

Workshop Techniques - Introduction

LEVEL 1	10 TCE CREDIT POINTS
COURSE CODE	WTE110114
COURSE SPAN	2014 — 2021
COURSE STATUS	LIVE
READING AND WRITING STANDARD	NO
MATHEMATICS STANDARD	NO
COMPUTERS AND INTERNET STANDARD	NO

Workshop Techniques - Introduction has a common core of making products through the shaping and manipulation of materials

The items produced are made using a range of tools, techniques, materials and processes appropriate to the medium being utilised. Through studying this course, learners will develop skills to make items within their designated area(s) of specialisation. Learners will be involved in a variety of practical construction projects that will lead to the acquisition of skills, techniques and processes.

Rationale

Workshop Techniques – Introduction has a common core of making products through the shaping and manipulation of materials. The items produced are made using a range of tools, techniques, materials and processes appropriate to the medium being utilised.

Through studying this course, learners will develop skills to make items within their designated area/s of specialisation.

Learners will be involved in a variety of practical construction projects that will lead to the acquisition of skills, techniques and processes.

Learning Outcomes

On successful completion of this course, learners will be able to:

- develop skills to identify, prepare, use, clean, maintain and store relevant equipment
- develop skills to select correct tools, equipment and techniques to construct and complete practical products
- develop skills to use safely a range of nominated techniques in the completion of practical products
- develop skills to select appropriate techniques and equipment to complete practical products
- apply and complete the process of making/constructing to specified standards and time frames
- understand and demonstrate safe work practices
- apply occupational health and safety procedures
- develop confidence in making and appraising products
- demonstrate problem-solving associated with practical experiences
- develop an awareness of career and further study options.

Pathways

Learners who have successfully studied *Preliminary Technologies*, Preliminary to Level 1 or Australian Curriculum: Technologies- Design and Technologies in the context of Materials and Technologies Specialisations will be well placed to study *Workshop Techniques* Level 1.

On successful completion of this course, learners will have gained the knowledge and skills to progress to *Design and Production* Level 2, *Automotive and Mechanical Technologies* Level 2 or entry level Vocational Education and Training (VET) Units or Certificate I qualifications with a materials specialisation.

Resource Requirements

Delivery of this course requires specialised workspace(s) and associated facilities.

AUTOMOTIVE SYSTEMS

The required resources include:

Personal protective equipment will include:

- protective clothing and footwear
- ear muffs
- safety glasses
- barrier cream.

Tools and equipment will include:

- common mechanical tools (e.g. spanners, pliers, sockets, screwdrivers)
- basic vehicle lifting equipment
- engine and driveline assembly tools
- measuring equipment as specified in the course
- trolley jacks and stands
- access to engines and automotive systems as specified in the course.

Materials will include:

- oil and lubrication products
- gasket materials and sealants
- coolant
- replacement parts
- cleaners and solvents
- seals and gaskets.

Technical information:

- online information
- workshop manuals
- material safety data sheets.

COMPOSITE MATERIAL

This specialisation requires a selection of general purpose hand tools and moulds for the manipulation of resins, plastics, cements, leather, clays, woods, fibres and other materials.

GLASS

Workspace requirements:

- a general purpose studio
- personal protective devices (safety glasses, ear muffs and an apron).

Tools and equipment:

- glass cutters (liquid filled are most efficient)
- grozing pliers
- breaking pliers or running pliers
 - glass grinder
 - soldering irons
 - scissors

- burners (e.g. oxyacetylene)
- ovens (if glass slumping is used).

Consumables:

- glass rods
- sheet glass
- coloured glass
- copper foil
- solder
- flux
- putty
- polish and cloths
- lead came
- horse shoe nails.

METAL

Studio space requirements:

- work benches fitted with metal work vices
- welding bay should be able to be shielded from the general work area
- personal protective devices (safety glasses, ear muffs and an apron).

