## Advanced Manufacturing

# Transportation Technologies (APOETT) Associate in Applied Science Degree Program Effective Term: Fall 2024

High Demand Occupation High Skill Occupation High Wage Occupation

In this AAS degree, students have a choice to follow any of three different specialty tracks that will prepare them for employment in the transportation industry. This option can be selected if an associate's degree is required for employment or advancement in a field. Each track features a variety of application-level classes where students perform lab-oriented practice for the required skills in the automotive service related, EV service or auto body repair fields. Students will learn using the latest technology, methods and tooling in their area of concentration.

Students will select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Body, Auto Service, or Electric Vehicle Service & Repair. The program prepares the student for the State of Michigan Mechanics Certification tests as well as the National Institute for Automotive Service Excellence (ASE) Certification Exams. Meet with a divisional advisor or faculty.

#### **Program Admission Requirements:**

Academic Reading and Writing Levels of 6; Academic Math Level 3

#### Minimum Concentration Credits Required for the Program:

Minimum Credits Required for the Concentration or Option: 60

60

Select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Service, Auto Body, or Electric Vehicle Service & Repair.

Auto Body (Al	BDY)	(60 credits)
First Semeste	r	(15 credits)
ABR 111	Introduction to Auto Body Repair	4
ABR 112	Introduction to Automotive Refinishing	4
ABR 114	Applied Auto Body Welding	2
ABR 119	The Art of Metal Shaping	2
Elective	Writing Elective(s)	3
Second Semes	ster	(15 credits)
ABR 123	Technical Auto Body Repair	4
ABR 124	Technical Automotive Refinishing	4
ABR 140	Aluminum Welding for Automotive Applications	4
Elective	Math Elective(s)	3
Third Semeste	er	(14 credits)
ASV 130	Automotive Maintenance	4
Elective	Nat. Sci. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Elective	Restricted Elective(s): ABR 116, ABR 130, ABR 209, ABR 231, ASV 131, MST 106, MST 230	4
<b>Fourth Semes</b>	ter	(16 credits)
ABR 121	Automotive Estimating	2
ABR 201	Lightweighting Composite Repair	4
Elective	Speech Elective(s)	3
Elective	Arts/Human. Elective(s)	3
Elective	Restricted Elective(s): ABR 116, ABR 130, ABR 209, ABR 231, ASV 131, MST 106, MST 230	4

