

# Design and Production

LEVEL 2	15 TCE CREDIT POINTS
COURSE CODE	DAP215116
COURSE SPAN	2016 — 2025
READING AND WRITING STANDARD	NO
MATHEMATICS STANDARD	NO
COMPUTERS AND INTERNET STANDARD	NO

This course is current for 2023.

## Design responds to human need by producing artefacts and solutions to enhance quality of life and user experience

Innovative solutions to real world problems are addressed through the use of a design process in the creation of designed objects in a range of fields. Social, economic and environmental benefits are derived from innovation and the creative use of technologies that contribute to the lives of individuals and to cultures and environments. The use of a design process when devising and producing solutions necessitates the application of a range of cognitive processes which are transferrable to contexts beyond the design realm, including business, engineering, social entrepreneurship and innovation in other sectors. Design and Production Level 2 develops design thinking, systems thinking and project implementation skills which typify contemporary design practice. Through an iterative and reflective approach, ideas are generated, tested and refined and the functional, environmental, economic, aesthetic, social and technological attributes of the design brief are considered. A range of technological skills are developed through the use of tools and equipment to transform materials to meet a need in areas such as furniture and homewares, clothing and fashion and tools and devices. Design and Production provides a basis of knowledge and skills for further education and employment in the fields of product design, fashion design, construction, architectural and project management.

### Course Description

Design and Production Level 2 emphasises the use of a design process to respond to design briefs to produce objects, models or prototypes in one or a combination of materials including glass, metal, plastics, textiles or wood. Design development and solutions are generated and communicated using a range of drawing techniques. Relevant functional, social, environmental, aesthetic and technological factors are considered when making design decisions. Products, models or prototypes are completed in response to the design brief using technical skills and processes relevant to the chosen materials. Design and production phases are reviewed using an iterative process to reflect on and adjust design decisions throughout the process. Learners build the skills in planning and implementing projects, enabling them to manage resources effectively. A design folio records the design process for a major practical project.

## Rationale

Design responds to human need by producing artefacts and solutions to enhance quality of life and user experience. Innovative solutions to real world problems are addressed through the use of a design process in the creation of designed objects in a range of fields. Social, economic and environmental benefits are derived from innovation and the creative use of technologies that contribute to the lives of individuals and to cultures and environments. The use of a design process when devising and producing solutions necessitates the application of a range of cognitive processes which are transferable to contexts beyond the design realm, including business, engineering, social entrepreneurship and innovation in other sectors.

Design and Production Level 2 develops design thinking, systems thinking and project implementation skills which typify contemporary design practice. Through an iterative and reflective approach, ideas are generated, tested and refined and the functional, environmental, economic, aesthetic, social and technological attributes of the design brief are considered. A range of technological skills are developed through the use of tools and equipment to transform materials to meet a need in areas such as furniture and homewares, clothing and fashion and tools and devices.

Design and Production Level 2 provides a basis of knowledge and skills for further education and employment in the fields of product design, fashion design, construction, architectural and project management.

## Learning Outcomes

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

1. use a range of appropriate resources, processes and skills when making products
2. plan and implement design and production projects to complete designed objects
3. use and document design processes when investigating, generating and producing viable designed solutions in response to a brief
4. create products using safe techniques and processes that are relevant to the design brief, designed object and materials
5. select and use appropriate materials, tools and equipment to construct objects in specified materials areas
6. appraise and refine design decisions in relation to the design brief using a reflective and iterative process throughout the phases of the design process
7. identify relevant functional, environmental, economic, aesthetic, social and technological factors when making design decisions
8. describe factors which impact on design practice and career pathways in relevant design fields.

## Pathways

The course provides a foundation for senior secondary studies in Object Design (University College Program), Housing and Design Level 3 and Student Directed Inquiry Level 3, or a range of vocational education and training (VET) programs or tertiary study in areas such as fashion design; art, craft and design; construction; metal fabrication and engineering; furniture production; manufacturing or soft furnishings.

## Resource Requirements

Delivery of this course requires specialised workspace(s) and associated facilities. Suggested resources for each of the specialised areas are detailed in Appendix 2.

## Course Size And Complexity

This course has a complexity level of 2.

At Level 2, the learner is expected to carry out tasks and activities that involve a range of knowledge and skills, including some basic theoretical and/or technical knowledge and skills. Limited judgement is required, such as making an appropriate selection from a range of given rules, guidelines or procedures. VET competencies at this level are often those characteristic of an AQF Certificate II.

This course has a size value of 15.

## Course Content

### OVERVIEW

In this course, learners will study all **three compulsory** content areas which are integrated in their delivery throughout the course. Health and Safety will be covered first.