Tools listed are general in nature:

- hand tools for measuring, marking and scaling
- cutting and shaping tools including saws, lathes and grinders
- joining equipment including oxyacetylene equipment and MIG welding.

MOTOR VEHICLE BODYWORKS

Panel beating and spray painting workshop with adequate ventilation, lighting fume extraction, access and egress, and storage for tools and on-going projects, and bench spaces for learner work areas.

A spray booth with extraction fans and filters is required.

Hoists and oxygen-acetylene equipment.

Hand tools:

- mechanics hand tools for stripping and reassembling body components
- selection of hammers
- selection of dollies
- sanding blocks
- body files.

Spray equipment:

- selection of spray guns
- putty gun
- air compressor.

Personal protective equipment:

- ear muffs
- safety glasses
- welding shields
- gloves
- spray painting mask.

Materials:

- body filler
- thinners
- paint
- abrasive papers
- spray putty
- paint stripper.

Lifting equipment:

- floor jack
- axle stands
- vehicle hoist (optional).

Power and pneumatic tools:

- impact gun
- hand drill
- angle grinder
- air compressor
- sanders
- polishing machines.

Welding equipment:

- manual Inert gas welder
- oxy-acetylene equipment.

Workshop manuals:

- automotive text books
- material safety Data Sheets.

PLASTICS

Plastics encompasses a variety of man made materials. Fibre glass, resins, acrylic sheet and shaped acrylic section are the basis for the selection of resources described here.

Studio space requirements:

- work benches
- personal protective devices (safety glasses, ear muffs aprons dust masks).

General hand tools for plastics:

- measuring equipment tape measures and rulers
- various clamping aids
- hammers.

Acrylic cutting and drilling equipment.

Consumables – acrylics, fibre glass resins.

Fibre glass and Kevlar equipment.

TEXTILES

Studio space requirements:

- lay out tables.

Equipment:

- domestic sewing machines and associated equipment such as overlockers
- patterns
- measuring, marking and cutting tools
- mannequin (optional).

Consumables:

- a range of materials appropriate to garment construction and craft work.

WOOD

Studio space requirements:

- work benches fitted with wood working vices
- machining and breakdown areas separated from the general work area
- personal protective devices (safety glasses, ear muffs and an apron).

Tools and equipment:

- measuring and marking tools
- cutting and shaping saws and chisels
- power tools such as industry sanders, routers, joiners, jigsaws and drills
- finishing tools
- fixed machine tools including planers, saws, presses, lathes and grinders.

Course Size And Complexity

This course has a complexity level of 1.

At Level 1, the learner is expected to carry out tasks and activities that draw on a limited range of knowledge and skills. The tasks and activities generally have a substantial repetitive aspect to them. Minimum judgement is needed as there are usually very clear rules, guidelines or procedures to be followed. VET competencies at this level are often those characteristic of an AQF Certificate I.

This course has a size value of 10.

Course Description

This course is designed for senior secondary learners to develop basic skills in their area(s) of specialisation:

- Automotive systems
- Composite materials
- Glass
- Metal
- Motor Vehicle Bodyworks
- Plastics
- Textiles
- Wood.

Through working in their area of specialisation, learners will be involved in a variety of practical situations that lead to the acquisition of appropriate skills, techniques and processes required to complete practical projects.

Note: It is possible for a learner to study more than one of these specialisations during the course. Specialisations are not differentiated in the qualifications available in this course. No more than one qualification in this course per academic year will be listed on a learner's Qualifications Certificate or contribute credit points towards the TCE's participation and achievement standard.

Course Content

Learners undertaking Workshop Techniques – Introduction will produce practical products in selected medium(s) using appropriate techniques, tools and processes.

Products may include, but are not limited to:

- garments and accessories
- implements (e.g. letter openers, cutlery)
- simple furniture
- motor vehicle body part repairs
- small engines and motors
- boxes, containers and organisers
- functional items (e.g. walking sticks, trays, clocks, tools, bags)
- jewellery
- costume
- soft furnishings.