Eirct Comosto		(12 crodite)
First Semeste		(13 credits)
ABR 114	Applied Auto Body Welding	2
ASV 130	Automotive Maintenance	4
ASV 131	Automotive Electrical	4
Elective	Writing Elective(s)	3
C1 C		(47
Second Semes		(17 credits)
ABR 140	Aluminum Welding for Automotive Applications	4
ASV 132	Automotive Engines	4
ASV 133	Automotive Fuel Systems	4
ASV 254	Suspension and Steering	2
Elective	Math Elective(s)	3
Third Compete	w	(16 crodita)
Third Semester ASV 134	Automotive Transmissions	(16 credits)
ASV 251		4
ASV 251 ASV 256	Engine Diagnosis and Repair	2 4
	Electrical and Electronic Systems	4
Elective	Speech/Comp. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Fourth Semes	ter	(16 credits)
ASV 255	Brakes	2
ASV 255	Engine Drivability	2
ASV 266	Advanced Transmissions	
		2
Elective	Nat. Sci. Elective(s)	
Elective	Arts/Human. Elective(s)	CSS 4
Elective	Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 257, ASV 266, ASV 274, ASV 277, ASV 279,	CSS 4
	200, CSS 205, CSS 285, CST 185, MST 110	
Minimum Cred	lits Required for the Concentration or Option: 62	
riiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	no required for the concentration of option   02	
<b>Electric Vehicl</b>	e Service & Repair (EVSR)	(60 credits)
First Semester	t de la companya de	(16 credits)
ASV 130	Automotive Maintenance	4
		4
ASV 130	Automotive Maintenance	4 4 2
ASV 130 ASV 131	Automotive Maintenance Automotive Electrical	4
ASV 130 ASV 131 ATT 180	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety	4 4 2
ASV 130 ASV 131 ATT 180 Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s)	4 4 2 3
ASV 130 ASV 131 ATT 180 Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)	4 4 2 3
ASV 130 ASV 131 ATT 180 Elective Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)	4 4 2 3 3
ASV 130 ASV 131 ATT 180 Elective Elective Second Semes	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)	4 4 2 3 3 (15 credits)
ASV 130 ASV 131 ATT 180 Elective Elective Second Semes ABR 114	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV)	4 4 2 3 3 (15 credits)
ASV 130 ASV 131 ATT 180 Elective Elective Second Semes ABR 114 ASV 256	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster Applied Auto Body Welding Electrical and Electronic Systems	4 4 2 3 3 (15 credits)
ASV 130 ASV 131 ATT 180 Elective Elective Second Semes ABR 114 ASV 256 ATT 280	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s)	4 4 2 3 3 (15 credits) 2 4 4 3
ASV 130 ASV 131 ATT 180 Elective Elective Second Semes ABR 114 ASV 256 ATT 280 Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV)	4 4 2 3 3 (15 credits) 2 4 4 3
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185	4 4 2 3 3 (15 credits) 2 4 4 3 CSS 2
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185	4 4 2 3 3 (15 credits) 2 4 4 3
ASV 130 ASV 131 ATT 180 Elective Elective Second Semes ABR 114 ASV 256 ATT 280 Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185	(15 credits)  (15 credits)  (15 credits)  (14 credits)
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems	(15 credits) (15 credits) (15 credits) (14 credits) (14 credits)
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems	(15 credits) (15 credits) (15 credits) (14 credits) (14 credits)
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257 ATT 282	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185	(15 credits) (15 credits) (15 credits) (14 credits) (14 credits)
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257 ATT 282 Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems Electric Vehicle (EV) Energy Management	(15 credits) (15 credits) (15 credits) (14 credits) (14 credits)
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems Electric Vehicle (EV) Energy Management Speech/Comp. Elective(s)	(15 credits) (15 credits) (15 credits) (14 credits) (14 credits) (14 credits)
