computer-aided design system	New format. Equivalent
MEM09010C	Create 3D models using computer aided design system	MEM09010	Create 3-D models using computer-aided design system	New format. Equivalent
MEM09011B	Apply basic engineering design concepts	MEM09011	Apply basic engineering design concepts	New format. Equivalent
MEM09021B	Interpret and produce curved 3-dimensional shapes	MEM09021	Interpret and produce curved 3-D shapes	New format. Equivalent
MEM09022A	Create 2D code files using computer aided manufacturing system	MEM09022	Create 2-D code files using computer-aided manufacturing system	New format. Equivalent
MEM09023A	Create 3D code files using computer aided manufacturing system	MEM09023	Create 3-D code files using computer-aided manufacturing system	New format. Equivalent
MEM10001C	Erect structures	MEM10001	Erect structures	New format. Equivalent
MEM10002B	Terminate and connect electrical wiring	MEM10002	Terminate and connect electrical wiring	New format. Equivalent
MEM10003B	Install and test electrical wiring and circuits up to 1000 volts a.c. and 1500 volts d.c.	MEM10003	Install and test electrical wiring and circuits up to 1000 volts a.c. and 1500 volts d.c.	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM10004B	Enter and change programmable controller operational parameters	MEM10004	Enter and change programmable controller operational parameters	New format. Equivalent
MEM10005B	Commission programmable controller programs	MEM10005	Commission programmable controller programs	New format. Equivalent
MEM10006B	Install machine/plant	MEM10006	Install machine/plant	New format. Equivalent
MEM10007C	Modify control systems	MEM10007	Modify control systems	New format. Equivalent
MEM10008B	Undertake commissioning procedures for plant and/or equipment	MEM10008	Undertake commissioning procedures for plant and/or equipment	New format. Equivalent
MEM10009B	Install refrigeration and air conditioning plant and equipment	MEM10009	Install refrigeration and air conditioning plant and equipment	New format. Equivalent
MEM10010B	Install pipework and pipework assemblies	MEM10010	Install pipework and pipework assemblies	New format. Equivalent
MEM10011B	Terminate and connect specialist cables	MEM10011	Terminate and connect specialist cables	New format. Equivalent
MEM10013A	Install split air conditioning systems and associated pipework	MEM10013	Install split air conditioning systems and associated pipework	New format. Equivalent
MEM11001C	Erect/dismantle scaffolding and equipment	MEM11001	Erect/dismantle scaffolding and equipment	New format. Equivalent
MEM11002C	Erect/dismantle complex scaffolding and equipment	MEM11002	Erect/dismantle intermediate scaffolding and equipment	New title and format. Equivalent
MEM11003B	Coordinate erection/dismantling of complex scaffolding/equipment	MEM11003	Coordinate erection/dismantling of complex scaffolding/equipment	New format. Equivalent
MEM11004B	Undertake dogging	MEM11004	Undertake dogging	New format. Equivalent
MEM11005B	Pick and process order	MEM11005	Pick and process order	New format. Equivalent
MEM11006B	Perform production packaging	MEM11006	Perform production packaging	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM11007B	Administer inventory procedures	MEM11007	Administer inventory procedures	New format. Equivalent
MEM11008B	Package materials (stores and warehouse)	MEM11008	Package materials (stores and warehouse)	New format. Equivalent
MEM11009B	Handle/move bulk fluids/gases	MEM11009	Handle/move bulk fluids/gases	New format. Equivalent
MEM11010B	Operate mobile load shifting equipment	MEM11010	Operate mobile load shifting equipment	New format. Equivalent
MEM11011B	Undertake manual handling	MEM11011	Undertake manual handling	New format. Equivalent
MEM11012B	Purchase materials	MEM11012	Purchase materials	New format. Equivalent
MEM11013B	Undertake warehouse receival process	MEM11013	Undertake warehouse receival process	New format. Equivalent
MEM11014B	Undertake warehouse dispatch process	MEM11014	Undertake warehouse dispatch process	New format. Equivalent
MEM11015B	Manage warehouse inventory system	MEM11015	Manage warehouse inventory system	New format. Equivalent
MEM11016B	Order materials	MEM11016	Order materials	New format. Equivalent
MEM11017B	Organise and lead stocktakes	MEM11017	Organise and lead stocktakes	New format. Equivalent
MEM11018B	Organise and maintain warehouse stock receival and/or dispatch system	MEM11018	Organise and maintain warehouse stock receival and dispatch system	New format. Equivalent
MEM11019B	Undertake tool store procedures	MEM11019	Undertake tool store procedures	New format. Equivalent
MEM11020B	Perform advanced warehouse computer operations	MEM11020	Perform advanced warehouse computer operations	New format. Equivalent
MEM11021B	Perform advanced operation of load shifting equipment	MEM11021	Perform advanced operation of load shifting equipment	New format. Equivalent
MEM11022B	Operate fixed/moveable load shifting equipment	MEM11022	Operate fixed/moveable load shifting equipment	New format. Equivalent
MEM11023A	Operate a bridge and gantry crane	MEM11023	Operate a bridge and gantry crane	New format. Equivalent
MEM11024A	Undertake basic rigging	MEM11024	Undertake basic rigging	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM11025A	Operate a non-slewing mobile crane of greater than three tonnes capacity	MEM11025	Operate a non-slewing mobile crane of greater than three tonnes capacity	New format. Equivalent