Within this course, the range of techniques used is generally quite limited in nature and may include, but is not limited to:

- planning and sequencing
- material preparation
- dismantling
- construction/reassembling
- bending and forming
- repairing/servicing
- cutting and shaping
- combining materials
- construction of jigs
- application of fasteners and fittings
- plan, pattern and drawing interpretation
- joining and fixing.

Tools and equipment may include, but are not limited to:

- cutting tools
- joining tools
- hammering tools
- spanners, screwdrivers and jacks
- surface finishing tools
- other tools (e.g. measuring, marking and checking)
- protective clothing
- welding
- preparing materials
- shaping and forming tools.

Materials may include, as appropriate for the product:

- wood and wood products
- synthetic materials
- metals/metal parts
- motor lubricants, filters and parts
- required for finishing (e.g. abrasive papers, stains, lacquers and paints)
- textiles
- glass and ceramic materials
- plastics in their various forms
- fasteners and fittings
- composite materials.

Workspace routines and procedures will include, but are not limited to:

- safety
- process-specific procedures
- use of materials
- recycling
- costing

- reporting hazards and stock issues
- reporting maintenance issues
- housekeeping
- waste management
- workspace etiquette with regard to other users.

Organisation and maintenance of the workspace relates to:

- lighting
- ventilation
- dust/fume extraction facilities
- process-specific requirements
- setting out/up of required tools
- ergonomics.

Testing techniques may include, but are not limited to:

- exploring techniques by making practice pieces
- making samples applying nominated techniques
- experimenting directly with work in progress
- graphical testing.

Workspace communication will include, but is not limited to:

- reading and interpreting plans, patterns and specification
- basic pencil sketching/drawing
- drawing directly onto the medium
- correct use of terminology
- appropriate use of verbal language.

Safety will include, but is not limited to:

- following correct procedures for use of tools and equipment
- appropriate use of personal protective devices
- cleaning and storage of personal protective devices
- reporting and identification of hazards.

Production Technology attributes include, but are not limited to:

- consideration of others
- follow routines
- respect equipment and facilities.

WORK EXPECTATIONS

Learners will complete:

- **at least one *major product*** (which includes a range of processes)
- **at least one *minor product*.**

The major product/s will be a fully finished/resolved item.

The minor product/s may be sample or practice pieces.

The products will be made following a given plan or design constraints (i.e. task specifications or brief).

Examples:

AUTOMOTIVE SYSTEMS

Major product:

Repair a small motor or mechanical system following a specified procedure for dismantling and re-assembling.

Minor product:

Servicing of two or more small motors or mechanical systems.

COMPOSITE MATERIALS

Major product:

The product will involve measurement, cutting/moulding, shaping and finishing of at least two different materials

Minor product:

Example: Sample or practice piece of a technique or process to be used in the major product.

GLASS

Major product:

Examples: use of leadlight or Tiffany techniques to produce a two or three dimensional decorative item such as a small box or figure.

Minor product:

Example: mosaic within a defined size.

METAL

Major product:

Example: following a given plan to produce an item that will include at least 4 of the following processes: marking out; cutting; drilling; welding; fitting; lathe work; & milling or fabrication.

Minor product:

Examples: Sample or practice piece of a technique or process to be used in the major product.

MOTOR VEHICLE BODYWORKS

Major product:

Learners will complete panel beating repairs to a metal body panel/s. This will be from bumping out through to filling and painting.

Minor product:

One or more bodyworks processes (e.g. bumping out and/or filling and/or painting) to a metal body panel.

PLASTICS

Major products:

Examples: following a given plan to produce an item that will include at least 4 of the following processes: marking out; cutting, mould preparation; laying up; and finishing.

Minor product:

Examples: salt and pepper shakers, CD or DVD holder, jewellery and accessories, bowls, minor car component, simple model or ornament/artefact.

TEXTILES

Major product:

Examples: producing simple garments using a commercial pattern which includes at least 2 of the following construction techniques: zip; button closure; set in sleeve; collar; hemming; facings; seam neatening; lining; or overlay fabrics.