### Area 1: Design and producing solutions

In response to design briefs, learners will:

- apply a design process to produce appropriate solutions in response to a design brief
- work individually or collaboratively to complete appropriate solutions to design briefs
- develop solutions using one or more of the following materials:
  - glass
  - metal
  - plastics
  - textiles
  - wood
  - composite materials.

'Solutions' to design briefs may take the form of products, prototypes, models or other three dimensional artefacts.

Health and safety practices will be applied throughout the design and production phases.

### Area 2: Design factors

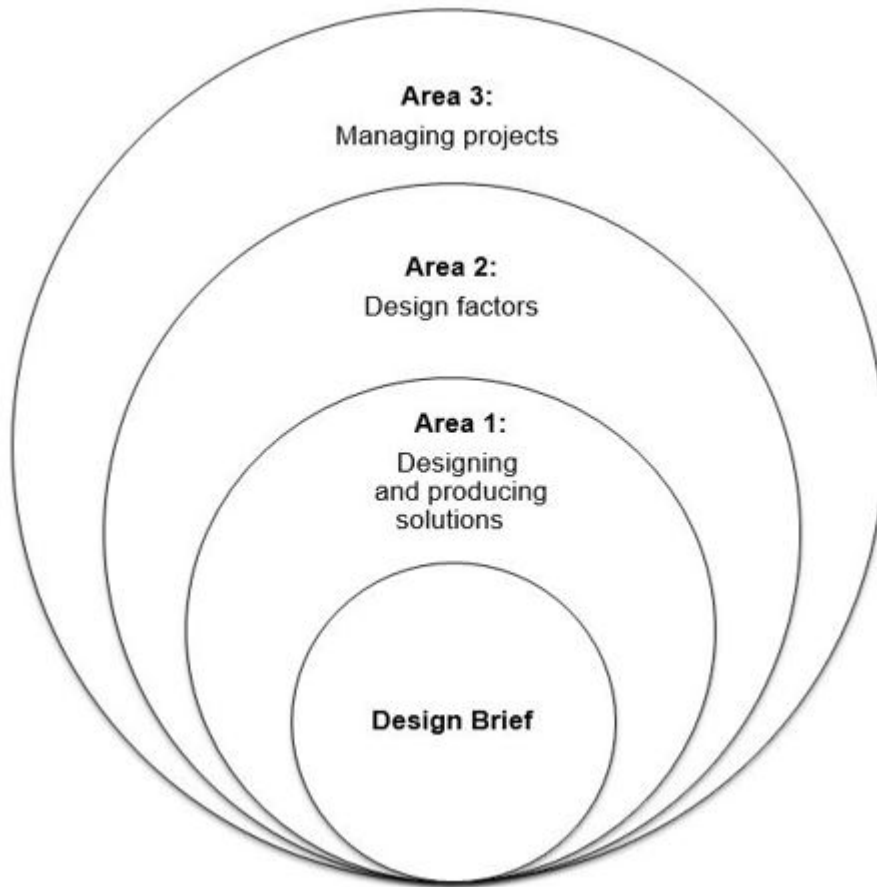
In relation to design briefs, learners will identify:

- relevant considerations and constraints when generating design possibilities and producing solutions for design briefs including functional, social, environmental, aesthetic, technological and ethical factors
- design practices used by designers.

### Area 3: Implementing projects

Learners will plan and implement practical projects involving design and production processes.