MEM12001B	Use comparison and basic measuring devices	MEM12001	Use comparison and basic measuring devices	New format. Equivalent
MEM12002B	Perform electrical/electronic measurement	MEM12002	Perform electrical/electronic measurement	New format. Equivalent
MEM12003B	Perform precision mechanical measurement	MEM12003	Perform precision mechanical measurement	New format. Equivalent
MEM12004B	Perform precision electrical/electronic measurement	MEM12004	Perform precision electrical/electronic measurement	New format. Equivalent
MEM12005B	Calibrate measuring equipment	MEM12005	Calibrate measuring equipment	New format. Equivalent
MEM12006C	Mark off/out (general engineering)	MEM12006	Mark off/out (general engineering)	New format. Equivalent
MEM12007D	Mark off/out structural fabrications and shapes	MEM12007	Mark off/out structural fabrications and shapes	New format. Equivalent
MEM12019B	Measure components using coordinate measuring machines	MEM12019	Measure components using coordinate measuring machines	New format. Equivalent
MEM12020B	Set and operate coordinate measuring machines	MEM12020	Set and operate coordinate measuring machines	New format. Equivalent
MEM12021B	Program coordinate measuring machines	MEM12021	Program coordinate measuring machines	New format. Equivalent
MEM12022B	Program coordinate measuring machines (advanced)	MEM12022	Program coordinate measuring machines (advanced)	New format. Equivalent
MEM12023A	Perform engineering measurements	MEM12023	Perform engineering measurements	New format. Equivalent
MEM12024A	Perform computations	MEM12024	Perform computations	New format. Equivalent
MEM12025A	Use graphical techniques and perform simple statistical computations	MEM12025	Use graphical techniques and perform simple statistical computations	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
		MEM12026	Perform advanced trade calculations in a manufacturing, engineering or related environment	New Computations Unit
MEM13001B	Perform emergency first aid	MEM13001	Perform emergency first aid	New format. Equivalent
MEM13002B	Undertake occupational health and safety activities in the workplace	MEM13002	Undertake work health and safety activities in the workplace	New format. Equivalent
MEM13003B	Work safely with industrial chemicals and materials	MEM13003	Work safely with industrial chemicals and materials	New format. Equivalent
MEM13004B	Work safely with molten metals/glass	MEM13004	Work safely with molten metals/glass	New format. Equivalent
MEM13006B	Collect and evaluate occupational health and safety data for an enterprise or section of an enterprise	MEM13006	Collect and evaluate work health and safety data for an enterprise or section of an enterprise	New format. Equivalent
MEM13007B	Maintain water treatment systems for cooling towers	MEM13007	Maintain water treatment systems for cooling towers	New format. Equivalent
MEM13010A	Supervise occupational health and safety in an industrial work environment.	MEM13010	Supervise work health and safety in an industrial work environment.	New format. Equivalent
MEM13013B	Work safely with ionizing radiation	MEM13013	Work safely with ionizing radiation	New format. Equivalent
		MEM13015	Work safely and effectively in manufacturing and engineering	Supersedes MEM13014A, MEM14004A, MEM15002A MEM15024A MEM16007A Not equivalent
MEM14001B	Schedule material deliveries	MEM14001	Schedule material deliveries	New format. Equivalent
MEM14002B	Undertake basic process planning	MEM14002	Undertake basic process planning	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM14003B	Undertake basic production scheduling	MEM14003	Undertake production scheduling	New Title and format. Equivalent
MEM14005A	Plan a complete activity	MEM14006	Plan work activities	Equivalent
MEM15001B	Perform basic statistical quality control	MEM15001	Perform basic statistical quality control	New format. Equivalent
MEM15002A	Apply quality systems	MEM13015	Work safely and effectively in manufacturing and engineering	Superseded by MEM13015 Not equivalent
MEM15003B	Use improvement processes in team activities	MEM15003	Use improvement processes in team activities	New format. Equivalent
MEM15004B	Perform inspection	MEM15004	Perform inspection	New format. Equivalent
MEM15005B	Select and control inspection processes and procedures	MEM15005	Select and control inspection processes and procedures	New format. Equivalent
MEM15007B	Conduct product and/or process capability studies	MEM15007	Conduct product and/or process capability studies	New format. Equivalent
MEM15008B	Perform advanced statistical quality control	MEM15008	Perform advanced statistical quality control	New format. Equivalent
MEM15010B	Perform laboratory procedures	MEM15010	Perform laboratory procedures	New format. Equivalent
MEM15011B	Exercise external quality assurance	MEM15011	Exercise external quality assurance	New format. Equivalent
MEM15012B	Maintain/supervise the application of quality procedures	MEM15012	Maintain/supervise the application of quality procedures	New format. Equivalent
MEM15015B	Examine trading practices	MEM15015	Examine trading practices	New format. Equivalent
MEM15016B	Inspect pre-packed articles	MEM15016	Inspect pre-packed articles	New format. Equivalent
MEM15017B	Use and maintain reference standards	MEM15017	Use and maintain reference standards	New format. Equivalent