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257 ATT 282 Elective Elective Elective Fourth Semeste	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems Electric Vehicle (EV) Energy Management Speech/Comp. Elective(s) Arts/Human. Elective(s)	(15 credits) (15 credits) (15 credits) (14 credits) (14 credits) (14 credits)
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257 ATT 282 Elective Elective Fourth Semes ASV 255	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems Electric Vehicle (EV) Energy Management Speech/Comp. Elective(s) Arts/Human. Elective(s)	(15 credits) (15 credits) (14 credits) (14 credits) (2 (4 3 3 CSS 2
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257 ATT 282 Elective Elective Elective Fourth Semeste	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems Electric Vehicle (EV) Energy Management Speech/Comp. Elective(s) Arts/Human. Elective(s)	(15 credits) (15 credits) (14 credits) (14 credits) (15 credits) (15 credits)
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257 ATT 282 Elective Elective Fourth Semes ASV 255	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems Electric Vehicle (EV) Energy Management Speech/Comp. Elective(s) Arts/Human. Elective(s)	(15 credits) (15 credits) (14 credits) (14 credits) (15 credits) (15 credits)
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257 ATT 282 Elective Elective Elective Fourth Semes ASV 255 ATT 284	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s)  Math Elective(s)  Ster  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems Electric Vehicle (EV) Energy Management Speech/Comp. Elective(s) Arts/Human. Elective(s)  ter Brakes Electric Vehicle (EV) Drivelines & Chassis	(15 credits) (15 credits) (14 credits) (14 credits) (15 credits) (15 credits)
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257 ATT 282 Elective Elective Elective Fourth Semes ASV 255 ATT 284 ATT 286	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s) Math Elective(s)  Siter  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  SIF  Suspension and Steering Heating and Air Conditioning Systems Electric Vehicle (EV) Energy Management Speech/Comp. Elective(s) Arts/Human. Elective(s)  ter  Brakes Electric Vehicle (EV) Drivelines & Chassis Electric Vehicle (EV) Drivelines & Chassis Electric Vehicle (EV) Dynamometer Testing	(15 credits) (15 credits) (14 credits) (14 credits) (15 credits) (15 credits) (2 4 4 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257 ATT 282 Elective Elective Fourth Semes ASV 255 ATT 284 ATT 286 Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s) Math Elective(s)  Siter  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems Electric Vehicle (EV) Energy Management Speech/Comp. Elective(s) Arts/Human. Elective(s)  ter Brakes Electric Vehicle (EV) Drivelines & Chassis Electric Vehicle (EV) Drivelines & Chassis Electric Vehicle (EV) Dynamometer Testing Soc. Sci. Elective(s)	(15 credits) (15 credits) (14 credits) (14 credits) (15 credits) (15 credits) (2 4 4 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4
ASV 130 ASV 131 ATT 180 Elective Elective  Second Semes ABR 114 ASV 256 ATT 280 Elective Elective  Third Semeste ASV 254 ASV 257 ATT 282 Elective Elective Fourth Semes ASV 255 ATT 284 ATT 286 Elective	Automotive Maintenance Automotive Electrical Alternative Vehicle Fundamentals & Safety Writing Elective(s) Math Elective(s) Math Elective(s)  Math Elective(s)  Math Elective(s)  Math Elective(s)  Math Elective(s)  Math Elective(s)  Applied Auto Body Welding Electrical and Electronic Systems Introduction to Electric Vehicles (EV) Nat. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185  Suspension and Steering Heating and Air Conditioning Systems Electric Vehicle (EV) Energy Management Speech/Comp. Elective(s) Arts/Human. Elective(s)  ter  Brakes Electric Vehicle (EV) Drivelines & Chassis Electric Vehicle (EV) Dynamometer Testing Soc. Sci. Elective(s) Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200,	(15 credits) (15 credits) (14 credits) (14 credits) (15 credits) (15 credits) (2 4 4 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4

