

ELEC216 - Carry Out Quality Checks in Electric Vehicle Manufacture

Scheme of Work

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Course/Qualification: Vehicle Electrification

Tutor's Name: _____

Number of Sessions: **Delivery Hours:** 8 **Venue:** _____ **Group:** _____

Learning Outcomes

1. Know how to follow standard operating procedures to carry out all specified quality tests for the electric vehicle or electric vehicle sub-systems.
2. Be able to follow manufacturer standard operating procedures to carry out all specified quality tests for the electric vehicle or electric vehicle sub-systems.
3. Understand how to interpret results of electric vehicle quality/functional testing to determine and report an outcome.
4. Describe the potential problems associated with vehicles with electric drive systems during the inspection and testing process, how they occur, and how they can be corrected.
5. Know how to follow vehicle manufacturer operating procedures to safely carry out quality and compliance checks on active safety systems on electric vehicles.
6. Follow vehicle manufacturer operating procedures to safely carry out quality and compliance checks on active safety systems on electric vehicles.
7. Be able to document all findings in the manufacturer's quality management system.

Session	Learning Outcome No.	Activities and Resources	Assessment
(AM) 1 hour	LO1 - Know how to follow standard operating procedures to carry out all specified quality tests for the electric vehicle or electric vehicle sub-systems.	Learners to complete the following slides/e-learning modules: 05–14 Assessment Criteria: <ul style="list-style-type: none"> Understanding Quality Control (QC). 	Completion of e-learning / Question sheet / Tasks
1 hour	LO2 - Be able to follow manufacturer standard operating procedures to carry out all specified quality tests for the electric vehicle or electric vehicle sub-systems.	Learners to complete the following slides/e-learning modules: 16–64 Assessment Criteria: <ul style="list-style-type: none"> Know QC methods and sample testing. Understand the Taguchi and Kaizen method. Be aware of Statistical Quality Control (SQC) and Acceptable Quality Level (AQL). Know methods used in sample testing. 	Completion of e-learning / Question sheet / Tasks
1 hour	LO3 - Understand how to interpret results of electric vehicle quality/functional testing to determine and report an outcome.	Learners to complete the following slides/e-learning modules: 66–85 Assessment Criteria: <ul style="list-style-type: none"> Be aware of tools used for physical measurements in sample testing. 	Completion of e-learning / Question sheet / Tasks

1 hour	LO4 - Describe the potential problems associated with vehicles with electric drive systems during the inspection and testing process, how they occur, and how they can be corrected.	Learners to complete the following slides/e-learning modules: 87–98 Assessment Criteria: <ul style="list-style-type: none"> ● Understand electrical/electronic quality control and testing. 	Completion of e-learning / Question sheet / Tasks
(PM) 2 hours	LO5 - Know how to follow vehicle manufacturer operating procedures to safely carry out quality and compliance checks on active safety systems on electric vehicles.	Learners to complete the following slides/e-learning modules: 100–111 Assessment Criteria: <ul style="list-style-type: none"> ● Know the quality control methods used by: <ul style="list-style-type: none"> a. Toyota. b. Ford. c. Other manufacturers. 	Written assignment
(PM) 2 hours	LO6 - Follow vehicle manufacturer operating procedures to safely carry out quality and compliance checks on active safety systems on electric vehicles.	Learners to complete the following slides/e-learning modules: 100–111 Assessment Criteria: <ul style="list-style-type: none"> ● Be able to follow the quality and compliance checks on electric vehicle systems. 	

(PM) 1 hour	LO7 - Be able to document all findings in the manufacturer's quality management system.	Learners to complete the following slides/e-learning modules: 100–111 Assessment Criteria: <ul style="list-style-type: none"> • Know how to document all findings in the manufacturer's quality management system. 	
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