MEM15018B	Investigate consumer complaints	MEM15018	Investigate consumer complaints	New format. Equivalent
MEM15019B	Conduct a field inspection	MEM15019	Conduct a field inspection	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM15020C	Perform verification/certification or in-service inspection	MEM15020	Perform verification/certification or in-service inspection	New format. Equivalent
MEM15021C	Conduct audits of servicing licensees and public weighbridge licensees	MEM15021	Conduct audits of servicing licensees and public weighbridge licensees	New format. Equivalent
MEM15022B	Verify reference standards	MEM15022	Verify reference standards	New format. Equivalent
MEM15024A	Apply quality procedures	MEM13015	Work safely and effectively in manufacturing and engineering	Superseded by MEM13015 Not equivalent
MEM16001B	Give formal presentations and take part in meetings	MEM16001	Give formal presentations and take part in meetings	New format. Equivalent
MEM16002C	Conduct formal interviews and negotiations	MEM16002	Conduct formal interviews and negotiations	New format. Equivalent
MEM16003B	Provide advanced customer service	MEM16003	Provide advanced customer service	New format. Equivalent
MEM16004B	Perform internal/external customer service	MEM16004	Perform internal/external customer service	New format. Equivalent
MEM16005A	Operate as a team member to conduct manufacturing, engineering or related activities	MEM16005	Operate as a team member to conduct manufacturing, engineering or related activities	New format. Equivalent
MEM16006A	Organise and communicate information	MEM16006	Organise and communicate information	New format. Equivalent
MEM16007A	Work with others in a manufacturing, engineering or related environment	MEM13015	Work safely and effectively in manufacturing and engineering	Superseded by MEM13015 Not equivalent
MEM16008A	Interact with computing technology	MEM16008	Interact with computing technology	New format. Equivalent
MEM16009A	Research and analyse engineering information	MEM16009	Research and analyse engineering information	New format. Equivalent
MEM16010A	Write reports	MEM16010	Write reports	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM16011A	Communicate with individuals and small groups	MEM16011	Communicate with individuals and small groups	New format. Equivalent
MEM16012A	Interpret technical specifications and manuals	MEM16012	Interpret technical specifications and manuals	New format. Equivalent
MEM16013A	Operate in a self-directed team	MEM16013	Operate in a self-directed team	New format. Equivalent
MEM16014A	Report technical information	MEM16014	Report technical information	New format. Equivalent
MEM17001B	Assist in development and deliver training in the workplace	MEM17001	Assist in development and deliver training in the workplace	New format. Equivalent
MEM17002B	Conduct workplace assessment	MEM17002	Conduct workplace assessment	New format. Equivalent
MEM17003A	Assist in the provision of on the job training	MEM17003	Assist in the provision of on the job training	New format. Equivalent
MEM18001C	Use hand tools	MEM18001	Use hand tools	New format. Equivalent
MEM18002B	Use power tools/hand held operations	MEM18002	Use power tools/hand held operations	New format. Equivalent
MEM18003C	Use tools for precision work	MEM18003	Use tools for precision work	New format. Equivalent
MEM18004B	Maintain and overhaul mechanical equipment	MEM18004	Maintain and overhaul mechanical equipment	New format. Equivalent
MEM18005B	Perform fault diagnosis, installation and removal of bearings	MEM18005	Perform fault diagnosis, installation and removal of bearings	New format. Equivalent
MEM18006C	Repair and fit engineering components	MEM18006	Perform precision fitting of engineering components	New Title and format. Equivalent
MEM18007B	Maintain and repair mechanical drives and mechanical transmission assemblies	MEM18007	Maintain and repair mechanical drives and mechanical transmission assemblies	New format. Equivalent
MEM18008B	Balance equipment	MEM18008	Balance equipment	New format. Equivalent
MEM18009B	Perform levelling and alignment of machines and engineering components	MEM18009	Perform precision levelling and alignment of machines and engineering components	New Title and format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM18010C	Perform equipment condition monitoring and recording	MEM18010	Perform equipment condition monitoring and recording	New format. Equivalent
MEM18011C	Shut down and isolate machines/equipment	MEM18011	Shut down and isolate machines/equipment	New format. Equivalent
MEM18012B	Perform installation and removal of mechanical seals	MEM18012	Perform installation and removal of mechanical seals	New format. Equivalent
MEM18013B	Perform gland packing	MEM18013	Perform gland packing	New format. Equivalent
MEM18014B	Manufacture press tools and gauges	MEM18014	Manufacture press tools and gauges	New format. Equivalent
MEM18015B	Maintain tools and dies	MEM18015	Maintain tools and dies	New format. Equivalent
MEM18016B	Analyse plant and equipment condition monitoring results	MEM18016	Analyse plant and equipment condition monitoring results	New format. Equivalent
MEM18017C	Modify mechanical systems and equipment	MEM18017	Modify mechanical systems and equipment	New format. Equivalent
MEM18018C	Maintain pneumatic system components	MEM18018	Maintain pneumatic system components	New format. Equivalent
