



Australian Government

Department of Education, Employment and Workplace Relations

LMFFM4005A Hand carve wood to custom design

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit covers the competency to confirm the design requirements, select the wood, hand carve it to custom design and prepare the carving for finishing.

Application of the Unit

Application of the unit

This unit supports the attainment of skills and knowledge required for competent workplace performance in the wide variety of furniture maker operations. The competency applies to a work room and on site environment and involves application of skills and knowledge at the highly skilled craftsman or artisan level. These skills and knowledge are to be used within the scope of the individual's job and authority.

This unit requires employability skills in initiative and enterprise, planning and organising and problem solving in order to undertake hand carving to design requirements. Communication skills are used to access and interpret work requirements and self management skills are applied to ensure project requirements are met. Technology is used to complete work.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm the design requirements	1.1. Applicable legislative, OHS and organisational requirements and instructions relevant to the hand carving of wood are verified and complied with 1.2. The product design requirements are accessed and confirmed as being feasible 1.3. The produce design requirements are elaborated on as required and documented to enterprise requirements
2. Select and prepare the wood to be hand carved	2.1. The design requirements in terms of product specification and product usage are analysed and confirmed 2.2. The wood species which may satisfy the product specifications are identified 2.3. The wood for carving is selected from a detailed analysis and comparison of the product specification and the characteristics, properties and costs of the available wood species 2.4. The selected wood is prepared for hand carving
3. Select carving tools	3.1. Carving tools selected are the most appropriate for the job 3.2. Selected carving tools are checked for serviceability, sharpness, maintenance compliance and safety 3.3. Faults are rectified or passed to qualified persons for rectification 3.4. Equipment is selected to hold or support material for hand tools application where applicable
4. Carve the wood	4.1. The method and style of wood carving are selected to meet the design requirements and the selected wood 4.2. The carving patterns are applied to and enfaced on the wood to guide the carving and optimise the use of the wood 4.3. Carving tools are applied initially to bulk clearances which confirm the wood grain selection and the appropriateness of the tools 4.4. Carving tools are applied to the precision requirements of the product design 4.5. Quality checks, tests and inspections are carried out throughout the carving operation and adjustments to maintain product quality are

ELEMENT**PERFORMANCE CRITERIA**

implemented

5. Finalise the work sequence

- 5.1. The product is ***prepared for finishing*** in accordance with the design specification
- 5.2. Carving tools are cleaned, maintained and stored in accordance with manufacturer specification
- 5.3. Work area is cleared and waste removed
- 5.4. Workplace documentation and/or reports are completed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Demonstrates skills to:

- collect, organise and understand information related to work orders, basic plans and safety procedures
- communicate ideas and information to enable confirmation of work requirements and specifications, co-ordination of work with site supervisor, other workers and customers, and the reporting of work outcomes and problems
- interpret and apply technical and quality information in the identification, selection and maintenance of commercially superior carving tools
- interpret, apply and elaborate on specifications for wood carving products
- work with others and in a team by recognising dependencies and using co-operative approaches to optimise work flow and productivity
- use pre-checking and inspection techniques which relate to hand carving to avoid re-work and wastage
- identify the most appropriate tool, the specifications and the methods for maintaining the high precision needs throughout the wood carving sequence
- recognise and respond to circumstances outside instructions or previously recognised personal competence
- adapt designs to incorporate the impact of wood carving operations on the intended materials
- plan and organise activities, including the preparation and layout of the worksite and the obtaining of equipment and materials to avoid any back tracking, work flow interruptions or wastage
- use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate other material requirements
- clarify and confirm work instructions
- plan work within given task parameters
- accept responsibility for given tasks
- set, monitor and satisfy personal work goals
- satisfy the competency requirements for the job
- maintain current knowledge of tools and materials
- maintain current knowledge of installation techniques
- seek learning opportunities
- use the limited workplace technology related to the selection and high precision use of hand tools

Demonstrates knowledge of:

- State or Territory OHS legislation, regulations, standards and codes of practice relevant to hand carving of wood
- terminology covering hand carving operations and materials

