LMTDE3002A Digitise artwork for computerised embroideries

Release: 1

LMTDE3002A Digitise artwork for computerised embroideries

Modification History

New unit

Unit Descriptor

This unit of competency covers the skills and knowledge required to apply fundamental digitising techniques to artwork for computerised embroidery production.

Application of the Unit

The unit includes the application of a range of digitising techniques using industry standard software to convert artwork from images to embroideries production to industry standard. It includes use of manual and automatic digitising techniques, documenting and storing images, and producing samples to confirm result meets artwork specifications.

Work involves some discretion, initiative and judgement on the job in own work, including liaison with specialist embroiderers and digitisers.

Work may be conducted in a variety of environments, such as operational workplace activities, or home-based activities.

Work may be undertaken on a range of machines that may include microprocessor or computer controlled.

Embroidery machines used in completion of this unit may include domestic (single or multi-needle) or commercial (single or multi-head) machines or a sampling machine.

This unit requires the application of skills associated with planning and organising to complete digital embroidery using associated technology. Problem-solving skills are required to determine required program features to achieve specifications and identify any machining problems. Communication skills are used to refer to specifications and complete required documentation. Self-management skills are used to ensure safe use of technology and conformance of own work to quality standards.

Simple digitising and computerised embroidery is also covered in the unit LMTCL3008B Set and produce digital embroidery. This unit covers skills for selecting and embroidering stock images. Digitising skills are now covered in more detail in the unit LMTDE3002A Digitise artwork for computerised embroideries; and machine embroidery skills in the unit LMTDE3008A Produce embroidery from digitised images.

When these two units are selected, the unit LMTCL3008B Set and produce digital embroidery cannot also be selected due to duplication.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

LMTDE3001A   Apply hooping and fabric handling techniques

LMTCL2003B   Identify fibres and fabrics

Employability Skills Information

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 performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Source and import selected artwork	1.1	*Software* is opened and *workspace functionality*, elements and icons are explored
		1.2	Defaults are set to machine requirements
		1.3	Image importation requirements are determined
		1.4	*Images are processed* as necessary in preparation for automated and semi-automated digitising techniques
		1.5	*File types* are recognised and selected and image is imported into working area
2	Prepare for digitising	2.1	Machine format is selected and capability confirmed to meet image requirements
		2.2	Fabric type is selected
		2.3	Workspace/canvas is selected and colour adjusted to meet design specifications
		2.4	Colour blocks and colour thread changes are identified

and adjusted to meet design specifications

	2.5	Thread palette is set up
	2.6	*Optimum digitising sequence* is determined and planned
	2.7	Stitching order is manually adjusted and colour changes made to selected areas
3	Digitise shapes using manual techniques	3.1	*Basic stitch types* are identified and applied
	3.2	Free shapes are created with fixed angle stitching, with and without holes
	3.3	Free shapes are created with turning stitching, with and without holes
	3.4	Borders are created
	3.5	Runs and details are created
4	Apply automated digitising techniques	4.1	File types are converted and manipulated for application
	4.2	Design objects and shapes are converted to embroidery and digitised using semi-automated and fully automated techniques
5	Create fills and outlines	5.1	A range of fill and outline stitch types are selected and applied
	5.2	Basic property options are modified, including design size, to meet specific design requirements
	5.3	*Fill* stitch pattern properties (single and multiple areas) and direction are selected and altered
	5.4	Outline properties are selected and altered
	5.5	A realistic computer representation (3D view) is created and design is saved to library
6	Adjust embroidery designs	6.1	Image inclusions are *adjusted* to support design effects
	6.2	Objects are adjusted to support design effects

		6.3	Machine hoop, for output sizing, is introduced and integrated into design
7	Optimise embroidery stitch quality	7.1	Stitch densities and lengths are adjusted and small stitches eliminated
		7.2	Corner stitching and long satin stitches are optimised
		7.3	Stitch bunching is minimised
		7.4	Fabric is stabilised with automatic underlays
		7.5	Design is stitched and pull compensation assessed and adjusted
8	Finalise design for efficient production	8.1	Stitch sequence, stitch entry and exit points, and start/end of design are assessed and optimal quality outcome confirmed
		8.2	Insertion and deletion of trim functions are assessed and revised, where possible, to optimise productivity
		8.3	Colour sequencing is assessed and revised, where possible, to optimise productivity
		8.4	Adjustments to digitising specifications are made to ensure optimal quality outcome of embroidery
		8.5	Design is finalised, prepared for export and saved to library
9	Prepare designs for output to printer and machine	9.1	Template and worksheet are created, printed and checked to ensure design requirements are achieved
		9.2	Completed design is exported to the machine ready for stitching according to manufacturer specifications and saved for later access
		9.3	*Design reports* are printed