MEM18019B	Maintain pneumatic systems	MEM18019	Maintain pneumatic systems	New format. Equivalent
MEM18020B	Maintain hydraulic system components	MEM18020	Maintain hydraulic system components	New format. Equivalent
MEM18021B	Maintain hydraulic systems	MEM18021	Maintain hydraulic systems	New format. Equivalent
MEM18022B	Maintain fluid power controls	MEM18022	Maintain fluid power controls	New format. Equivalent
MEM18023B	Modify fluid power system operation	MEM18023	Modify fluid power system operation	New format. Equivalent
MEM18024B	Maintain engine cooling systems	MEM27001	Maintain and repair stationary and mobile plant engine cooling systems	Equivalent
MEM18025B	Service combustion engines	MEM27032	Service combustion engines	Equivalent
MEM18026C	Test compression ignition fuel systems	MEM27002	Test and repair compression ignition systems	Equivalent
MEM18027C	Overhaul engine fuel system components	MEM27003	Overhaul engine fuel system components	Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM18028B	Maintain engine lubrication systems	MEM27004	Maintain and repair engine lubrication systems	Equivalent
MEM18029B	Tune diesel engines	MEM27005	Tune diesel engines	Equivalent
MEM18030B	Diagnose and rectify low voltage electrical systems	MEM27006	Diagnose and rectify batteries, low voltage sensors and circuits	Equivalent
MEM18031B	Diagnose and rectify low voltage starting systems	MEM27007	Diagnose and rectify low voltage starting systems	Equivalent
MEM18032B	Maintain induction/exhaust systems	MEM27008	Maintain induction, exhaust and emission control system	Not equivalent
MEM18033B	Perform engine bottom-end overhaul	MEM27030	Perform engine bottom-end overhaul	Equivalent
MEM18034B	Perform engine top-end overhaul	MEM27031	Perform engine top-end overhaul	Equivalent
MEM18035B	Diagnose and rectify braking systems	MEM27009	Diagnose and rectify braking system	Equivalent
MEM18037B	Diagnose and rectify low voltage charging systems	MEM27010	Diagnose and rectify low voltage charging systems	Equivalent
MEM18038B	Maintain wheels and tyres	MEM27029	Maintain wheels and tyres	Equivalent
MEM18039B	Diagnose and rectify track type undercarriage	MEM27011	Maintain track type undercarriage on mobile plant	Equivalent
MEM18040B	Maintain suspension systems	MEM27012	Maintain mobile plant suspension systems	Equivalent
MEM18041B	Maintain steering systems	MEM27013	Maintain steering wheels	Equivalent
MEM18042C	Diagnose and rectify manual transmissions	MEM27028	Diagnose and rectify manual transmissions	Equivalent
MEM18043C	Diagnose and rectify automatic transmissions	MEM27014	Diagnose and rectify automatic transmission	Equivalent
MEM18044C	Diagnose and rectify drive line and final drives	MEM27015	Diagnose and rectify drive line and final drives	Equivalent
MEM18045B	Fault find/repair electrical equipment/components up to 250 volts single phase supply	MEM18045	Fault find/repair electrical equipment/components up to 250 volts single phase supply	New format. Equivalent
MEM18046B	Fault find/repair electrical	MEM18046	Fault find/repair electrical	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
	equipment/components up to 1000 volts a.c./1500 volts d.c.		equipment/components up to 1000 volts a.c./1500 volts d.c.	
MEM18047B	Diagnose and maintain electronic controlling systems on mobile plant	MEM27016	Diagnose and maintain electronic controlling systems on mobile and stationary plant	New format. Equivalent
MEM18048B	Fault find and repair/rectify basic electrical circuits	MEM18048	Fault find and repair/rectify basic electrical circuits	New format. Equivalent
MEM18049C	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.	MEM18049	Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.	New format. Equivalent
MEM18050C	Disconnect/reconnect fixed wired equipment over 1000 volts a.c./1500 volts d.c.	MEM18050	Disconnect/reconnect fixed wired equipment over 1000 volts a.c./1500 volts d.c.	New format. Equivalent
MEM18051B	Fault find and repair/rectify complex electrical circuits	MEM18051	Fault find and repair/rectify complex electrical circuits	New format. Equivalent
MEM18052B	Maintain fluid power systems for mobile plant	MEM27017	Maintain fluid power systems for mobile plant	New format. Equivalent
MEM18053B	Modify fluid power control systems	MEM18053	Modify fluid power control systems	New format. Equivalent
MEM18054B	Fault find, test and calibrate instrumentation systems and equipment	MEM18054	Fault find, test and calibrate instrumentation systems and equipment	New format. Equivalent
MEM18055B	Dismantle, replace and assemble engineering components	MEM18055	Dismantle, replace and assemble engineering components	New format. Equivalent
MEM18056B	Diagnose and repair analog equipment and components	MEM18056	Diagnose and repair analog equipment and components	New format. Equivalent
MEM18057B	Maintain/service analog/digital electronic equipment	MEM18057	Maintain/service analog/digital electronic equipment	New format. Equivalent
MEM18058C	Modify electronic equipment	MEM18058	Modify electronic equipment	New format. Equivalent
MEM18059B	Modify electronic systems	MEM18059	Modify electronic systems	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM18060B	Maintain, repair control instrumentation - single and multiple loop control systems	MEM18060	Maintain, repair control instrumentation - single and multiple loop control systems	New format. Equivalent
