Automotive Curriculum Framework - HSC Content overview - VEHICLE BODY (Electrical fundamentals for automotive systems and components)

**Electrical fundamentals for automotive systems and components**

- Working with electrical systems, components and technologies
  - Measuring electrical values on a live circuit
  - Identifying and locating a device
  - Safe working practices and procedures
- Vehicle electrical circuits and wiring systems
  - Power windows
  - Door locking systems
  - Security system
  - Ignition
  - Engine
  - Engine management
  - Lighting
  - Headlamp
  - Taillight
  - Side light
- Vehicle electrical systems and components
  - Power supply
  - Energy source
  - Components of a simple circuit
  - Operating principles
  - Relationship between voltage, current and resistance

**Technical Information**

- Common faults in light vehicle circuits, wiring systems, components and technologies
- Service, maintenance and repair of vehicle electrical systems, components and technologies
- Technical information on vehicle electrical circuits and wiring systems
- Troubleshooting and problem-solving techniques

**About**

- Service bulletins
- Vehicle manuals
- Sources of technical information
- Workplace procedures
- Written instructions
- Testing electrical circuits, wiring systems and components
- Troubleshooting and problem-solving solutions for common/predictable problems

**Sources of technical information**

- Common faults in light vehicle circuits, wiring systems, components and technologies
- Troubleshooting and problem-solving solutions for common/predictable problems
- Service bulletins
- Vehicle manuals
- Sources of technical information
- Workplace procedures
- Written instructions
- Testing electrical circuits, wiring systems and components
- Troubleshooting and problem-solving solutions for common/predictable problems

**Nature of Electricity and Electron Theory**

- Static electricity
- Conventional current (direct)
- A.C. (Alternating) and D.C. (Direct)
- Electric current (amperes)
- Electric potential (voltage)
- Resistance (ohms)
- Power (watts)
- Energy source (power supply)
- Protection devices
- Components of a simple circuit
- Operating principles
- Relationship between volts, amps and ohms
- Resistors

**Common Faults in Light Vehicle Circuits, Wiring Systems, Components and Technologies**

- Troubleshooting and problem-solving solutions for common/predictable problems
- Service bulletins
- Vehicle manuals
- Sources of technical information
- Workplace procedures
- Written instructions
- Testing electrical circuits, wiring systems and components
- Troubleshooting and problem-solving solutions for common/predictable problems

**Service, Maintenance and Repair of Vehicle Electrical Systems, Components and Technologies**

- Troubleshooting and problem-solving solutions for common/predictable problems
- Service bulletins
- Vehicle manuals
- Sources of technical information
- Workplace procedures
- Written instructions
- Testing electrical circuits, wiring systems and components
- Troubleshooting and problem-solving solutions for common/predictable problems

**Potential Hazards**

- Electrical test equipment
- Using electrical instruments
- Safety control measures
- Troubleshooting and problem-solving solutions for common/predictable problems
- Service bulletins
- Vehicle manuals
- Sources of technical information
- Workplace procedures
- Written instructions
- Testing electrical circuits, wiring systems and components
- Troubleshooting and problem-solving solutions for common/predictable problems

**Electrical Circuit (Basic) Analysis**

- Common faults in light vehicle circuits, wiring systems, components and technologies
- Troubleshooting and problem-solving solutions for common/predictable problems
- Service bulletins
- Vehicle manuals
- Sources of technical information
- Workplace procedures
- Written instructions
- Testing electrical circuits, wiring systems and components
- Troubleshooting and problem-solving solutions for common/predictable problems

**Solving Common/Faults in Light Vehicle Circuits, Wiring Systems, Components and Technologies**

- Troubleshooting and problem-solving solutions for common/predictable problems
- Service bulletins
- Vehicle manuals
- Sources of technical information
- Workplace procedures
- Written instructions
- Testing electrical circuits, wiring systems and components
- Troubleshooting and problem-solving solutions for common/predictable problems

**Troubleshooting and Problem-Solving Solutions for Common/Predictable Problems**

- Service bulletins
- Vehicle manuals
- Sources of technical information
- Workplace procedures
- Written instructions
- Testing electrical circuits, wiring systems and components
- Troubleshooting and problem-solving solutions for common/predictable problems