**Minimum Credits Required for the Program:** 

60

## Transportation Technologies

# **Transportation Technologies (APOETT) Associate in Applied Science Degree**

Program Effective Term: Fall 2024

High Demand Occupation High Skill Occupation High Wage Occupation

In this AAS degree, students have a choice to follow any of three different specialty tracks that will prepare them for employment in the transportation industry. This option can be selected if an associate's degree is required for employment or advancement in a field. Each track features a variety of application-level classes where students perform lab-oriented practice for the required skills in the automotive service related, EV service or auto body repair fields. Students will learn using the latest technology, methods and tooling in their area of concentration.

Students will select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Body, Auto Service, or Electric Vehicle Service & Repair. The program prepares the student for the State of Michigan Mechanics Certification tests as well as the National Institute for Automotive Service Excellence (ASE) Certification Exams. Meet with a divisional advisor or faculty.

#### **Program Admission Requirements:**

Academic Reading and Writing Levels of 6; Academic Math Level 3

#### Minimum Concentration Credits Required for the Program:

Minimum Credits Required for the Concentration or Option: 60

60

Select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Service, Auto Body, or Electric Vehicle Service & Repair.

Auto Body (Al	BDY)	(60 credits)
First Semeste	r	(15 credits)
ABR 111	Introduction to Auto Body Repair	4
ABR 112	Introduction to Automotive Refinishing	4
ABR 114	Applied Auto Body Welding	2
ABR 119	The Art of Metal Shaping	2
Elective	Writing Elective(s)	3
Second Semes	ster	(15 credits)
ABR 123	Technical Auto Body Repair	4
ABR 124	Technical Automotive Refinishing	4
ABR 140	Aluminum Welding for Automotive Applications	4
Elective	Math Elective(s)	3
Third Semeste	er	(14 credits)
ASV 130	Automotive Maintenance	4
Elective	Nat. Sci. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Elective	Restricted Elective(s): ABR 116, ABR 130, ABR 209, ABR 231, ASV 131, MST 106, MST 230	4
<b>Fourth Semes</b>	ter	(16 credits)
ABR 121	Automotive Estimating	2
ABR 201	Lightweighting Composite Repair	4
Elective	Speech Elective(s)	3
Elective	Arts/Human. Elective(s)	3
Elective	Restricted Elective(s): ABR 116, ABR 130, ABR 209, ABR 231, ASV 131, MST 106, MST 230	4

Auto Service (A		(62 credits)
Eiret Competer		(13 credits)
First Semester	Applied Auto Pody Wolding	`
ABR 114	Applied Auto Body Welding	2
ASV 130	Automotive Maintenance	4
ASV 131 Elective	Automotive Electrical	4
Elective	Writing Elective(s)	3
Second Semest	er	(17 credits)
ABR 140	Aluminum Welding for Automotive Applications	4
ASV 132	Automotive Engines	4
ASV 133	Automotive Fuel Systems	4
ASV 254	Suspension and Steering	2
Elective	Math Elective(s)	3
Third Semester		(16 credits)
ASV 134	Automotive Transmissions	4
ASV 251	Engine Diagnosis and Repair	2
ASV 256	Electrical and Electronic Systems	2 4
Elective	Speech/Comp. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Fourth Semeste	er	(16 credits)
ASV 255	Brakes	2
ASV 258	Engine Drivability	2
ASV 266	Advanced Transmissions	
Elective	Nat. Sci. Elective(s)	2
Elective	Arts/Human. Elective(s)	3
Elective	Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 257, ASV 266, ASV 274, ASV 277, ASV 279, 200, CSS 205, CSS 285, CST 185, MST 110	
	ts Required for the Concentration or Option: 62	
Electric Vehicle	Service & Repair (EVSR)	(60 credits)
First Semester		(16 credits)
ASV 130	Automotive Maintenance	4
ASV 130	Automotive Electrical	4
ATT 180	Alternative Vehicle Fundamentals & Safety	2
Elective	Writing Elective(s)	3
Elective	Math Elective(s)	3
Second Semest	or .	(15 credits)
ABR 114	Applied Auto Body Welding	2
ASV 256	Electrical and Electronic Systems	4
ATT 280	Introduction to Electric Vehicles (EV)	4
Elective	Nat. Sci. Elective(s)	3
Elective	Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185	
Third Semester		(14 credits)
ASV 254	Suspension and Steering	2
ASV 257	Heating and Air Conditioning Systems	2
ATT 282	Electric Vehicle (EV) Energy Management	4
Elective	Speech/Comp. Elective(s)	3
Elective	Arts/Human. Elective(s)	3
Fourth Semeste		(15 credits)
ASV 255	Brakes	2
ATT 284	Electric Vehicle (EV) Drivelines & Chassis	4
ATT 286	Electric Vehicle (EV) Dynamometer Testing	2
Elective	Soc. Sci. Elective(s)	3
Elective	Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 266, ASV 274, ASV 277, ASV 279, CSS 200, 205, CSS 285, CST 185	
w ·	ts Required for the Concentration or Option: 60	