MEM18061B	Maintain/calibrate complex control systems	MEM18061	Maintain/calibrate complex control systems	New format. Equivalent
MEM18062B	Install, maintain and calibrate instrumentation sensors, transmitters and final control elements	MEM18062	Install, maintain and calibrate instrumentation sensors, transmitters and final control elements	New format. Equivalent
MEM18063B	Terminate signal and data cables	MEM18063	Terminate signal and data cables	New format. Equivalent
MEM18064B	Maintain instrumentation system components	MEM18064	Maintain instrumentation system components	New format. Equivalent
MEM18065B	Diagnose and repair digital equipment and components	MEM18065	Diagnose and repair digital equipment and components	New format. Equivalent
MEM18066B	Diagnose and repair microprocessor-based equipment	MEM18066	Diagnose and repair microprocessor-based equipment	New format. Equivalent
MEM18067B	Tune control loops - multi controller or multi element systems	MEM18067	Tune control loops - multi controller or multi element systems	New format. Equivalent
MEM18069B	Maintain, repair instrumentation process control analysers	MEM18069	Maintain, repair instrumentation process control analysers	New format. Equivalent
MEM18071B	Connect/disconnect fluid conveying system components	MEM18071	Connect/disconnect fluid conveying system components	New format. Equivalent
MEM18072B	Manufacture fluid conveying conductor assemblies	MEM18072	Manufacture fluid conveying conductor assemblies	New format. Equivalent
MEM18073A	Perform advanced equipment testing and diagnostics on mobile plant and equipment	MEM27033	Perform advanced equipment testing and diagnostics on mobile plant and equipment	New format. Equivalent
		MEM18083	Handle fluorocarbon refrigerants according to regulations	New unit

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM18084A	Commission and decommission split air conditioning systems	MEM18084	Commission and decommission split air conditioning systems	New format. Equivalent
MEM18085A	Install, service and repair domestic air conditioning and refrigeration appliances	MEM18085	Install, service and repair domestic air conditioning and refrigeration appliances	New format. Equivalent
MEM18086B	Test, recover, evacuate and charge refrigeration systems	MEM18086	Test, recover, evacuate and charge refrigeration systems	New format. Equivalent
MEM18087B	Service and repair domestic and light commercial refrigeration and air conditioning equipment	MEM18087	Service and repair domestic and light commercial refrigeration and air conditioning equipment	New format. Equivalent
MEM18088B	Maintain and repair commercial air conditioning systems and components	MEM18088	Maintain and repair commercial air conditioning systems and components	New format. Equivalent
MEM18089B	Maintain and repair central air handling systems	MEM18089	Maintain and repair central air handling systems	New format. Equivalent
MEM18090B	Maintain and repair industrial refrigeration systems and components	MEM18090	Maintain and repair industrial refrigeration systems and components	New format. Equivalent
MEM18091B	Maintain and repair multi stage, cascade and/or ultra-cold industrial refrigeration systems	MEM18091	Maintain and repair multi stage, cascade and/or ultra-cold industrial refrigeration systems	New format. Equivalent
MEM18092B	Maintain and repair commercial and/or industrial refrigeration and/or air conditioning controls	MEM18092	Maintain and repair commercial and/or industrial refrigeration and/or air conditioning controls	New format. Equivalent
MEM18093B	Maintain and repair integrated industrial refrigeration and/or large air handling system controls	MEM18093	Maintain and repair integrated industrial refrigeration and/or large air handling system controls	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM18094B	Service and repair commercial refrigeration	MEM18094	Service and repair commercial refrigeration	New format. Equivalent
MEM18095A	Maintain and repair cooling towers/evaporative condensers and associated equipment	MEM18095	Maintain and repair cooling towers/evaporative condensers and associated equipment	New format. Equivalent
MEM18096A	Maintain, repair/replace and adjust refrigerant flow controls and associated equipment	MEM18096	Maintain, repair/replace and adjust refrigerant flow controls and associated equipment	New format. Equivalent
MEM18097A	Manufacture cavity dies	MEM18097	Manufacture cavity dies	New format. Equivalent
MEM18098A	Prepare to perform work associated with fuel system installation and servicing	MEM18098	Prepare to perform work associated with fuel system installation and servicing	New format. Equivalent
MEM19001B	Perform jewellery metal casting	MEM19001	Perform jewellery metal casting	New format. Equivalent
MEM19002B	Prepare jewellery illustrations	MEM19002	Prepare jewellery illustrations	New format. Equivalent
MEM19003B	Handle gem materials	MEM19003	Handle gem materials	New format. Equivalent
MEM19004B	Handle and examine gemstone materials	MEM19004	Handle and examine gemstone materials	New format. Equivalent
MEM19005B	Produce three-dimensional precision items	MEM19005	Produce three-dimensional precision items	New format. Equivalent
MEM19006B	Replace watch batteries	MEM19006	Replace watch batteries	New format. Equivalent
MEM19007B	Perform gemstone setting	MEM19007	Perform gemstone setting	New format. Equivalent