OR

Textile artefacts or accessories featuring at least two different methods of embellishment or fabric manipulation.

Minor product:

Examples: cushion, bag or boxer shorts. Samples and practice pieces.

WOOD

Major product:

Example: following a given plan to produce an item that will include at least 4 of the following processes: marking out; cutting two different joint types; surface preparation; and finishing.

Minor product:

Examples: box, ottoman, CD rack, DVD holder, simple storage systems, clock or mirror from a given plan. Samples and practice pieces for the major product.

TASK SPECIFICATIONS

Course providers will set task specifications/briefs that describe and specify the work (products) learners will undertake for assessment purposes. These may be developed by the provider (alone), in consultation with the learner (negotiated), or prepared by a third party (e.g. small business, school-based 'client'). The task specifications are the 'specified requirements' noted in the Standards section of this course document.

Assessment

Criterion-based assessment is a form of outcomes assessment that identifies the extent of learner achievement at an appropriate end-point of study. Although assessment – as part of the learning program – is continuous, much of it is formative, and is done to help learners identify what they need to do to attain the maximum benefit from their study of the course. Therefore, assessment for summative reporting to TASC will focus on what both teacher and learner understand to reflect end-point achievement.

The standard of achievement each learner attains on each criterion is recorded as a rating of 'C' (satisfactory standard) or 'A' (high standard) according to the outcomes specified in the standards section of the course document.

A 't' notation must be used where a learner demonstrates any achievement against a criterion less than the standard specified for the 'C' rating. The 't' notation is not described in course standards.

A 'z' notation is to be used where a learner provides no evidence of achievement at all.

Providers offering this course must participate in quality assurance processes specified by TASC to ensure provider validity and comparability of standards across all awards. To learn more, see TASC's [quality assurance processes and assessment information](#).

Internal assessment of all criteria will be made by the provider. Assessment processes must gather evidence that clearly shows the match between individual learner performance, the standards of the course and the learner's award. Providers will report the learner's rating for each criterion to TASC.

Quality Assurance Process

The following processes will be facilitated by TASC to ensure there is:

- a match between the standards of achievement specified in the course and the skills and knowledge demonstrated by learners
- community confidence in the integrity and meaning of the qualification.

Process- TASC will verify that the provider's course delivery and assessment standards meet the course requirements and community expectations for fairness, integrity and validity of qualifications that TASC issues.

This will involve checking:

- learner attendance records
- course delivery plans (the sequence of course delivery/tasks and when assessments take place):
 - assessment instruments and rubrics (the 'rules' or marking guide used to judge achievement)
 - class records of assessment
 - examples of learner work that demonstrate the use of the marking guide
 - samples of current learner's work, including that related to any work requirements articulated in the course document
 - workspaces and associated facilities.

The process will usually also include interviews with past and present learners. It will be scheduled by TASC using a risk-based approach.

Criteria

The assessment for Workshop Techniques – Introduction Level 1 will be based on the degree to which the learner can:

1. prepare, use and maintain physical resources for production of practical projects
2. use appropriate techniques and processes
3. complete practical projects within specialisation area(s)
4. understand and apply occupational health and safety procedures

Standards

Criterion 1: prepare, use and maintain physical resources for production of practical projects

The learner:

Rating A	Rating C
correctly identifies and selects most effective/suitable tools, equipment and materials available to complete specified tasks	correctly identifies and selects tools, equipment and materials required to complete specified tasks
makes efficient use of materials and resources.	prepares, uses, cleans and maintains resources, equipment and materials in accordance with designated procedures and safety requirements
	stores resources, equipment and materials in accordance with specified procedures and safety requirements
	prepares work area as required to complete process or task.

Criterion 2: use appropriate techniques and processes

The learner:

Rating A	Rating C
consistently demonstrates proficiency in the employment of techniques and processes appropriate to medium.	identifies some appropriate techniques and processes for the production of practical products
	selects tools and equipment appropriate to identified techniques and processes
	applies selected or nominated techniques and processes to produce practical products.

