

## HYEV2601 - Advanced Automotive Electrical Systems

Credits:	3 (3/0/0)
Description:	This course is designed for students to understand basic electrical terms, use of a multi-meter, use of an oscilloscope, and diagnosis and repair of various network systems used on today's vehicles. This course is a refresher to prepare students for working on complex high-voltage systems and networks.
Prerequisites:	<ul style="list-style-type: none"><li>• Graduated from an automotive technology program or have at least 5 years working as an automotive technician.</li></ul>
Corequisites:	
Pre/Corequisites*:	
Competencies:	<ol style="list-style-type: none"><li>1. Exhibit all safety precautions.</li><li>2. Demonstrate understanding and principals of Ohm's Law in applications of both DC and AC circuits.</li><li>3. Demonstrate the ability to calculate watts, ohms, amps and volts.</li><li>4. Demonstrate the ability to use a digital volt ohm meter and the settings on the meter.</li><li>5. Demonstrate the ability to check resistance, voltage, amp draw and voltage drop on an electrical system.</li><li>6. Demonstrate the ability to use service information and complex wiring diagrams to properly diagnose an electrical circuit.</li><li>7. Demonstrate the ability to check resistance, voltage, amp draw and voltage drop on an electrical system.</li><li>8. Perform electrical tests setting up and using a multi-channel oscilloscope.</li><li>9. Demonstrate knowledge of data network systems.</li><li>10. Perform diagnosis and repairs to CAN bus (Controller Area Network) and other network systems.</li></ol>
MnTC goal areas:	None

\*Can be taking as a Prerequisite or Corequisite.