MEM19008B	Prepare jewellery designs	MEM19008	Prepare jewellery designs	New format. Equivalent
MEM19009B	Perform investment procedures for lost wax casting process	MEM19009	Perform investment procedures for lost wax casting process	New format. Equivalent
MEM19010B	Produce rubber moulds for lost wax casting process	MEM19010	Produce rubber moulds for lost wax casting process	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM19011B	Perform wax injection of moulds for lost wax casting process	MEM19011	Perform wax injection of moulds for lost wax casting process	New format. Equivalent
MEM19012B	Produce jewellery wax model	MEM19012	Produce jewellery wax model	New format. Equivalent
MEM19013B	Produce jewellery metal masters	MEM19013	Produce jewellery metal masters	New format. Equivalent
MEM19014B	Perform hand engraving	MEM19014	Perform hand engraving	New format. Equivalent
MEM19015B	Perform jewellery enamelling	MEM19015	Perform jewellery enamelling	New format. Equivalent
MEM19016B	Construct jewellery components	MEM19016	Construct jewellery components	New format. Equivalent
MEM19017B	Fabricate jewellery items	MEM19017	Fabricate jewellery items	New format. Equivalent
MEM19018B	Repair jewellery items	MEM19018	Repair jewellery items	New format. Equivalent
MEM19020B	Fault-find and maintain micro-mechanisms	MEM19020	Fault-find and maintain micro-mechanisms	New format. Equivalent
MEM19021B	Diagnose and service micro-mechanisms	MEM19021	Diagnose and service micro-mechanisms	New format. Equivalent
MEM19022B	Perform precision micro-mechanism diagnosis and servicing	MEM19022	Perform precision micro-mechanism diagnosis and servicing	New format. Equivalent
MEM20001A	Produce keys	MEM20001	Produce keys	New format. Equivalent
MEM20002A	Assemble and test lock mechanisms	MEM20002	Assemble and test lock mechanisms	New format. Equivalent
MEM20003A	Install and upgrade locks and hardware	MEM20003	Install and upgrade locks and hardware	New format. Equivalent
MEM20004A	Gain entry	MEM20004	Gain entry	New format. Equivalent
MEM20005A	Install and maintain door control devices/systems	MEM20005	Install and maintain door control devices/systems	New format. Equivalent
MEM20006A	Maintain and service mechanical locking devices	MEM20006	Maintain and service mechanical locking devices	New format. Equivalent
MEM20007A	Plan and prepare a masterkey system	MEM20007	Plan and prepare a masterkey system	New format. Equivalent
MEM20008A	Develop and implement a masterkey system	MEM20008	Develop and implement a masterkey system	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM20009A	Gain entry and reinstate fire and security containers	MEM20009	Gain entry and reinstate fire and security containers	New format. Equivalent
MEM20010A	Gain entry and reinstate automotive locking systems	MEM20010	Gain entry and reinstate automotive locking systems	New format. Equivalent
MEM20011A	Service and repair fire and security containers	MEM20011	Service and repair fire and security containers	New format. Equivalent
MEM20012A	Service and repair mechanical automotive locking systems	MEM20012	Service and repair mechanical automotive locking systems	New format. Equivalent
MEM20013A	Service automotive transponder systems	MEM20013	Service automotive transponder systems	New format. Equivalent
MEM20014A	Perform a site security survey	MEM20014	Perform a site security survey	New format. Equivalent
MEM21001A	Replace watch batteries, capacitors and bands	MEM21001	Replace watch batteries, capacitors and bands	New format. Equivalent
MEM21002A	Perform watch movement exchange	MEM21002	Perform watch movement exchange	New format. Equivalent
MEM21003A	Perform watch case servicing, repair and refurbishment	MEM21003	Perform watch case servicing, repair and refurbishment	New format. Equivalent
MEM21004A	Clean watch and clock components	MEM21004	Clean watch and clock components	New format. Equivalent
MEM21005A	Diagnose faults in quartz watches	MEM21005	Diagnose faults in quartz watches	New format. Equivalent
MEM21006A	Service quartz watches	MEM21006	Service quartz watches	New format. Equivalent
MEM21007A	Service complex quartz watches	MEM21007	Service complex quartz watches	New format. Equivalent
MEM21008A	Service mechanical watches	MEM21008	Service mechanical watches	New format. Equivalent
MEM21009A	Inspect, diagnose, adjust and repair mechanical watches	MEM21009	Inspect, diagnose, adjust and repair mechanical watches	New format. Equivalent
MEM21010A	Service watch power generating systems	MEM21010	Service watch power generating systems	New format. Equivalent
MEM21011A	Service calendar and other dial indication mechanisms for watches	MEM21011	Service calendar and other dial indication mechanisms for watches	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM21012A	Service and repair mechanical watch oscillating systems	MEM21012	Service and repair mechanical watch oscillating systems	New format. Equivalent
MEM21013A	Service, test and adjust watch escapements	MEM21013	Service, test and adjust watch escapements	New format. Equivalent
MEM21014A	Service mechanical chronograph watches	MEM21014	Service mechanical chronograph watches	New format. Equivalent
MEM21015A	Perform precision watch timing and adjustment	MEM21015	Perform precision watch timing and adjustment	New format. Equivalent
MEM21016A	Install and set up clocks	MEM21016	Install and set up clocks	New format. Equivalent
