## **CCC Program Outcomes**

## **Automotive Technology**

Upon successful completion of the technical education requirements and the suggested program requirements for a Certificate the student shall:

## **Program Outcomes**

- 1 Provide fundamentals of basic engine principles, operation and maintenance
- 2 Provide knowledge of principles, operation, diagnosis and service of disc brakes, drum brakes, and ABS systems
- 3 Provide knowledge of principles, operation, diagnosis and service of steering and suspension systems and alignments
- 4 Provide knowledge of principles, operation, diagnosis and service of automotive electrical systems, and wiring diagrams
- Provide knowledge of principles, operation, diagnosis and service of engine performance problems with diagnostic equipment such as scanners and analyzers
- 6 Demonstrate shop procedures and repair procedures with the correct tools and equipment in a safe environmentally friendly manner
- Provide training to develop mathematical, along with oral and written communication skills to problem solve effectively in an automotive repair shop
- 8 Provide knowledge of principles, operation, diagnoses and service of heating and air conditioning systems
- 9 Provide knowledge of principles, operation, diagnoses and service of automatic transmissions and transaxles

Course #	Course Title	PO. 1	PO. 2	PO. 3 PO	). 4	PO. 5	PO. 6	PO. 7	PO. 8	PO. 9
<b>ASTC-109</b>	Brakes 1									
	Diagnose general brake systems		X				X			
	Diagnose and repair hydraulic systems		X				X			
	Perform drum brake diagnosis and repair		X				X			
ASTC-237	Brakes 2									
	Diagnose and repair disc brake systems		X				X			
	Perform power assist units diagnosis and repair		X				X			
	Diagnose and repair related systems (wheel bearings, parking brakes, electrical)		X				X			
	Diagnose and repair electronic brake control systems		X				X			

Course #	Course Title	PO. 1	PO. 2	PO. 3	PO. 4	PO. 5	PO. 6	PO. 7	PO. 8	PO. 9
ASTC-134	Suspension and Steering 1									
	Understand general suspension and steering systems			X			X			
	Perform related suspension and steering services			X			X			
ASTC-233	Suspension and Steering 2									
	Perform wheel alignment diagnosis, adjustment and			X			X			
	repair			Λ			Λ			
	Perform wheel and tire diagnosis and repair			X			X			
				X			X			
<b>ASTC-140</b>	Electrical Systems 1									
	Perform general electrical system diagnosis				X		X			
	Perform battery diagnosis and repair				X		X			
ASTC-223	Electrical Systems 2									
	Perform starting system diagnosis and repair				X		X			
	Perform charging system diagnosis and repair				X		X			
	Perform lighting, instrument cluster, driver information				V		V			
	and body electrical systems diagnosis and repair				X		X			
ASTC-122	Engine Performance 1									
	Perform general engine diagnosis	X				X	X			
	Diagnosis and repair computerized engine control	X				Х	X			
ASTC-280	Engine Performance 2									
	Perform fuel, air induction and exhaust systems	V				V	V			
	diagnosis and repair	X				X	X			
	Perform emissions control systems diagnosis and repair	X				X	X			
ASTC-107	Chan Math and Communication I									
	Shop Math and Communication I Understand Linear Measurement							X		
	Compute Fractions, Decimals and Percents.							X		
	Understand Checking Accounts, ATMS, and Statement									
	Reconciliation							X		
	Understand Gross Earnings and Payroll Deductions							X		

Course #	Course Title	PO. 1	PO. 2	PO. 3	PO. 4	PO. 5	PO. 6	PO. 7	PO. 8	PO. 9
	Understand the handling of monies personally and							X		
	professionally							Λ		
ASTC-217	Shop Math and Communication II							**		
	Understand Work Ethics							X		
	Understand Customer Relations							X		
	Understand Employability Skills Complete a Personal Portfolio							X X		
	Complete a Personal Portiono							Λ		
<b>ASTC-296</b>	Automotive Heating and Air Conditioning									
	Perform general heating, ventilation and air								V	
	conditioning systems diagnosis and repair								X	
	Understand refrigeration system component diagnosis								17	
	and repair								X	
	Understand heating, ventilation, and engine cooling								17	
	systems diagnosis and repair								X	
	Understand operating systems and related controls								17	
	diagnosis and repair								X	
<b>ASTC-171</b>	Automatic Transmission									
	Perform general transmission and transaxle diagnosis									X
	Perform transmission and transaxle maintenance and									X
	adjustment									Λ
	Perform in-vehicle transmission and transaxle repair									X
	Perform off-vehicle transmission and transaxle repair									X
	Inspect diagnose and repair the oil pump and converted	r								X
	Explain the gear train, shafts, bushings and case									X
	Determine the friction and reaction units									X
ASTC-148	Engine Repair									
	Perform engine repair	X								
	Understand cylinder head and valve train diagnosis and	d X								
	repair									
	Perform lubrication and cooling systems diagnosis and	l X								
	repair									