**Minimum Credits Required for the Program:** 

60

Effective Term: Fall 2024

## PROGRAM CHANGE FORM

**Program Code: APOETT** 

Program Code: APOETT	Current Program Name: T Technologies	ransportation	Effective Term:	Fall 2024	
Division Code: ATP	Department: TRPD				
<ol> <li>Directions:         <ol> <li>Attach the current program listing from the WCC catalog or website and indicate any changes to be made.</li> <li>Draw lines through any text that should be deleted and write in additions. Extensive narrative changes can be included on a separate sheet.</li> <li>Check the boxes below for each type of change being proposed. Changes to courses, discontinuing a course, or adding new courses as part of the proposed program change, must be approved separately using CurricUNET, but should be submitted at the same time as the program change form.</li> </ol> </li> <li>If changes affect the program assessment plan or if program outcomes are updated, please submit a <u>Program Assessment Plan Change</u> form. These changes must be approved separately from the program change form and should be submitted at the same time. Current program assessment plans can be found on the <u>Curriculum and Assessment Program Information page</u>.</li> </ol>					
Requested Changes:	7				
Remove course(s): Add course(s): Program title (new title is Description Advisors Program admission requires Continuing eligibility requires	) [ [ ments	Program outcome removing or add Program assess Accreditation inf Other Layout chas ASVC concentration	ment plan* ormation anges for existing		
	Show all changes on the catalog page you attach.  Note: A change to the Award Type requires the submission of a new program proposal form and a separate program inactivation form. Contact the Director of Curriculum & Assessment for more information.				
Rationale for proposed chan	ges:				
The EVSR concentration is being developed in coordination with the electric vehicle (EV) DOE training grant known internally as the Power Project and as a result of collaboration with the EV jobs academy (EVJA), Center for Connected and Automated Transportation (CCAT), Detroit Drives Degrees Community College Collaborative (D3C3) along with the ATT advisory board discussions consisting of industry partners and leaders. These groups and employers were able to identify the key areas and skills needed for students to be successful in this career field.  Division is updating layouts to align with forthcoming part-time layouts.					
Financial/staffing/equipment	space implications:				
List departments that have been consulted regarding their use of this program.					
Signatures:					
Reviewer	Print Name	Signa	ature	Date	
Initiator	Shawn Deron Rocky Roberts	Rocky Rob	ext	2/1/24	

# Received by C&A 1/11/24; 2/1/24 WASHTENAW COMMUNITY COLLEGE

## **PROGRAM CHANGE FORM**

Department Chair	Rocky Roberts	Rochy Robert	2/1/24
Division Dean/Administrator	Jimmie Baber	Jimmis Baber	2/1/24
		of Curriculum & Assessment, SC	257
or by	e-mail to curriculum.ass	essment@wccnet.edu	2009002022
Once reviewed by the ap	propriate faculty committe	es we will secure the signature of t	he VPI.
Reviewer	Print Name	Signature	Date
Curriculum Committee Chair	Randy Van Wagnen	RVanWagnen	2-12-24
Assessment Committee Chair	Jessical Hale	Jessica Hale	2-13-24
Interim Vice President for Instruction	Dr. Brandon Tucker	RAD	2/10/24

Reviewed by C&A committees on 2/8/24

## Manufacturing & Automotive

# Transportation Technologies (APOETT) Associate in Applied Science Degree

Program Effective Term: Fall 2023

High Demand Occupation High Skill Occupation High Wage Occupation

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#### **Program Admission Requirements:**

Academic Reading and Writing Levels of 6; Academic Math Level 3

Minimum Credits Required for the Concentration or Option: 62

#### Minimum Concentration Credits Required for the Program:

62

Select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Service or Auto Body.

Auto Body (AE	BDY)	(62 credits)
First Semester	•	(15 credits)
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ABR 114	Applied Auto Body Welding	2
ABR 119	The Art of Metal Shaping	2
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ABR 124	Technical Automotive Refinishing	4
ABR 140	Aluminum Welding for Automotive Applications	4
Elective	Speech/Comp. Elective(s)	3
Elective	Math Elective(s)	3
Third Semeste		(14 credits)
ASV 130	Automotive Maintenance	4
Elective	Restricted Elective(s): ABR 116, ABR 130, ABR 209, ABR 231, ASV 131, MST 106, MST 230	4
Elective	Soc. Sci. Elective(s)	3
Elective	Arts/Human. Elective(s)	3
Fourth Company		(4E avadita)
Fourth Semest		(15 credits)
ABR 113	Estimating and Shop Operations	4
ABR 201	Lightweighting Composite Repair	4
Elective	Restricted Elective(s): ABR 116, ABR 130, ABR 209, ABR 231, ASV 131, MST 106, MST 230	4
Elective	Nat. Sci. Elective(s)	3