Criterion 3: complete practical projects within specialisation area(s)

The learner:

Rating A	Rating C
produces products of a high quality, meeting all specified task requirements.	correctly identifies steps and resources required to produce the products
	selects appropriate tools, equipment and materials for the specific product
	completes the production process to standard specified in most aspects of task requirements
	completes the product within a specified timeframe.

Criterion 4: understand and apply occupational health and safety procedures

The learner:

Rating A	Rating C
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correctly articulates* all steps of common workshop emergency procedures in correct sequence	recognises and reports some potential workshop hazards
reports maintenance issues if they arise	correctly articulates* basic steps of some common workshop emergency procedures
acts with a level of awareness of the safety of self others (e.g. reports potential hazards, reports or appropriately corrects unsafe practices of others).	follows prescribed safe workshop procedures
	uses techniques, tools and materials safely to produce final product
	uses safe material handling techniques
	disposes of waste in an appropriate manner.

* *articulation* may include, but is not limited to:

- listing (writing) steps;
- verbally describing steps;
- physically demonstrating steps.

Qualifications Available

Workshop Techniques – Introduction Level 1 (with the award of):

EXCEPTIONAL ACHIEVEMENT

COMMENDABLE ACHIEVEMENT

SATISFACTORY ACHIEVEMENT

PRELIMINARY ACHIEVEMENT

Award Requirements

The final award will be determined by the Office of Tasmanian Assessment, Standards and Certification from 4 ratings.

The minimum requirements for an award in Workshop Techniques – Introduction Level 1 are as follows:

EXCEPTIONAL ACHIEVEMENT (EA)

'A' ratings on all 4 criteria

COMMENDABLE ACHIEVEMENT (CA)

2 'C' ratings AND 2 'A' ratings

SATISFACTORY ACHIEVEMENT (SA)

'C' ratings on all 4 criteria

PRELIMINARY ACHIEVEMENT (PA)

'C' ratings on 2 criteria

Course Evaluation

The Department of Education's Curriculum Services will develop and regularly revise the curriculum. This evaluation will be informed by the experience of the course's implementation, delivery and assessment.

In addition, stakeholders may request Curriculum Services to review a particular aspect of an accredited course.

Requests for amendments to an accredited course will be forwarded by Curriculum Services to the Office of TASC for formal consideration.

Such requests for amendment will be considered in terms of the likely improvements to the outcomes for learners, possible consequences for delivery and assessment of the course, and alignment with Australian Curriculum materials.

A course is formally analysed prior to the expiry of its accreditation as part of the process to develop specifications to guide the development of any replacement course.

Expectations Defined By National Standards

The content statement and standards of this course have, in part, been derived from the unit CUVVSP57A: Apply techniques to produce wood objects.

Accreditation

The accreditation period for this course has been renewed from 1 January 2019 until 31 December 2021.

During the accreditation period required amendments can be considered via established processes.

Should outcomes of the Years 9-12 Review process find this course unsuitable for inclusion in the Tasmanian senior secondary curriculum, its accreditation may be cancelled. Any such cancellation would not occur during an academic year.

Version History

Version 1 – Accredited on 4 June 2013 for use from 1 January 2014 until 31 December 2018. This course replaces Workshop Techniques – Introduction (WTE110109) and Motor Vehicle Bodyworks (MVB110109) that expired on 31 December 2013.

Version 2 – 23 September 2015. Addition of automotive systems specialisation.

Version 2.a - 22 November 2018. Addition of Pathways information. **Accreditation renewed on 22 November 2018 for the period 1 January 2019 until 31 December 2021.**

Supporting documents including external assessment material

-  [WTE110114BriefingNote22-2015_Amendment.pdf](#) (2017-07-21 01:05pm AEST)
-  [WTE110114CourseAccreditation.pdf](#) (2017-07-21 01:05pm AEST)