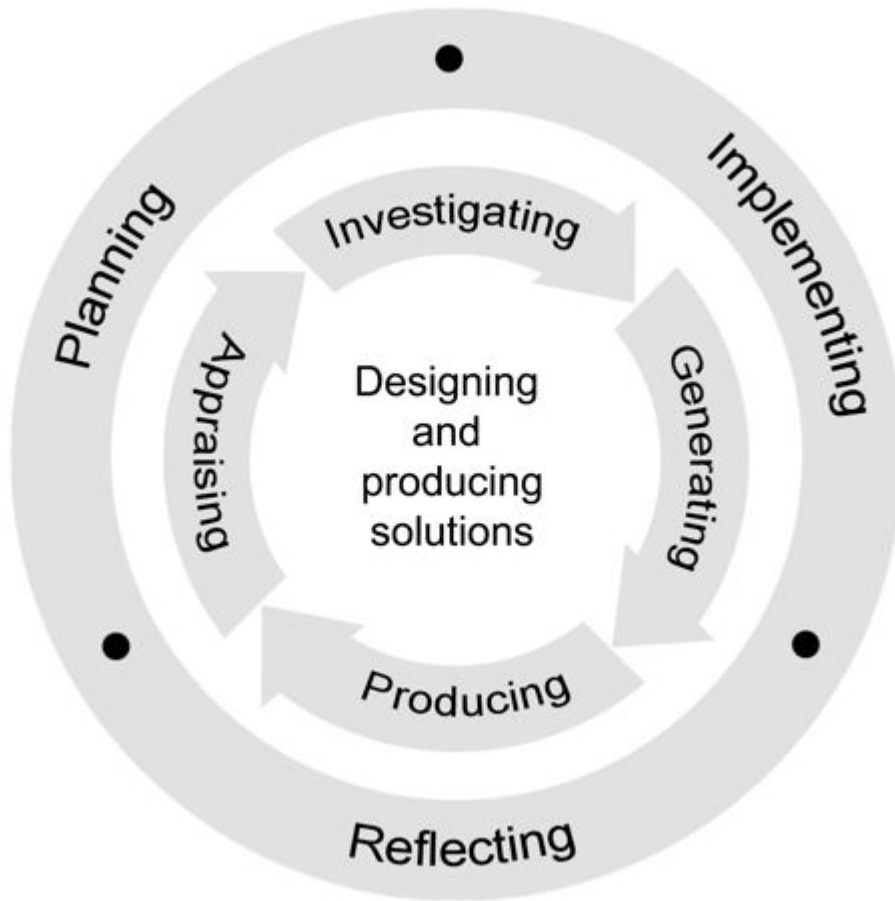
### *Diagrammatical Overview of Course Content Areas*



Source: Department of Education (2015)

CONTENT DETAILS

Area 1: Designing and producing solutions	INTEGRATED THROUGHOUT COURSE DELIVERY
<p>DESIGN PROCESS</p> <p>A design process is a way of thinking and working to define a design problem and develop viable and appropriate solutions that are produced and evaluated against success criteria.</p> <p>A 'design brief' outlines the problem and the constraints and considerations which need to be addressed when designing solutions.</p> <p>Continuous reflection and review of ideas, processes and products is required throughout each phase of the design process. An iterative and reflective approach progressively leads to the development of new ideas and appropriate solutions.</p> <p>The phases in design processes are cyclical rather than linear. Previous phases are often revisited to refine ideas. The four broad phases of a design process include:</p> <ul style="list-style-type: none"> <li>• investigating</li> <li>• generating</li> <li>• producing</li> <li>• evaluating.</li> </ul> <p>Learners also continuously plan, implement and reflect on the design phases to make adjustments, monitor time-lines and meet success criteria when undertaking a design project.</p> <p><i>Relationship Between Design Process Phases and Planning, Implementing and Reflection</i></p>	



Source: Department of Education (2015)

Area 1: Designing and producing solutions (cont.)	
<b>DESIGN PROCESS PHASES</b>	
During each phase of the design process, ongoing reflection and review is undertaken to test and refine solutions and processes.	
<b>Investigating</b>	Investigating needs, problems and opportunities: <ul style="list-style-type: none"> <li>• investigating and interpreting design briefs</li> <li>• developing design briefs in response to needs and opportunities</li> <li>• locating design information from a range of sources, including relevant design precedents, historical design movements and existing products with a similar function</li> <li>• identifying factors for consideration, constraints and success criteria.</li> </ul>
<b>Generating</b>	Generating, testing and communicating ideas: <ul style="list-style-type: none"> <li>• visualising using brainstorming, graphic organisers, concept sketches and drawings</li> <li>• graphical representation and testing techniques, including conventional and/or digital formats</li> <li>• freehand sketching, annotations, working drawings and patterns</li> <li>• experimentation and speculative engagement with materials, methods and ideas</li> <li>• modelling, trialling and prototyping</li> <li>• deciding on and justifying the selection of a preferred option</li> <li>• creating working drawings, production drawings or patterns for production.</li> </ul>
<b>Producing</b>	Materials: <ul style="list-style-type: none"> <li>• characteristics and properties</li> <li>• functions and uses (e.g. construction, joining or finishing)</li> </ul>

	<ul style="list-style-type: none"> <li>• criteria for selection</li> <li>• consequences of use.</li> </ul> <p>Tools and equipment:</p> <ul style="list-style-type: none"> <li>• purpose (e.g. to alter the size, shape or finish of a material)</li> <li>• types (e.g. hand tools, power tools, machinery and digital tools)</li> <li>• selection of appropriate tools (considering material, expertise, quality, safety).</li> </ul> <p>Processes and techniques:</p> <ul style="list-style-type: none"> <li>• processes and techniques applied to change the size, shape or nature of the material being worked to: <ul style="list-style-type: none"> <li>o form</li> <li>o separate</li> <li>o combine</li> <li>o finish.</li> </ul> </li> </ul>
<b>Appraising</b>	<ul style="list-style-type: none"> <li>• Final appraisal of product and process in relation to the design brief and success criteria</li> <li>• Consideration of possible modifications to improve the outcome.</li> </ul>
<b>HEALTH AND SAFETY</b>	
Safe use of materials, tools and techniques in relevant workshop/studio area including: <ul style="list-style-type: none"> <li>• health and safety procedures relevant to materials being used</li> <li>• safe operating procedures for machinery and materials safety data sheets</li> <li>• Personal Protective Equipment (PPE)</li> <li>• working safely by oneself and with others.</li> </ul>	