Auto Service (A	SVC)	(62 credits)
First Semester		(16 credits)
ABR 114	Applied Auto Body Welding	(10 credits)
ASV 130	Automotive Maintenance	4
ASV 131	Automotive Electrical	4
Elective	Writing Elective(s)	3
Elective	Math Elective(s)	3
Second Semest	er er	(18 credits)
ABR 140	Aluminum Welding for Automotive Applications	4
ASV 132	Automotive Engines	4
ASV 133	Automotive Fuel Systems	4
ASV 134	Automotive Transmissions	4
Elective	Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 257, ASV 266, ASV 274, ASV 277, ASV 279, 200, CSS 205, CSS 285, CST 185, MST 110	CSS 2
Third Semester		(14 credits)
ASV 251	Engine Diagnosis and Repair	2
ASV 254	Suspension and Steering	2
ASV 256	Electrical and Electronic Systems	4
Elective	Speech/Comp. Elective(s)	3
Elective	Arts/Human. Elective(s)	3
Fourth Semeste	er	(14 credits)
ASV 255	Brakes	2
ASV 258	Engine Drivability	2
ASV 266	Advanced Transmissions	2
Elective	Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 257, ASV 266, ASV 274, ASV 277, ASV 279, 200, CSS 205, CSS 285, CST 185, MST 110	CSS 2
Elective	Nat. Sci. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Minimum Credit	ts Required for the Concentration or Option: 62	

**Minimum Credits Required for the Program:** 

62

## **Program Discontinuation Form**

Program Code: APOETT-	Program Name: Transportation Technologies (Motorcycle Service Concentration)	Effective Term: Fall 2023
Division Code: ATP	Department: Transportation Technology	

Directions: Complete all information below.

#### Rationale for discontinuation:

APOETT - MSVC				
	2018-19	2019-20	2020-21	2021-22
Enrollment	56	40	34	29
Awards	0	0	0	2

Over the last five years, we have seen a downward trend in enrollment in the MSVC concentration, with only two degrees awarded. We are discontinuing this concentration as part of the transition toward an electric vehicle (EV) focus.

Describe the discontinuation, transition and course phase-out plan. Please include the number of currently enrolled students.

There are 14 students enrolled in this program code. Motorcycle course offerings will be significantly reduced by 2025 as students finish or transition to other programs, and will be eliminated by the end of the three-year phase-out period (end of Summer 2026). Students were notified on June 5th via letter.

List departments using this program and the date they were notified of the planned discontinuation.

N/A

Signatures:

Reviewer	Print Name	Signature	Date
Initiator	Jimmie Baber	Jimmie Baber	6/23/23
Department Chair	Rocky Roberts/Mike Duff	Rocky Roberts/Mike Duff	6/23/23
Division Dean/Administrator	Jimmie Baber	Jimmie Baber	6/23/23
	curriculum.assessn	riculum and Assessment (SC 257) of nent@wccnet.edu we will secure the signature of the VPI a  // Signature	
Curriculum Committee Chair	Randy Van Wagnen	RVanWagnen	08-31-23
Vice President of Instruction	Victor Vega	Vita	9/5/2023
President	Rose B. Bellanca	Rose & B worker	9/5/23

C&A Database

Log File

Reviewed by C&A Committees 8/3/23

**Board Approval** 

Do not write in shaded area. Entered in: Banner

## Manufacturing & Automotive

## Transportation Technologies (APOETT) Associate in Applied Science Degree

Program Effective Term: Fall 2022

High Demand Occupation High Skill Occupation High Wage Occupation

In this AAS degree, students have a choice to follow any of three different specialty tracks that will prepare them for employment in the transportation industry. This option can be selected if an associate's degree is required for employment or advancement in a field. Each track features a variety of application level classes where students perform lab-oriented practice for the required skills in the automotive service related, auto body repair or motorcycle service fields. Students will learn using the latest technology, methods and tooling in their area of concentration.

