



Australian Government

AUMFTM003 Develop conceptual models and prototypes

Release: 1

AUMFTM003 Develop conceptual models and prototypes

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMFTM5003 Develop conceptual models and prototypes

Application

This unit describes the performance outcomes required to develop and trial conceptual models and prototypes in the design, development and production of motor vehicles.

It applies to those in an automotive manufacturing environment.

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

Competency Field

Manufacturing - Passenger Vehicle

Unit Sector

Technical - Manufacture

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section
1. Determine model and prototype requirements	1.1 <i>Workplace requirements</i> for the development of conceptual <i>models and prototypes</i> are confirmed 1.2 <i>Instructions</i> and plans are interpreted to identify processes and materials needed to undertake the work 1.3 Client requirements for model and prototype are confirmed with relevant personnel 1.4 Approval is sought for the proposed development or modifications to conceptual model and prototype

Elements	Performance Criteria
2. Plan model and prototype-making activities	2.1 Steps involved in the development or modification of the model and prototype are identified 2.2 Fabrication and machining processes and instructions are determined 2.3 Timetable, resource requirements, personnel, and purchase and supply schedule are confirmed 2.4 Approved plan is communicated to relevant personnel
3. Prepare tools and equipment	3.1 Required tools and equipment to construct or modify the model or prototype are selected and prepared for use 3.2 Necessary materials and components are obtained according to design requirements
4. Produce conceptual model and prototype	4.1 Model and prototypes are designed according to design plans and specifications 4.2 Model and prototypes are fabricated and constructed according to plans and specifications 4.3 Completed model and prototypes are compared to specification and modified as required
5. Test and modify model and prototype	5.1 Model and prototypes are tested and checked against project objectives, design specifications and workplace standards 5.2 Test results are analysed and action is taken where required to modify the model and prototypes 5.3 Outcomes of development process and associated testing are documented and referred to relevant personnel

Foundation Skills

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

Skills	Description
Reading skills to:	interpret instructions and plans, regulations, standards, codes of practice, fabrication, equipment processes, work practices and workplace procedures relevant to developing conceptual models and prototypes.
Writing skills to:	develop model and prototype plan.
Oral communication skills to:	- discuss and clarify project plan with relevant personnel, communicating complex relationships between ideas and information in a style appropriate to audience and purpose - discuss timetable, resource and personnel requirements with

Skills	Description
	relevant personnel.
Numeracy skills to:	- calculate budgets and costs - calculate material requirements - operate measuring tools and equipment.
Digital literacy skills to:	- use computers and computer software, such as email, databases, spread sheets and word processing, to convey ideas, tests and reports - use computerised equipment for model and prototype development and shaping.
Planning and organising skills to:	- set up processes and procedures to ensure that timelines and budgets are managed - develop or modify conceptual models and prototypes.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Workplace requirements</i> must include:	- equipment use - quality and continuous improvement processes - recording and reporting guidelines - work health and safety (WHS) requirements relating to the development of models and prototypes.
<i>Models and prototypes</i> must be:	- formed using metal, plastics, clay, fibre glass, wood, foam, and other suitable material - shaped through the development and use of moulds, templates, carving and computerised shaping equipment on material.
<i>Instructions</i> must include:	- job sheets, plans, specifications, drawings and designs - manufacturer instructions - workplace procedures relating to the development of prototypes.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1>

Assessment Requirements for AUMFTM003 Develop conceptual models and prototypes

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Performance Evidence

Before competency can be determined, individuals must have competently developed conceptual models and prototypes on a minimum of two occasions.

Individuals must demonstrate they can:

- comply with workplace standards, safe work practices and workplace procedures for developing conceptual models and prototypes
- communicate effectively with design engineers during development process
- apply, within scope of own authority, the requirements of the job in relation to:
 - developing conceptual models and prototypes that satisfy customer requirements
 - achieving work quality goals
 - completing documentation of the model and prototype development process
 - completing work area housekeeping requirements, including documentation of project activity, process and outcomes.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) requirements when developing models and prototypes
- common types and applications of conceptual model and prototype plans and specifications
- workplace procedures for developing conceptual models and prototypes
- methods for determining model and prototype requirements and producing models
- operation of vehicle design software systems and components
- techniques to test and evaluate models and prototypes against project objectives, specifications and workplace standards
- workplace quality standards relating to developing conceptual models and prototypes
- procedures for recording and reporting workplace records and information.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the conceptual models and prototypes that they have developed, e.g. work orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- workplace location or simulated environment
- materials, tools, equipment and machinery required for developing conceptual models and prototypes
- workplace procedures to develop conceptual models and prototypes.

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