<b>Area 2: Design factors</b>	<b>INTEGRATED THROUGHOUT COURSE DELIVERY</b>
<b>DESIGN FACTORS</b>	
Factors influencing the design of products and designed solutions are identified and addressed in response to the design brief.	
<b>Function</b>	<p>User(s) needs, purpose, function and context including:</p> <ul style="list-style-type: none"> <li>• age</li> <li>• physical attributes</li> <li>• comfort</li> <li>• accessibility</li> <li>• ergonomics and anthropometric data</li> <li>• safety.</li> </ul>
<b>Environmental</b>	<p>Impact of using materials and creating designed solutions on the environment including:</p> <ul style="list-style-type: none"> <li>• ethical use of resources</li> <li>• life-cycle analysis</li> <li>• eco-footprint</li> <li>• recycling</li> <li>• use of renewable energy and resources and systems to support sustainability.</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>• cost of materials</li> <li>• time to construct</li> <li>• value of item to end-user</li> <li>• durability and longevity of item</li> </ul>
<b>Aesthetic</b>	<ul style="list-style-type: none"> <li>• elements of design: <ul style="list-style-type: none"> <li>o shape, form, line, colour, tone, shape, texture and transparency</li> </ul> </li> <li>• principles of design: <ul style="list-style-type: none"> <li>o proportion and balance</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ symmetry and asymmetry</li> <li>○ pattern and rhythm</li> <li>○ positive and negative space</li> <li>● finesse of final product</li> </ul>
<b>Social</b>	<p>Influence of social and cultural factors on individuals and communities, including:</p> <ul style="list-style-type: none"> <li>● user identity and needs</li> <li>● cultural influences</li> <li>● changing social trends</li> <li>● design trends.</li> </ul>
<b>Technology</b>	<p>Impact of technological innovation on:</p> <ul style="list-style-type: none"> <li>● design development (e.g. digital modelling and prototyping)</li> <li>● production (e.g. fabrication methods including 3D printing, laser cutting, computer numerical controlled equipment).</li> </ul>
<b>Design practice</b>	<p>Knowledge of design practice and pathways in relevant materials area, including:</p> <ul style="list-style-type: none"> <li>● design and production processes in domestic, community and industrial commercial settings</li> <li>● profiles of local, national or international designers and their work</li> <li>● range of design professions and pathways</li> <li>● the nature of work of designers.</li> </ul>

<b>Area 3: Implementing projects</b>	<b>INTEGRATED THROUGHOUT COURSE DELIVERY</b>
Learners use project management tools and strategies to plan and implement practical projects.	
<b>Planning</b>	<ul style="list-style-type: none"> <li>● identifying and developing personal production skills</li> <li>● identifying and sequencing key stages of production, e.g. Gantt charts or project management templates</li> <li>● devising: <ul style="list-style-type: none"> <li>○ cutting lists, time plans and costing plans</li> <li>○ materials lists</li> <li>○ production processes considering the availability of tools and equipment</li> </ul> </li> <li>● identifying and managing potential workshop hazards and risks.</li> </ul>
<b>Implementing</b>	<ul style="list-style-type: none"> <li>● managing time</li> <li>● monitoring time and cost plans</li> <li>● appraising processes and product or solutions at key stages.</li> </ul>

## Work Requirements

Learners must complete a specified number of **projects** according to their specialisation and a **design folio**.

### Projects

- at least **one Major Project** which includes a range of processes
- at least **one or two Minor Project(s)** depending on their specialisation.

The major and minor products will be fully finished items.