Students will select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Service, Auto Body or Motorcycle Service. The program prepares the student for the State of Michigan Mechanics Certification tests as well as the National Institute for Automotive Service Excellence (ASE) Certification Exams. Meet with a divisional advisor or faculty.

#### **Program Admission Requirements:**

Academic Reading and Writing Levels of 6; Academic Math Level 3

#### Minimum Concentration Credits Required for the Program:

Minimum Credits Required for the Concentration or Option: 62

61

Select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Service, Auto Body or Motorcycle Service.

Auto Body (AB	DY)	(62 credits)
First Semester		(15 credits)
ABR 111	Introduction to Auto Body Repair	4
ABR 112	Introduction to Automotive Refinishing	4
ABR 114	Applied Auto Body Welding	2
ABR 119	The Art of Metal Shaping	2
Elective	Writing Elective(s)	3
Second Semest	ter	(18 credits)
ABR 123	Technical Auto Body Repair	4
ABR 124	Technical Automotive Refinishing	4
ABR 140	Aluminum Welding for Automotive Applications	4
Elective	Speech/Comp. Elective(s)	3
Elective	Math Elective(s)	3
Third Semester		(14 credits)
ASV 130	Automotive Maintenance	4
Elective	Restricted Elective(s): ABR 116, ABR 130, ABR 209, ABR 231, ASV 131, MST 106, MST 230	4
Elective	Soc. Sci. Elective(s)	3
Elective	Arts/Human. Elective(s)	3
Fourth Semest		(15 credits)
ABR 113	Estimating and Shop Operations	4
ABR 201	Lightweighting Composite Repair	4
Elective	Restricted Elective(s): ABR 116, ABR 130, ABR 209, ABR 231, ASV 131, MST 106, MST 230	4
Elective	Nat. Sci. Elective(s)	3

Auto Service (A	SVC)	(62 credits)
		(4.6 11: )
First Semester	Applied Aste Pade Walding	(16 credits)
ABR 114	Applied Auto Body Welding	2
ASV 130 ASV 131	Automotive Maintenance Automotive Electrical	4
Elective	Writing Elective(s)	4
Elective	Math Elective(s)	3
Liccurc	Pidth Licetive(3)	3
Second Semeste	er	(18 credits)
ABR 140	Aluminum Welding for Automotive Applications	4
ASV 132	Automotive Engines	4
ASV 133	Automotive Fuel Systems	4
ASV 134	Automotive Transmissions	4
Elective	Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 257, ASV 266, ASV 274, ASV 277, ASV 279, ASV 266, ASV 274, ASV 277, ASV 279, ASV 266, ASV 274, ASV 277, ASV 279, ASV 27	CSS 2
	200, CSS 205, CSS 285, CST 185, MST 110	
Third Semester		(14 credits)
ASV 251	Engine Diagnosis and Repair	2
ASV 254	Suspension and Steering	2
ASV 256	Electrical and Electronic Systems	4
Elective	Speech/Comp. Elective(s)	3
Elective	Arts/Human. Elective(s)	3
Farreth Comparts	•	(11 and dita)
Fourth Semeste ASV 255	Brakes	<b>(14 credits)</b>
ASV 255 ASV 258	Engine Drivability	2
ASV 266	Advanced Transmissions	2
Elective	Restricted Elective(s): ABR 111, ASV 135, ASV 174, ASV 257, ASV 266, ASV 274, ASV 277, ASV 279,	
	200, CSS 205, CSS 285, CST 185, MST 110	
Elective	Nat. Sci. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Minimum Crean	s Required for the Concentration or Option: 62	
Motorcycle Serv	rice (MSVC)	(61 credits)
First Semester		(16 credits)
ABR 114	Applied Auto Body Welding	2
MST 110	Motorcycle Service Technology I	4
Elective	Restricted Elective(s): ABR 119, ABR 201, ABR 209, ASV 130, MST 106, MST 112, MST 235	4
Elective	Writing Elective(s)	3
Elective	Math Elective(s)	3
Second Semeste		(14 credits)
MST 120	Motorcycle Service Technology II	4
MST 130	Motorcycle Service Technology III	4
MST 230	Advanced Motorcycle Fabrication	3
Elective	Nat. Sci. Elective(s)	3
Third Co.		(46 11-)
Third Semester	Matarcycla Carvica Tachnology TV	(16 credits)
MST 140 MST 220	Motorcycle Service Technology IV Dynamometer Operations	4
Elective	Restricted Elective(s): ABR 119, ABR 201, ABR 209, ASV 130, MST 106, MST 112, MST 235	2
Elective	Speech/Comp. Elective(s)	3
Elective	Arts/Human. Elective(s)	3
<b>Fourth Semeste</b>		(15 credits)
ABR 140	Aluminum Welding for Automotive Applications	4
MST 210	Performance Engine Technology	4
MST 225	Advanced Dynamometer Tuning Systems	4
Elective	Soc. Sci. Elective(s)	3
Minimum Credit	s Required for the Concentration or Option: 61	