MEM21017A	Service and repair clock timepieces	MEM21017	Service and repair clock timepieces	New format. Equivalent
MEM21018A	Service clock escapements and oscillating systems	MEM21018	Service clock escapements and oscillating systems	New format. Equivalent
MEM21019A	Service and repair clock striking mechanisms	MEM21019	Service and repair clock striking mechanisms	New format. Equivalent
MEM21020A	Service and repair clock chiming mechanisms	MEM21020	Service and repair clock chiming mechanisms	New format. Equivalent
MEM21021A	Restore clockwork mechanisms	MEM21021	Restore clockwork mechanisms	New format. Equivalent
MEM21022A	Manufacture watch and clock components	MEM21022	Manufacture watch and clock components	New format. Equivalent
MEM21023A	Plan, set up and operate horological workshop or service centre	MEM21023	Plan, set up and operate horological workshop or service centre	New format. Equivalent
MEM25001B	Apply fibre-reinforced materials	MEM25001	Apply fibre-reinforced materials	New format. Equivalent
MEM25002B	Form and integrate fibre-reinforced structures	MEM25002	Form and integrate fibre-reinforced structures	New format. Equivalent
MEM25003B	Set up marine vessel structures	MEM25003	Set up marine vessel structures	New format. Equivalent
MEM25004B	Fair and shape surfaces	MEM25004	Fair and shape surfaces	New format. Equivalent
MEM25005B	Construct and assemble marine vessel timber components	MEM25005	Construct and assemble marine vessel timber components	New format. Equivalent
MEM25006B	Undertake marine sheathing operations	MEM25006	Undertake marine sheathing operations	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM25007B	Maintain marine vessel surfaces	MEM25007	Maintain marine vessel surfaces	New format. Equivalent
MEM25008B	Repair marine vessel surfaces and structures	MEM25008	Repair marine vessel surfaces and structures	New format. Equivalent
MEM25009B	Form timber shapes using hot processes	MEM25009	Form timber shapes using hot processes	New format. Equivalent
MEM25010B	Perform fitout procedures	MEM25010	Perform fitout procedures	New format. Equivalent
MEM25011B	Install marine systems	MEM25011	Install marine systems	New format. Equivalent
MEM25012B	Install and test operations of marine auxiliary systems	MEM25012	Install and test operations of marine auxiliary systems	New format. Equivalent
MEM25013B	Produce three-dimensional plugs/moulds	MEM25013	Produce three-dimensional plugs/moulds	New format. Equivalent
MEM25014B	Perform marine slipping operations	MEM25014	Perform marine slipping operations	New format. Equivalent
MEM25015A	Assemble and install equipment and accessories/ancillaries	MEM25015	Assemble and install equipment and accessories/ancillaries	New format. Equivalent
MEM26001A	Lay up composites using open moulding techniques	MEM26001	Lay up composites using open moulding techniques	New format. Equivalent
MEM26002A	Lay up composites using vacuum closed moulding techniques	MEM26002	Lay up composites using vacuum closed moulding techniques	New format. Equivalent
MEM26003A	Lay up composites using pressure closed moulding techniques	MEM26003	Lay up composites using pressure closed moulding techniques	New format. Equivalent
MEM26004A	Make basic plugs for composites fabrication	MEM26004	Make basic plugs for composites fabrication	New format. Equivalent
MEM26005A	Make basic moulds for composites fabrication	MEM26005	Make basic moulds for composites fabrication	New format. Equivalent
MEM26006A	Mark and cut out sheets for composite use	MEM26006	Mark and cut out sheets for composite use	New format. Equivalent
MEM26007A	Select and use reinforcing appropriate for product	MEM26007	Select and use reinforcing appropriate for product	New format. Equivalent
MEM26008A	Select and use resin systems appropriate for product	MEM26008	Select and use resin systems appropriate for product	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM26009A	Select and use cores and fillers appropriate for product	MEM26009	Select and use cores and fillers appropriate for product	New format. Equivalent
MEM26010A	Store and handle composite materials	MEM26010	Store and handle composite materials	New format. Equivalent
MEM26011A	Determine materials and techniques for a composite component or product	MEM26011	Determine materials and techniques for a composite component or product	New format. Equivalent
MEM26012A	Record and trial work processes for one-off composite products	MEM26012	Record and trial work processes for one-off composite products	New format. Equivalent
MEM26013A	Select and use composite processes or systems appropriate for product	MEM26013	Select and use composite processes or systems appropriate for product	New format. Equivalent
MEM26014A	Adjust resin chemicals for current conditions	MEM26014	Adjust resin chemicals for current conditions	New format. Equivalent
MEM26015A	Select and apply repair techniques	MEM26015	Select and apply repair techniques	New format. Equivalent
MEM26016A	Select and use joining techniques	MEM26016	Select and use joining techniques	New format. Equivalent
MEM26017A	Prepare composite or other substrate surfaces	MEM26017	Prepare composite or other substrate surfaces	New format. Equivalent
MEM26018A	Organise composite trials	MEM26018	Organise composite trials	New format. Equivalent
MEM26019A	Finish a composite product	MEM26019	Finish a composite product	New format. Equivalent