### Guidelines for Minimum Work Requirements for Each of the Specialisations

Material	Project Type	Required Number of Items	Examples of Projects
Glass	Major	1	use of leadlight techniques to make a lampshade <b>OR</b> a decorative window panel <b>OR</b> a fused glass jewellery or vessel – series of 6 pieces
	Minor	2	leadlighting techniques in a mandala (3-10 pieces of glass) and a brooch or small jewellery item
Metal	Major	1	folding work bench including at least 6 of the following processes: marking out; cutting; drilling; welding; fitting; lathe work; milling or forming
	Minor	1	weather vane, small toolbox, tool or implement, candelabra, metal legs for complementary project
Plastics	Major	1	surfboard <b>OR</b> canoe using moulds, framing techniques, application of fibreglass and finishing
	Minor	1	salt and pepper shakers, jewellery and accessories, bowls, minor car component, simple model or ornament/artefact
Textiles	Major	1	garment using a commercial or hand drafted 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 <b>OR</b> textile or wearable art item such as clothing, artefacts or accessories featuring at least two different methods of embellishment or fabric manipulation
	Minor	2	cushion, bag, small item of clothing, recycling or remodelling old clothing
Wood	Major	1	table including a least four processes such as: shaping and profiling of legs; joints; edge treatment; and surface finishes
	Minor	2	simple box, ottoman, simple storage systems, clock or mirror
Composite Materials	Major	1	a product involving measurement, cutting/moulding, shaping and finishing of at least two different materials <b>OR</b> architectural model <b>OR</b> wearable art from mixed media or recycled materials
	Minor	1	kite, table lamp, simple domestic wares, or simple jewellery

### Design Folio

Learners must document their design process for the Major Product.

The folio will involve undertaking and documenting a design process to develop ideas and produce a solution in response to a design brief.

The investigation, generation, production and evaluation phases of the design process will be reflected through both visual and written communication methods.

The Design Folio will document the following:

#### The Design Brief

The design brief may be learner or teacher generated and will identify:

- a need, problem, or challenge
- context



- constraints
- considerations
- end user.

## ***Design Process Phases***

### *Investigating*

- Design information from a range of sources including precedents and items with a similar function
- Written evidence of consideration of relevant design factors directly related to the major project (i.e. functional, environmental, economic, aesthetic, social, and technological factors). The written component may be in a range of possible forms including, but not limited to:
  - mind maps
  - annotated images (e.g. features of a prominent designer's work)
  - a decision matrix
  - 'plus, minus and interesting' (PMI) chart
  - annotated sample board
  - short report or paragraphs

The written component should contain a minimum of 400 words

- Success criteria for project.

### *Generating*

- Sketching and drawing
- Modelling, trialling or prototyping
- Time plans, costing, production sequences and plans
- Design decisions and reasons for selection.

### *Producing*

- Record of progress during production including photos and appraisal at critical points in the production of the object.

### *Appraisal*

- Appraisal of each phase of design process
- Final appraisal of product or solution in relation to:
  - how well the requirements and success criteria of design brief have been met
  - modifications and adjustments made to plans
  - what was learned through the process
  - possible modifications to improve the product or solution.

Learners may use digital formats to present aspects of their design process (e.g. digital images of the production process, digital modelling or using a personalised media platform to collect design information).

## 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 'A', 'B', or 'C', according to the outcomes specified in the standards section of the course.

A 't' notation must be used where a learner demonstrates any achievement against a criterion less than the standard specified for the 'C' rating.

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. 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; and
- 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.

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

## Criteria

The assessment for Design and Production Level 2 will be based on the degree to which the learner can:

1. plan, organise and complete design and production projects
2. use a design process in response to a brief
3. use techniques and processes to create objects
4. select and safely use materials, tools and equipment to construct objects
5. refine design choices and appraise design solutions
6. identify factors affecting design decisions and practice

## Standards

### Criterion 1: plan, organise and complete design and production projects

The learner:

Rating A	Rating B	Rating C
plans design and production phases using a range of processes* and detail including key milestones and targets	plans design and production phases using appropriate processes* and details	plans design and production phases using a limited range of processes* and detail
plans and sequences the construction process, making appropriate adjustments as required	plans and sequences the construction process	lists – orally/signed or in written form – the sequence of the construction process
monitors plans during each phase of the project to complete tasks, and makes adjustments to solve problems and meet deadlines.	completes tasks and implements plans, and makes some adjustments to solve problems and meet most deadlines.	completes tasks and implements a limited range of plans, as directed.

\* Processes include, but are not limited to: time plans, Gantt charts, costing plans, project management templates.

### Criterion 2: use a design process in response to a brief

The learner:

Rating A	Rating B	Rating C
identifies and accesses a range of sources of information relevant to a design brief, user needs and design precedents	identifies and accesses sources of information relevant to a design brief, user needs and design precedents	identifies and accesses sources of information relevant to a design brief
uses systematic and iterative processes to meet the needs, considerations and constraints identified in a brief	meets most of the needs, considerations and constraints identified in a brief	meets some of the needs and considerations identified in a brief
produces a design folio communicating an appropriate range of graphic forms* that has supported the generation of design ideas, development of possible solutions and a strong relationship with the design brief	produces a design folio using an appropriate range of graphic forms* that reflect the generation of design ideas and some development of possible solutions	produces a design folio using a range of graphic forms* that reflect the generation of design ideas
tests and trials ideas and techniques to develop designs and provides reasoning for decisions when designing objects	undertakes limited tests, trials of designs and provides some reasoning for decisions when designing objects	makes decisions when designing objects
uses appropriate referencing/citation methods.	uses some appropriate referencing/citation methods.	uses referencing/citation methods, as directed.

