Minnesota State
Community and Technical College

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:	• Graduated from an automotive technology program or have at least 5 years working as an automotive technician.
Corequisites:	
Pre/Corequisites*:	
Competencies:	1. Exhibit all safety precautions. 2. Demonstrate understanding and principals of Ohm's Law in applications of both DC and AC circuits. 3. Demonstrate the ability to calculate watts, ohms, amps and volts. 4. Demonstrate the ability to use a digital volt ohm meter and the settings on the meter. 5. Demonstrate the ability to check resistance, voltage, amp draw and voltage drop on an electrical system. 6. Demonstrate the ability to use service information and complex wiring diagrams to properly diagnose an electrical circuit. 7. Demonstrate the ability to check resistance, voltage, amp draw and voltage drop on an electrical system. 8. Perform electrical tests setting up and using a multi-channel oscilloscope. 9. Demonstrate knowledge of data network systems. 10. Perform diagnosis and repairs to CAN bus (Controller Area Network) and other network systems.
MnTC goal areas:	None

Can be taking as a Prerequisite or Corequisite.