



Alternative Fuel Vehicle Maintenance & Advanced Electronics

Student Learning Outcomes

- 1 Communication- The student will demonstrate the ability to communicate effectively using written and/or oral communication.
- 2 Information Literacy- The student will recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.
- 3 Problem Solving- The student will demonstrate the ability to analyze information and solve problems.
- 4 Workplace Skills - Demonstrates a mastery of workplace skills/soft skills, exhibits initiative, adapts to varied situations

Program Outcomes

- 1 Utilize equipment in accordance with all regulations and manufacturer requirements
- 2 Demonstrate knowledge and apply practice of Government regulations and Industry safety
- 3 Demonstrate proficiency in the use of industry approved diagnostic equipment to analyze and diagnose alternative fuel vehicle systems
- 4 Demonstrate the ability to service and repair integrated electronic systems and components
- 5 Diagnose and repair brake system components
- 6 Diagnose and repair general drive train concerns
- 7 Perform general transmission and transaxle diagnosis
- 8 Service and repair heating and air conditioning systems associated with alternative fuel vehicles in accordance with federal, state and local guidelines
- 9 Interpret and diagnose battery concerns in alternative fuel vehicles
- 10 Snap-on pro cut certification exam

**Associate of Applied Sciences, Alternative Fuel Vehicle Maintenance
& Advanced Electronics**

Total Credits 61

Fall

Course #	Course Title	Credits	Function
AFV 110	Electrical I	3	Technical Studies
AFV 135	Introduction to Alternative Fuels	3	Technical Studies
AFV 140	Engine Repair	4	Technical Studies
AFV 160	Brakes I	3	Technical Studies
AFV 180	Heating & Air Conditioning	4	Technical Studies
AFV 206	PowerTrain Systems	4	Technical Studies
TAS 160	Transportation Industry Safety	1	Technical Studies
TAS 105	Orientation to the Transportation Industry	1	Technical Studies

Spring

Course #	Course Title	Credits	Function
AFV 120	Electrical II	3	Technical Studies
AFV 130	Suspension and Steering I	3	Technical Studies
AFV 145	Hybrid Systems & Maintenance	3	Technical Studies
AFV 155	High Voltage Battery Technology & Management	3	Technical Studies
AFV 170	Computer Systems for Alternative Fuels	3	Technical Studies
AFV 175	Automatic Transmission Repair	4	Technical Studies
ENG 101	Composition I*	3	General Studies
MTH	Math Elective*	3	General Studies

Summer

Course #	Course Title	Credits	Function
AFV 150	Electric/Fuel Cell Technology	1	Technical Studies
AFV 165	Introduction to CNG and LPG Conversion, Installation & Maintenance	1	Technical Studies
AFV 225	Electrical III	2	Technical Studies
	Communication Elective*	3	General Studies
	Humanities Elective *	3	General Studies
	Social Science Elective*	3	General Studies

* **Kansas Systemwide General Education**

**Technical Certificate, Alternative Fuel Vehicle Maintenance
& Advanced Electronics**

Total Credits 46

Fall

Course #	Course Title	Credits	Function
AFV 110	Electrical I	3	Technical Studies
AFV 135	Introduction to Alternative Fuels	3	Technical Studies
AFV 140	Engine Repair	4	Technical Studies
AFV 160	Brakes I	3	Technical Studies
AFV 180	Heating & Air Conditioning	4	Technical Studies
AFV 206	PowerTrain Systems	4	Technical Studies
TAS 160	Transportation Industry Safety	1	Technical Studies
TAS 105	Orientation to the Transportation Industry	1	Technical Studies

Summer

Course #	Course Title	Credits	Function
AFV 150	Electric/Fuel Cell Technology	1	Technical Studies
AFV 225	Electrical III	2	Technical Studies
AFV 165	Introduction to CNG and LPG Conversion, Installation & Maintenance	1	Technical Studies

Spring

Course #	Course Title	Credits	Function
AFV 120	Electrical II	3	Technical Studies
AFV 130	Suspension and Steering I	3	Technical Studies
AFV 145	Hybrid Systems & Maintenance	3	Technical Studies
AFV 155	High Voltage Battery Technology & Management	3	Technical Studies
AFV 170	Computer Systems for Alternative Fuels	3	Technical Studies
AFV 175	Automatic Transmission Repair	4	Technical Studies