\* Graphic forms may include, but are not limited to: sketches; drawings, production systems flow charts; orthographic projections; working drawings; colour images; and 3-dimensional models, prototypes and written annotations.

### Criterion 3: use techniques and processes to create objects

The learner:

Rating A	Rating B	Rating C
selects and uses appropriate techniques and processes to construct, shape and modify materials in response to a brief	uses appropriate techniques and processes to construct, shape and modify materials in response to a brief	uses techniques and processes to construct, shape and modify materials in response to a brief, as directed

selects and uses a range of suitable or effective techniques for specific applications and materials	from a given range of techniques, selects and uses suitable or effective techniques for specific applications and materials	uses a suitable technique for specific applications and materials
applies a range of techniques and processes to achieve a level of accuracy to meet the requirements of a brief	applies techniques and processes to achieve a level of accuracy appropriate to a brief	uses skills in a given range of techniques and processes to achieve a level of accuracy appropriate to a brief
uses strategies such as practicing, testing, repeating and refining to improve quality of work.	uses some strategies such as practicing and testing to improve quality of work.	uses strategies to improve quality of work, as directed.

## Criterion 4: select and safely use materials, tools and equipment to construct objects

The learner:

Rating A	Rating B	Rating C
selects and efficiently uses materials appropriate to the needs of a brief and provides reasons for selection	selects and uses materials appropriate to the needs of a brief	uses materials appropriate to the needs of a brief, as directed
explains the properties of materials and related resources and makes appropriate use of their characteristics and meets the requirements of a brief	describes the properties of materials and related resources and makes appropriate selections to meet the requirements of a brief	lists the basic properties of materials and related resources used
correctly identifies, selects and provides reasons for the use of a range of appropriate tools, equipment and materials required for the production of products	correctly identifies and selects a range of appropriate tools, equipment and materials required for the production of products	uses tools, equipment and materials required for the production of products, as directed
identifies and appropriately reports hazards, and describes the steps in a range of relevant workshop emergency procedures	identifies and appropriately reports hazards and outlines the steps of common workshop emergency procedures	states potential workshop hazards and the steps of common workshop emergency procedures
acts with a level of awareness of the safety of self and others to apply health and safety procedures, including using appropriate personal protective equipment (PPE).	applies established safety procedures for the use of equipment and facilities, including using appropriate personal protective equipment (PPE).	follows established safety procedures for the use of equipment and facilities including using appropriate personal protective equipment (PPE), as directed.

## Criterion 5: refine design choices and appraise design solutions

The learner:

Rating A	Rating B	Rating C
reflects – orally/signed and in writing – on plans, implementation, outcomes and own performance and uses recommendations to inform future actions	reflects – orally/signed and in writing – on plans, implementation, outcomes and own performance and makes recommendations for future actions	reflects – orally/signed and in writing – on plans, implementation, outcomes and own performance and makes limited suggestions for improvements
adjusts and modifies initial design ideas to develop design solutions that meet the requirements of a brief	adjusts and modifies initial design ideas to develop design solutions that meet most of the requirements of a brief	makes a limited range of changes or improvements when developing design solutions
appraises the suitability and appropriateness of solution(s) in meeting	appraises the suitability and appropriateness of solution(s) in	makes some realistic conclusions about suitability and appropriateness of

the success criteria for a brief, and identifies competing design factors	meeting standards required by a brief	solution(s) in meeting standards required by a brief
assesses the quality of work undertaken in relation to the requirements of the brief	discusses the quality of work undertaken in relation to the requirements of the brief	makes some valid observations regarding the quality of work undertaken
assesses the effectiveness of the techniques and processes used in relation to the requirements of the brief and suggests improvements in future tasks.	discusses the effectiveness of the techniques and processes used in relation to the requirements of the brief.	makes some valid observations regarding the effectiveness of techniques and processes used.

## Criterion 6: identify factors affecting design decisions and practice

The learner:

Rating A	Rating B	Rating C
describes a range of factors* which impact on design decisions	outlines a range of factors* which impact on design decisions	identifies a limited range of factors* which impact on design decisions
accurately identifies a range of user needs and designs appropriate solutions	identifies a range of user needs and designs appropriate solutions	identifies some user needs when designing solutions
describes and applies a range of design factors* when working with a design	describes a range of design factors* when working with a design	lists some design factors* when working with a design brief
discusses features of design practice of a successful design professional and uses applicable features and precedents to inform own work as appropriate	discusses features of design practice of a successful design professional	outlines the design practice of a successful design professional working
describes a range of design professions, compares the nature of work in various design contexts and identifies possible study pathways.	describes a range of design professions and identifies possible study pathways.	identifies a limited range of design professions and study pathways.

