Australian Government

AUMFTM002 Create new product designs

Release: 1

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Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMFTM5002 Create new product designs

Application

This unit describes the performance outcomes required to create new designs for the plant, tools, equipment and systems required in the design, development and production of motor vehicles.

It applies to those in a manufacturing environment and involves the application of skills and knowledge at a specialist level.

Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.

Competency Field

Manufacturing - Passenger Vehicle

Unit Sector

Technical – Manufacture

Elements and Performance Criteria

Elements Elements describe the essential outcomes	**Performance Criteria** 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. Establish design requirements	1.1 Work instructions and plans are interpreted to identify processes and materials required 1.2 ***Information*** is gathered and analysed to determine key requirements of new design 1.3 Requirements of new design are documented according to workplace procedures

Elements	Performance Criteria
2. Identify constraints	2.1 Constraints on design concepts are identified and documented 2.2 Suitable strategies are developed to address identified constraints on designs
3. Create design concept	3.1 Initial design concept based on identified design requirements and constraints is created 3.2 Function, physical requirements and impact of the design concept are reviewed with appropriate personnel 3.3 Modifications to the initial design concept are made according to feedback provided by appropriate personnel
4. Produce design concept	4.1 Sketches are prepared to illustrate and explain proposed design concept 4.2 Concept sketches are reviewed with appropriate personnel and suitable changes are made 4.3 Critical dimensions and data of the design concept are identified 4.4 Drawings are prepared to enable manufacturing methods to be identified and evaluated 4.5 Draft product specifications are prepared according to workplace procedures
5. Determine suitable manufacturing methods, materials and processes	5.1 Suitable manufacturing methods are identified for the production of components and sub-assemblies 5.2 Identified manufacturing methods for components and sub-assemblies are evaluated with engineering personnel 5.3 Suitable assembly and finishing methods for the purpose of product design are identified and evaluated
6. Evaluate feasibility of design and manufacture	6.1 Proposed design and manufacturing processes are evaluated against the design requirements with appropriate personnel 6.2 Suitable design tests are conducted, and outcomes are documented
7. Modify design	7.1 Product designs are modified if necessary, based on test outcomes 7.2 Further tests are conducted to confirm modified design against design requirements 7.3 Outcomes of modifications and testing of new design concept are documented
8. Complete work processes	8.1 Documentation requirements for proposed new product design and associated manufacturing processes are identified 8.2 Design documents are processed for approval 8.3 Design documents are distributed and stored according to workplace procedures

Foundation Skills

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

Skills	Description
Reading skills to:	• interpret work instructions and design plans • interpret test outcomes.
Writing skills to:	• document new design requirements, concept constraints, trials or tests, modification outcomes, and the final new product design • complete design documents and test results.
Oral communication skills to:	• review and evaluate concept sketches with engineering personnel • evaluate manufacturing methods with production engineering personnel.
Numeracy skills to:	• identify design dimensions • calculate materials required for manufacture • document outcomes of the modification and testing of the new design concept using mathematical language.
Teamwork skills to:	• work with engineering and manufacturing co-workers while reviewing and evaluating the design.

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.

Information must include:	• Australian Design Rules (ADR) • fashion trends • safety needs • workplace production capability.

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