REQUIRED SKILLS AND KNOWLEDGE

- types, characteristics, used and limitations of timber species for hand carving
- techniques for the design and documentation of specifications for hand carved products
- organisational and site standards, requirements, policies and procedures for hand carving of wood
- types, characteristics, uses, limitations and maintenance requirements of the range of tools used in wood carving
- processes for evaluating the quality of carving tools in terms of specifications, safety, maintainability and commercial reputation
- the range of commonly used hand carving techniques
- established communication channels and protocols
- problem identification and resolution
- workplace safety requirements and OHS legislation
- work flow within the workplace

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the relevant Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures for the use of hand tools
- Interpret product design and locate and apply relevant information
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Hand carve a minimum of two significant products including:
 - the interpretation and necessary adoption of the design specifications
 - the selection of timber for the carving
 - the completion of the carving to specification or commercially acceptable standard
 - the preparation of the products for finishing
- Carry out operator maintenance on hand tools including the grinding and sharpening of a range of knives and chisels
- Follow work instructions, operating procedures and inspection practices to:
 - prevent damage to goods, equipment and products
 - maintain required production output and product quality
 - minimise the risk of injury to self and others
- Work effectively with others
- Modify activities to cater for variations in workplace contexts and environment

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:

EVIDENCE GUIDE

	• workplace location or simulated workplace • two significant hand carving requirements including design brief or specification • a range of optional timbers • range of quality carving tools • materials for the preparation of the product for finishing
Method of assessment	• Assessment must satisfy the endorsed assessment guidelines of the Furnishing Industry Training Package • Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application • Assessment may be applied under project related conditions (real or simulated) and require evidence of process • Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances • Assessment may be in conjunction with assessment of other related units of competency

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

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|------------------------------------|--|
| Legislative requirements | <ul style="list-style-type: none">• are to be in accordance with applicable legislation from all levels of government that affect organisational operation.• Requirements may include but not be limited to award and enterprise agreements, industrial relations, Australian Standards, confidentiality and privacy, OHS, the environment, equal opportunity, anti-discrimination, relevant industry codes of practice, duty of care and heritage |
| OHS requirements | <ul style="list-style-type: none">• are to be in accordance with Commonwealth, State or Territory legislation and regulations, organisational safety policies and procedures.• Requirements may include but not be limited to the use of personal protective equipment and clothing, fire fighting equipment, First Aid equipment, hazard and risk control and elimination, control of hazardous materials and substances, manual handling including lifting and carrying |
| Organisational requirements | <ul style="list-style-type: none">• may include but not be limited to legal, organisational and site guidelines, policies and procedures relating to own role and responsibility, quality assurance, procedural manuals, quality and continuous improvement processes and standards, OHS, emergency and evacuation, ethical standards, recording and reporting, access and equity principles and practices, equipment use, maintenance and storage, environmental management (waste disposal, recycling and re-use guidelines) |
| Instructions | <ul style="list-style-type: none">• workplace procedures relating to the use and operation of tools and equipment• production planning figures• workplace instructions, including job sheets, plans, specifications, drawings and designs• workplace procedures relating to reporting and communications• manufacturer instructions for the use of equipment |

	and materials
Wood species for carving	• may include lime, ash, maple, cherry, English oak, American oak, Japanese oak, walnut, Brazilian mahogany, sycamore, holly, apple, pear, beech, teak, iroko, rosewood, ebony, ramin and blackwood
Preparation of wood for hand carving	• includes confirmation of grain, identification and response to faults, knots and contaminants, cutting of wood to workable size and shape
Carving tools	• may include carving knives, chisels (straight, curved, short bent, front bent, spoon bit, back bent, skew, fishtail, spade, parting tool, macaroni, fluterino, backeroni), palm tools, rasps, rifflers, punches, gouges, venier and router
Tool sharpening	• involves grinding and sharpening using a sandstone wheel or high speed carborundum stone, a fine oilstone, or a fine carving stone • sharpening a carver's chisel/implement involves sharpening bevels on both sides and rounding off bevels
Methods and styles of wood carving	• include chip carving, relief carving, Scandinavian flat plane, caricature carving, love spoon, treen and whittling
Preparation for finishing	• includes sanding (using abrasive papers, glasspaper, garnet paper, aluminium oxide paper and/or silicon-carbide paper), scraping, filling holes and cracks (using stoppers, cellulose filler, shellac sticks, wax sticks) and remedying tool marks (using hot water or hot iron)

Unit Sector(s)

Sector Furniture design and technology