

ELEC508 - Safety, Legislation and Standards - Automotive High Voltage Batteries

Scheme of Work

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Course/Qualification: Vehicle Electrification

Tutor's Name: _____

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

<p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Understand the specific safety issues relating to batteries, particularly management of high voltage and current, fire, heating and overcharging. 2. Interpret required legislation and standards and ensure compliance with specific responsibilities. 3. Understand and interpret design safety standards, regulation and working practices. 4. Understand the workplace regulatory and safety compliance requirements for high voltage systems, including live working, as required. High voltage authorised person. 5. Demonstrate knowledge of the specific safety issues around battery system design to meet appropriate safety and regulatory requirements. 	
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Session	Learning Outcome No.	Activities and Resources	Assessment
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Session	Learning Outcome No.	Activities and Resources	Assessment
(AM) 2 hours	LO1 - Understand the specific safety issues relating to batteries, particularly management of high voltage and current, fire, heating and overcharging.	Learners to complete the following slides/e-learning modules: 03 - 36 Assessment Criteria: <ol style="list-style-type: none"> 1. Health and Safety recap. 2. Understand who regulates the automotive sector in Europe. 3. Know where standards can be found for the automotive industry. 4. Know what legislations and regulations are applicable. 5. Be aware of the general recommendations for working with electric and hybrid vehicles. 	Completion of E-Learning / Question Sheet / Tasks
2 hours	LO2 - Interpret required legislation and standards and ensure compliance with specific responsibilities.	Learners to complete the following slides/e-learning modules: 37 - 71 Assessment Criteria: <ol style="list-style-type: none"> 1. Know the types of lithium-ion batteries and which are used for automotive. 2. Understand the lithium-ion battery construction. 3. Be aware of why lithium-ion batteries catch fire. 4. Understand battery protection and management. 5. Be aware of future batteries. 	Completion of E-Learning / Question Sheet / Tasks
1 hour	LO3 - Understand and interpret design safety standards, regulation and working practices.	Learners to complete the following slides/e-learning modules: 72 - 84 Assessment Criteria: <ol style="list-style-type: none"> 1. Understand battery transportation. 2. Know how to write a battery risk assessment. 3. Understand manual handling. 	Completion of E-Learning / Question Sheet / Tasks

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		<ul style="list-style-type: none"> 4. Know how to store batteries. 5. Know about unstable batteries. 	
1 hour	LO4 - Understand the workplace regulatory and safety compliance requirements for High Voltage (HV) systems, including live working, as required. High voltage authorised person.	<p>Learners to complete the following slides/e-learning modules: 85 - 108</p> <p>Assessment Criteria:</p> <ul style="list-style-type: none"> 1. Understand the general standards and testing used for HV battery and casing for type approval by UNECE. 	Completion of E-Learning / Question Sheet / Tasks
(PM) 2 hours	LO5 - Demonstrate knowledge of the specific safety issues around battery system design to meet appropriate safety and regulatory requirements.	<p>Learners to complete the following slides/e-learning modules: 109 - 113</p> <p>Assessment Criteria:</p> <ul style="list-style-type: none"> 1. Written assignment. 	Written Assignment