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10	Complete embroidery sample	10.1	*Fabric, stabiliser, toppings and backings, needles*, *thread* and *hoop types* are selected and used according to the design production requirements
		10.2	Embroidery is created and inspected against design specifications
		10.3	Waste is minimised and disposed of according to environmental guidelines
		10.4	Work is conducted in accordance with *workplace procedures* and *occupational health and safety (OHS) practices*
		10.5	Feedback is sought and integrated into outcomes

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Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

- applying workplace health and safety requirements for a production environment
- applying basic sewing machine skills
- applying basic computer skills
- applying creativity to use of colour, texture, shape, balance and composition
- applying automatic, semi-automatic and manual digitising techniques
- selecting fabric, needles, thread, stabiliser and hoop to meet design specifications
- assembling and attaching hoop
- applying hooping techniques and using hooping accessories
- reading, interpreting and following information on work specifications, standard operating procedures and work instructions, and other reference material
- maintaining accurate records
- communicating within the workplace
- sequencing operations
- meeting specifications
- clarifying and checking task-related information

Required knowledge includes:

- workplace health and safety requirements for a production environment
- computer navigation to access and manipulate an image
- suitability of images to be digitised and limitations of software
- software functionality
- basic machine embroidery techniques
- types and properties of fabric
- colour, texture, shape, balance and composition theory
- hoop types
- needle types
- thread types
- stabiliser types
- automatic, semi-automatic and manual digitising techniques
- workplace or store policies and procedures
- environmental aspects related to workplace and machine or equipment operation and manual handling
- OHS practices, including hazard identification and control measures
- quality practices
- workplace practices
- practices for recording and reporting

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Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	It is essential that competence be demonstrated in the fundamental digitising techniques. The candidate must be able to:
	• install and navigate software
	• source and import selected artwork and prepare for digitising
	• apply a range of automatic, semi-automatic and manual digitising techniques to process embroidery design
	• complete image to stitch conversion, add complex fills to selected designs, and make colour selections
	• complete simple embroidery sample to test design specifications.
	Evidence should demonstrate ability in digitising techniques through production of a range of sample pieces.
Context of and specific resources for assessment	Assessment may occur on the job or in an appropriately simulated environment and requires access to work areas, materials and equipment, and to information on workplace practices and OHS practices.
	The resource requirements for this unit include access to:
	• digitising software
	• embroidery machine
	• hoops
	• a range of fabrics
	• a range of threads
	• a range of needles
	• hooping accessories
	• notions.
Method of assessment	This unit may be assessed independently or in combination with other relevant units.
	Assessment methods may include:
	• written and oral questioning
	• completion of practical activities/tasks.
Guidance information for	Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy

assessment	capacity of the candidate and the work being performed.

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, if used in the performance criteria, is detailed below. 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) may also be included.

Software	Software may include: • any software classed as a digitising software (as opposed to customising or editing software)
Workspace functionality	**Workspace functionality may include:** • tool bar • navigations • icons • menus
Images are processed	Images are processed may include: • removal of 'noise' • dithering • clean up

• **File types**	**File types may include:**
	• Bitmap:
	  • .jpeg
	  • .gif
	  • .tiff
	  • .bmp.
	  • png
	• Vector:
	  • .wmf
	  • .emf
	  • .eps/.ps
	  • .ai
	  • .cdr

Optimum digitising sequence	Optimum digitising sequence includes: • minimising registration problems caused by fabric distortion • planning colour sequence
• **Basic stitch types**	Basic stitch styles must include: • run stitching

	• satin stitching • tatami stitching
Fills	Fills may include: • contour • radial • cross-stitch • arc • spiral • satin • embossed • motifs
Adjusted	Adjusted may include: • flip • rotate • mirror image • angle • copy • paste • resize • reshape • proportion • position • align • scale • skew
Design reports	Design reports may include: • worksheets • approval sheets • appliqué patterns • templates
Fabric types	**Fabric types must include:** • woven • non-woven • knits • lightweight • heavyweight
Stabilisers, toppings and backings	**Stabilisers, toppings and backings may include:** • water soluble • tear away

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	• iron on • cut away Weights may vary
Needle types	**Needle types may include:** • standard • metalfil • embroidery eye • stretch
Threads types	**Threads types may include:** • polyester • metallic • rayon • cotton
Hoop types	Hoop types may include: • tubular • sash • screw • cap • square • round • spring
Workplace procedures	Workplace procedures may include: • requirements prescribed by legislation, awards, agreements and conditions of employment • standard operating procedures • work instructions • oral, written and visual communication • quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output • housekeeping • tasks related to environmental protection, waste disposal, pollution control and recycling
OHS practices	OHS practices must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include: • manual handling techniques • standard operating procedures

	• personal protective equipment • safe materials handling • taking of rest breaks • ergonomic arrangement of workplaces • following marked walkways • safe storage of equipment • housekeeping • reporting accidents and incidents • other OHS practices relevant to the job and enterprise

Unit Sector(s)

Digitising and computerised embroidery

Custom Content Section

Not applicable.

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