Charge Academy - Curriculum Brochure

The AUR32721 unit-by-unit mapping that turns your EV build program into nationally recognised Certificate II / III credit.

Program: Charge Academy EV Program
Qualification: AUR32721 (Cert II / III EV Technology)
Audience: Australian high school principals and STEM coordinators
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PROGRAM AT A GLANCEThis brochure sets out what your students will actually do, unit by unit, when your school runs Charge Academy in 2026. Every kit activity below maps to a registered unit of competency in AUR32721, the Australian automotive training package qualification for high-voltage electric vehicle technology. Charge Academy owns nothing in the mapping; your RTO signs off competency and your school delivers the evidence.AUR32721 UNIT-BY-UNIT MAPPINGThe eight registered units of competency below appear on every student portfolio. Total indicative hours in the table: 180 contact hours. Mapping reflects AUR Automotive Training Package release current at time of delivery. Indicative mapping only - refer to your RTO for formal credit transfer.AURETR112Inspect and test HV battery systemsCert II Y | Cert III Y | 20 hrsAURETR115Diagnose and repair EV drivetrain faultsCert II - | Cert III Y | 40 hrsAURETR125Test, charge and replace EV batteriesCert II Y | Cert III Y | 20 hrsAURLTB104Diagnose light vehicle chassis dynamic systemsCert II Y | Cert III Y | 20 hrsAURETR128Plan and carry out EV modificationsCert II - | Cert III Y | 30 hrsAURTTA105Inspect and test light vehicle powertrainCert II Y | Cert III Y | 15 hrsAURETK001Operate and monitor charging infrastructureCert II Y | Cert III Y | 10 hrsAURETR113Commission HV propulsion systemsCert II - | Cert III Y | 25 hrsMODULE 1 - FOUNDATIONS (TERM 1, WEEKS 1-4, ~30 HRS)Workplace safety, electrical fundamentals, tooling and measurement. No live high voltage yet. Kit touch-points: chassis layout, PPE fit-check, multimeter + torque-wrench station set-up. Builds evidence for AURETK001 and the safe-handling components of AURETR112. Closes with a written workplace safety assessment graded against the AUR evidence criteria.MODULE 2 - EV POWERTRAIN (TERM 1, WEEKS 5-8, ~35 HRS)How a 48V BLDC traction motor and a field-oriented controller produce torque from a LiFePO4 pack. Cell-level monitoring, contactor sequencing, pre-charge behaviour. Kit touch-points: battery pack + BMS, ESC + CAN dongle, motor + encoder. Direct evidence for AURETR112, AURETR125 and AURTTA105. Practical: bench-test rig with CAN telemetry streamed to a tablet.MODULE 3 - HANDS-ON BUILD (TERM 2, WEEKS 1-6, ~45 HRS)Students fabricate and assemble the chassis, mount the powertrain, route the HV loom and integrate the BMS + ESC + CAN bus. Bolted assembly plus supervised MIG welding for advanced cohorts. Kit touch-points: chassis panels + roll-cage, motor mount, ESC enclosure, full wiring loom. Evidence: AURETR128, AURETR113 and the chassis-side components of AURLTB104.MODULE 4 - TESTING + VALIDATION (TERM 2, WEEKS 7-9, ~25 HRS)Pre-competition shakedown. Continuity checks, insulation resistance, thermal soak, fault-injection drills, regen tuning. Kit touch-points: full system, telemetry dashboard, fault-code simulator. Evidence: AURETR115 plus fault-diagnosis components attached to multiple other units.MODULE 5 - COMPETITION TERM (TERM 2-3, WEEKS 10-14 + RACE CIRCUIT, ~30 HRS)Race-week preparation, scrutineering and the endurance event itself. Each event maps to engineering-presentation evidence that the AUR training package recognises as competency demonstration. Kit touch-points: full raceable vehicle, telemetry during race runs, judge-panel portfolio. Evidence: portfolio defence + industry judge panel review; complements AURETR113 and AURETR128.CERTIFICATION OUTCOMEStudents who complete Modules 1-4 plus the Competition Term accrue the full 180 contact hours required for at least one AUR20721 (Cert II) unit-cluster and a defensible block of AUR32721 (Cert III) units. Full Cert III is available after a follow-on apprenticeship placement. Both qualifications count toward QCE / ATAR in every Australian state and award credit toward related engineering and trades apprenticeships. Indicative mapping only - final credit transfer is determined by your RTO.COMPETITION CIRCUIT TIE-INThe race car build is the assessment task. Schools enter the national circuit - five state rounds from March through August, then the national finals in September / October. Each round runs a circuit race, an endurance

event and an engineering presentation judged by industry representatives. Championship points accumulate across the season and top finishers qualify for the national finals. Portfolio defence at finals provides the industry-validated competency evidence that closes out the AUR32721 units.NEXT STEPSPilot cohort booking opens Term 1 2026. Email charge-academy@polsia.app to register your school interest, request a tailored proposal, or ask questions about credit transfer in your state. Or send a note via the contact form at the bottom of the charge-academy page - we will reply within two business days.