\* Factors include function, environmental, economic, social, aesthetic and technological.

## Glossary Of Terms Used In Standards

Term	Explanation
Apply	use or employ knowledge and skills in a particular situation
Appraise	to assess the worth, value, or quality of
Appropriate	fitting, suitable to the context
Assess	make a judgement about, to rate, weigh up, to form an opinion
Basic	essential or elementary
Compare	estimate, measure or note how things are similar or dissimilar
Decision	a choice or determination formed following the consideration of alternatives
Describe	recount, comment on, and provide an account of characteristics or features
Develop	construct, elaborate or expand on an idea
Discuss	talk or write about a topic, taking into account different issues and ideas
Evaluate	appraise, measure, examine and judge the merit, significance or value of something
Explain	provide additional information that demonstrates understanding and reasoning; present a meaning with clarity, precision, completeness, and with due regard to the order of statements in the explanation
Identify	name, list and establish or indicate what something is
Information	knowledge or data gained from primary and secondary sources
Interpret	explain the meaning of information or actions
Iterative	the process of design development involving cyclical inquiry, enabling multiple opportunities to revisit ideas and reflect on their possibilities
Outline	give the main features or aspects of
Process	a system of rules or principles for conducting activities
Prototype	a working trial product
Range	a number of different things of the same general type; breadth
Recommendation	a proposal for an appropriate course of action
Relationship	the connection or association between ideas, information or components of concepts
Relevant	applicable and pertinent
Select	choose in preference to another or others
Systematic	methodical, organised and logical

## Qualifications Available

Design and Production Level 2 (with the award of):

EXCEPTIONAL ACHIEVEMENT

HIGH 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 6 ratings.

The minimum requirements for an award in Design and Production Level 2 are as follows:

EXCEPTIONAL ACHIEVEMENT (EA)

5 'A' ratings, 1 'B' rating

HIGH ACHIEVEMENT (HA)

2 'A' ratings, 3 'B' ratings, 1 'C' rating

COMMENDABLE ACHIEVEMENT (CA)

3 'B' ratings, 3 'C' ratings

SATISFACTORY ACHIEVEMENT (SA)

5 'C' ratings

PRELIMINARY ASSESSMENT (PA)

3 'C' ratings

A learner who otherwise achieves the ratings for a CA (Commendable Achievement) or SA (Satisfactory Achievement) award but who fails to show any evidence of achievement in one or more criteria ('z' notation) will be issued with a PA (Preliminary Achievement) award.

## **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.

## **Course Developer**

The Department of Education.

## **Expectations Defined By National Standards**

There are no statements of national standards relevant to this course.

## **Accreditation**

The accreditation period for this course is from 1 January 2016 to 31 December 2025.

## **Version History**

Version 1 – Accredited on 4 June 2015 for use from 1 January 2016 until 31 December 2020. This course replaces Design and Production (DAP215114) that expired on 31 December 2015.

Version 1.a - Accreditation renewed on 13 July 2020 for the period 1 January 2021 to 31 December 2021 (no amendments made).

Version 1.b - Renewal of Accreditation on 14 July 2021 for the period 31 December 2021 until 31 December 2025, without amendments.

