

Specification of Competency Standards
for the Automotive Industry
Unit of Competency

Functional Area - Vehicle Servicing

Title	Design the carriages of passenger vehicles
Code	108768L5
Range	This unit of competency is applicable to the builders of the carriages of passenger vehicles or respective engineering staff. Practitioners should be able to master the specification requirements on the construction of carriages of passenger vehicles, preparing design drawings on the basis of intact chassis of passenger vehicles by means of appropriate drafting software, and listing the materials required.
Level	5
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Knowledge (Structure of passenger vehicles)</p> <ul style="list-style-type: none"> • Fully understand the detailed overall structure of passenger vehicles and the inter-relationships of various systems (e.g. power, transmission, suspension, steering, braking, electric, heating, ventilation and air conditioning, vehicle frame and interior trim) and master the technical parameters of vehicles (e.g. wheel base, wheel span, axle load, the shape and dimensions of the frame). • Master with the construction process of carriage, such as material shaping, construction of the skeleton, panelling, rust-proof, painting, assembling, installation of supplementary facilities and inspection. • Master the characteristics, application standards, joining methods and costs, etc. of different construction materials for the carriage. • Fully master requirements of customers on carriages, such as vehicle load, the dimension and location of baggage compartment, interior environment of the carriage and facilities (including views, light filtration, sound-proof, heat-proof, heating, ventilation and air conditioning, audio-visual systems, reversing visual display, storage shelf and toilet, etc.), security, entrance/exit locations and emergency exit doors for passenger as well as appearance. • Good understanding of legislative requirements on the standard of the interior design of the carriages of passenger vehicles, such as the dimensions and location of entrance/exit (including stairs) and emergency exit doors for passengers, the dimension and anti-skidding requirements of passageway, the dimensions and legroom of seat, seat belts, the locations and the requirements on surface treatment of handrails, headroom and driving cabin. • Good understanding of the legislative requirements on the passenger vehicle body, such as mirror, lighting and warning lamp, dimension, emergency stop button, colour (applicable to public service vehicles only). • Good understanding of the legislative requirements on the passenger vehicle safety, such as load distribution, the ability to withstand turnover (restrictions on the height of the centre of gravity) and overall dimensions. <p>2. Performance (Design the carriage)</p> <ul style="list-style-type: none"> • Define the design objectives and technical specifications, and categorize the drawings for different sections by integrating the quality requirements of customers, legislative standards, chassis limitations and cost on the basis of intact chassis of passenger vehicle. • Apply appropriate drafting software to prepare the design engineering drawings for the carriage according to the established design objectives while taking the possibility and rationality of supplementary facilities installation into account.

Specification of Competency Standards
for the Automotive Industry
Unit of Competency

Functional Area - Vehicle Servicing

	<ul style="list-style-type: none"> • Compile the list of the materials required according to the design engineering drawing, and evaluate the man-hours required for construction, working procedures and costs to ensure that requirements of parties concerned are met. • Widely accept opinions from all concerned parties (such as builders, material suppliers and customers, etc.) and revise the design details when necessary without deviating from the design objectives. • Ensure that the interior design, appearance and safety standards of the carriage of passenger vehicles comply with respective legislative requirements.
Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are that the practitioner being assessed shall prove that he/she is:</p> <ul style="list-style-type: none"> • Capable of mastering requirements of customers and respective regulations on carriage, and defining the design objectives and technical specifications on the basis of intact chassis of passenger vehicle; and • Capable of applying appropriate drafting software to prepare the design engineering drawings for different sections of the carriage and compiling the list of required materials to ensure that the requirements on design objectives, technical specifications and costs are met.
Remark	<p>The credit value of this competency unit assumes that the practitioner has possessed knowledge of the car body structure.</p> <p>The major legislation/rule involved in this unit of competency is as follows:</p> <ul style="list-style-type: none"> • Road Traffic (Construction and Maintenance of Vehicles) Regulations