MEM26020A	Identify and interpret required standards for composites	MEM26020	Identify and interpret required standards for composites	New format. Equivalent
		MEM27018	Test, diagnose and rectify mobile and stationary plant external monitoring and control systems	New Unit
		MEM27019	Diagnose, repair and replace diesel engines in stationary and mobile plant	New Unit

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
		MEM27020	Apply knowledge of large combustion engine operations to service and maintenance tasks	New Unit
		MEM27021	Maintain, fault find and repair stationary plant gas turbine engine	New Unit
		MEM27022	Maintain, fault find and repair traction drive mechanics	New Unit
		MEM27023	Diagnose and rectify fieldbus circuits in mobile and stationary plant and equipment	New Unit
		MEM27024	Diagnose and rectify mobile plant hydrostatic systems	New Unit
		MEM27025	Maintain, diagnose and rectify fluid power controls in mobile equipment	New Unit
		MEM27026	Service and repair mobile plant air conditioning systems	New Unit
		MEM27027	Install or modify mobile plant air conditioning systems	New Unit
MEM50001B	Classify recreational boating technologies and features	MEM50001	Classify recreational boating technologies and features	New format. Equivalent
MEM50002B	Work safely on marine craft	MEM50002	Work safely on marine craft	New format. Equivalent
MEM50003B	Follow work procedures to maintain the marine environment	MEM50003	Follow work procedures to maintain the marine environment	New format. Equivalent
MEM50004B	Maintain quality of environment by following marina codes	MEM50004	Maintain quality of environment by following marina codes	New format. Equivalent
MEM50005B	Refuel vessels	MEM50005	Refuel vessels	New format. Equivalent
MEM50006B	Check operational capability of marine craft	MEM50006	Check operational capability of marine craft	New format. Equivalent

Code	MEM05 Release 11.1 Title	Code	MEM Release 2 Title	Comment / Equivalence
MEM50007B	Check operational capability of sails and sail operating equipment	MEM50007	Check operational capability of sails and sail operating equipment	New format. Equivalent
MEM50008B	Carry out trip preparation and planning	MEM50008	Carry out trip preparation and planning	New format. Equivalent
MEM50009B	Safely operate a mechanically powered recreational boat	MEM50009	Safely operate a mechanically powered recreational boat	New format. Equivalent
MEM50010B	Respond to boating emergencies and incidents	MEM50010	Respond to boating emergencies and incidents	New format. Equivalent

Imported units of competency

Note: Depending on endorsement timelines, currency of all imported units will be checked and updated prior to release of MEM R2 on TGA.

Unit code	Unit title
AURTTE005	Overhaul engines
AURTTM011	Recondition engine cylinder heads
CPCCLDG3001A	Licence to perform dogging
CPCCLRG3001A	Licence to perform rigging basic level
CPCCLSF2001A	Licence to erect, alter and dismantle scaffolding basic level
CPCCLSF3001A	Licence to erect, alter and dismantle scaffolding intermediate level
CPPFES2027A	Inspect, test and maintain non-gaseous pre-engineered fire-suppression systems
CPPFES3042A	Install and commission pre-engineered fire-suppression systems
CPPSEC2021A	Install security equipment and system
CPPSEC3036A	Program security equipment and system
CPPSEC3037A	Test installed security equipment and system
CPPSEC3038A	Commission and decommission security equipment and system
CPPSEC3039A	Identify and diagnose electronic security equipment and system fault
CPPSEC3041A	Maintain and service security equipment and system
CPPSEC3047A	Provide estimate and quote on security system
CPPSEC3049A	Modify and repair security equipment and system
ICTTC136B	Install, maintain and modify customer premises communications cabling: ACA Restricted Rule
ICTTC137B	Install, maintain and modify customer premises communications cabling: ACA Open Rule
MEM14091A	Integrate manufacturing fundamentals into an engineering task
MEM23004A	Apply technical mathematics
MEM24001B	Perform basic penetrant testing
MEM24002B	Perform penetrant testing
MEM24003B	Perform basic magnetic particle testing
MEM24004B	Perform magnetic particle testing
MEM24005B	Perform basic eddy current testing
MEM24006B	Perform eddy current testing
MEM24007B	Perform ultrasonic thickness testing
MEM24008B	Perform ultrasonic testing
MEM24009B	Perform basic radiographic testing
MEM24010B	Perform radiographic testing
MEM24011B	Establish non-destructive tests
MEM24012C	Apply metallurgy principles
MEM30012A	Apply mathematical techniques in a manufacturing, engineering or related environment
MEM30025A	Analyse a simple electrical system circuit

Unit code	Unit title
MSATCM304A	Interpret binary phase diagrams
MSMENV472	Implement and monitor environmentally sustainable work practices
PMBPROD291	Operate resin infusion moulding equipment
PMBPROD294	Operate resin transfer moulding equipment
PMBPROD298	Operate equipment using pre-preg material
PMBPROD391	Produce composites using resin infusion
PMBPROD394	Produce composites using resin transfer moulding
PMBPROD398	Produce composites using pre-pregs
TLILIC0012	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)
TLILIC2001	Licence to operate a forklift truck
TLILIC2002	Licence to operate an order picking forklift truck
TLILIC3003	Licence to operate a bridge and gantry crane
TLILIC3006	Licence to operate a non-slewing mobile crane (greater than three tonnes capacity)