## GLOSSARY OF COURSE TERMINOLOGY

Term	Explanation
Constraints and considerations	<i>constraints</i> are factors that the solution must address, incorporate or abide by: they typically include the words 'must', 'should' or 'needs to'  <i>considerations</i> are usually other factors which that may affect the finished product or requires research
Context	information about the design situation – including 'who', 'what', 'why' and 'when'
Decision matrix	a decision making tool used to make comparisons between design options. Different elements of the design may have relative weightings based on the priorities in the design brief.
Design brief	a concise statement clarifying the project task and defining the need or opportunity to be resolved after some analysis, investigation and research  a design brief usually identifies the users, criteria for success, constraints, available resources, timeframe for the project
Design processes	processes that typically involve investigating; generating; producing; evaluating and managing to create a designed solution that considers social, cultural and environmental factors
Design thinking	use of strategies for understanding design problems and opportunities, visualising and generating creative and innovative ideas, and analysing and evaluating those ideas that best meet the criteria for success and planning
Designed solutions	in Design and Production, the objects or environments that have been created for a specific purpose or intention as a result of design thinking, design processes and production processes, also see 'solutions'
Environmental factors	practices that have impact on ecosystem health. Environmentally sustainable practices minimise impact, allow renewal of natural systems and value environment qualities that support life.
Gantt chart	a timeline that shows the dates at which different steps in a project will be completed
Graphical representation techniques	techniques used to communicate ideas and plans in either conventional or digital forms, for example sketching, drawing, modelling, making patterns, technical drawing
Life-cycle thinking	a strategy to identify possible improvements to products, services and environments to reduce environmental impact and resource consumption. The cycle goes from the acquisition of materials through to disposal or recycling.
Precedent	examples of existing designs that provide stimuli for new designs in the early stages of the design process. In Design and Production, learners source a range of design images of objects to assist in generating their design ideas. Sources range from iconic designs in the field (e.g. fashion, furniture, homewares, hardware, building design) through to commonly available products with a similar function.
Producing	actively realising (making) designed solutions using appropriate resources and means of production
Product	one of the outputs of technologies processes, the end result of processes and production
Production drawing	a working drawing that details the manufacture and assembly of products
Project implementation	in Design and Production, 'project implementation' aligns with 'Project Management' which is an overarching idea in the <i>Australian Curriculum: Technologies</i>
Orthogonal drawings	multi-view drawings which include a plan, elevation and section
Solutions	see 'designed solutions'
Success criteria	elements of a designed solution which have been identified as critical to it's effectiveness in meeting requirements of the design brief
Sustainable	supports the needs of the present without compromising the ability of future generations to support their needs
Systems thinking	a holistic approach to the identification and solving of problems where parts and components of a system, their interactions and interrelationships are analysed individually to see how they influence the functioning of the whole system. This approach enables learners to understand systems and work with complexity, uncertainty and risk.



## Appendix 2

### RECOMMENDED WORKSPACE, TOOLS AND EQUIPMENT FOR MATERIALS AREA

Material	Workspace Requirements	Tools and Equipment
<b>Glass</b>	<ul style="list-style-type: none"> <li>a general purpose studio</li> <li>personal protective devices (safety glasses, gloves, ear muffs and an apron).</li> </ul>	<ul style="list-style-type: none"> <li>glass cutters - liquid filled</li> <li>grozing pliers</li> <li>breaking pliers or running pliers</li> <li>glass grinder</li> <li>soldering irons</li> <li>scissors</li> <li>burners (e.g. oxy-acetylene)</li> <li>ovens (if glass slumping is used).</li> </ul>
<b>Metal</b>	<ul style="list-style-type: none"> <li>work benches fitted with metal work vices</li> <li>welding bay should be able to be shielded from the general work area</li> <li>personal protective devices (safety glasses, ear muffs and an apron).</li> </ul>	<p>Tools listed are general in nature:</p> <ul style="list-style-type: none"> <li>hand tools for measuring, marking and scaling</li> <li>cutting and shaping tools including saws, lathes and grinders</li> <li>joining equipment including oxy-acetylene equipment and MIG welding.</li> </ul>
<b>Plastics</b>	<ul style="list-style-type: none"> <li>work benches</li> <li>personal protective devices (safety glasses, ear muffs, aprons, dust masks).</li> </ul>	<p>General hand tools for plastics:</p> <ul style="list-style-type: none"> <li>measuring equipment tape measures and rulers</li> <li>arious clamping aids</li> <li>hammers.</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>acrylic cutting and drilling equipment</li> <li>fibre glass and Kevlar equipment.</li> </ul>
<b>Textiles</b>	<ul style="list-style-type: none"> <li>layout tables.</li> </ul>	<ul style="list-style-type: none"> <li>domestic sewing machines and associated equipment such as overlockers</li> <li>patterns</li> <li>measuring, marking and cutting tools.</li> </ul>
<b>Wood</b>	<ul style="list-style-type: none"> <li>work benches fitted with wood working vices</li> <li>machining and breakdown areas separated from the general work area</li> <li>personal protective equipment (safety glasses, ear muffs and an apron).</li> </ul>	<ul style="list-style-type: none"> <li>measuring and marking tools</li> <li>cutting and shaping saws and chisels</li> <li>power tools such as sanders, routers, joiners, jigsaws and drills</li> <li>finishing tools</li> <li>fixed machine tools including planers, saws, thicknesses, lathes and grinders.</li> </ul>
<b>Composite Materials</b>	<ul style="list-style-type: none"> <li>requires a selection of general purpose hand tools and moulds for the manipulation of resins, plastics, cements, leather, clays, woods, fibres and other materials</li> <li>resources should be sourced as required commensurate with the materials and techniques to be utilised.</li> </ul>	

### Consumable Resources

Providers will make available a basic stock of consumable materials relevant to the materials area. Additional consumable resources may be required for specific design briefs.

