



Australian Government

MEM19036 Use specialised techniques to produce jewellery or objects

Release: 1

MEM19036 Use specialised techniques to produce jewellery or objects

Modification History

Release 1. Supersedes and is equivalent to MEM19036A Use specialised techniques to produce jewellery and objects.

Application

This unit of competency defines the skills and knowledge required to apply specialised or complex techniques to produce one-off custom jewellery or object designs.

This unit applies to individuals involved in jewellery or object manufacture in a small or large-scale production context. They use and adapt technical skills and knowledge to produce work that meets pre-determined design and production requirements.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

Competency Field

Jewellery

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine job requirements	1.1 Follow standard operating procedures (SOPs) and environmental requirements 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Use personal protective equipment (PPE) in accordance with SOPs 1.4 Identify job requirements from specifications
2. Prepare for applying specialised production	2.1 Develop a production plan based on specifications

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
techniques	2.2 Identify potential manufacturing difficulties and develop solutions based on understanding of materials, their limitations and workability, and knowledge of processes and techniques 2.3 Select and prepare materials, equipment and work area based on chosen production solutions
3. Apply specialised techniques	3.1 Determine and apply calculations and formulae to determine material quantities, dimensions and sizing 3.2 Produce jewellery or object features using specialised techniques 3.3 Identify faults and problems and take corrective action 3.4 Check and confirm work against design specifications
4. Present and evaluate finished piece	4.1 Finish work according to requirements of technique used and confirm finished piece meets design specifications 4.2 Prepare piece for presentation based on job requirements 4.3 Evaluate result and identify and make any final improvements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.	
Specifications include one or more of the following:	- drawings - job sheets - work instructions.
Production plan includes one or more of the following:	- identifying the multiple steps and operations for manufacture - identifying required components and materials - preparing plan for soldering and fitting of pieces

	identifying tools, equipment and processes and techniques.
Environmental requirements include one or more of the following:	- liquid waste - solid waste - emissions (gas, fumes, vapour, smoke, fugitive emissions or dust) - excessive energy and water use - excessive noise.
Specialised techniques include one or more of the following:	- repousse or chasing - forging - electro and die forming - etching and granulation - hydraulic pressing - patination, inlay and anodising - cuttlefish, sand and water casting - box construction - lamination - tapping and dying - photoetching - mokume gane - kumboo - hollow forming - enamelling.
Equipment includes one or more of the following:	- draw bench - round, square and fancy draw plates - holding and securing devices - pliers - burrs - scaupers - burnishers - emery - beaders - soldering torch - jewellery bench and adjustable chair - pickle bath and heater - propane-oxy heating equipment - flexible drive and drill bits - spit jigs - hand tools - measuring and marking out equipment - abrasives, lubricants and compounds - stock gauge rod, wire for chain links - polishing lathe with extraction, buffs, brushes and compounds

	• tumbler with stainless steel shot • protective clothing and equipment.
Materials include one or more of the following:	• gold • platinum • palladium • silver • copper • pewter and their alloys • stones and gems • catches, chains and other jewellery components • finishing materials.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM19036A Use specialised techniques to produce jewellery and objects.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM19036 Use specialised techniques to produce jewellery or objects

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- determining the appropriate specialised technique to produce jewellery or objects in accordance with specifications
- selecting appropriate materials and calculating and measuring the material quantities
- applying appropriate production and finishing techniques on at least two occasions
- identifying faults or problems and taking remedial action
- verifying work complies with design specifications and applying appropriate finishing requirements
- preparing piece for presentation.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- production plan requirements
- range and uses of specialised techniques
- range and uses of equipment
- calculations and measurements
- reasons for selecting particular metals, construction methods, manufacturing and finishing techniques
- tools and equipment matched to processes
- planning and process stages
- types and working properties of precious and non-precious metals and other materials
- fine detail manufacturing processes
- components of items being produced
- measuring devices and recording methods

- procedures for final treatment
- environmental considerations related to producing jewellery or objects
- safe handling and storage of items.
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Assessment Conditions

- Assessors must:
 - have vocational competency in using specialised techniques to produce jewellery or objects at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible, assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage
- are limiting factors, assessment 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.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
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