**Minimum Credits Required for the Program:** 

61

## PROGRAM CHANGE FORM

Program Code: APOETT	Current Program Na Technologies	me: Transportation	Effective Term: Fa	all 2022
Division Code: ATP	Department: Transporter Technologies	ortation		
Directions:	No.			
1. Attach the current program lis	ting from the WCC catalog	or website and indicate a	any changes to be made	э.
<ol><li>Draw lines through any text th on a separate sheet.</li></ol>	nat should be deleted and w	vrite in additions. Extensi	ve narrative changes ca	n be included
<ol><li>Check the boxes below for earnew courses as part of the prosubmitted at the same time as</li></ol>	oposed program change, m	ust be approved separate		
<ol> <li>If changes affect the program <u>Assessment Plan Change</u> for should be submitted at the sal <u>Assessment Program Informa</u></li> </ol>	m. These changes must be me time. Current program a	approved separately from	n the program change for	orm and
Requested Changes:				
X Remove course(s): See at X Add course(s): See attached Program title (new title is Description	ed	removing or ac ☐ Program as: ☐ Accreditatio		ult from
<ul><li>☐ Advisors</li><li>☐ Program admission require</li></ul>	monte	□ Other		
☐ Continuing eligibility require			e Award Type requires to proposal form and a se	
Show all changes on the catal  * Please submit a Program Ass		program inactiva Curriculum & Ass	tion form. Contact the D sessment for more inform	irector of
Rationale for proposed cha Minor changes and corrections concentration applicable course reviewed the students' pathway	nges: to: Course contact hours, ( e(s), Reviewed and refined	Course(s) removed that w the restricted elective cou	urse list(s) per concentra	
Financial/staffing/equipmer	nt/space implications:			
<b>List departments that have</b> All departments that are affec	•		rogram.	
Ciamoturas				
Signatures:	Print Name	e!	naturo	Date

Reviewer	Print Name	Signature	Date
Initiator	Alyn Day	Nun Br	12/6/2021
Department Chair	Rocky Roberts/Mike Duff	Raby Parfect	12/6/ki
Division Dean/Administrator	Johnson Mis US	1 min	12/9/2021
	or by e-mail to curriculum.ass	of Curriculum & Assessment, Sessment@wccnet.edu will secure the signature of the VPI	
Reviewer	Print Name	Signature	Date

## WASHTENAW COMMUNITY COLLEGE

## PROGRAM CHANGE FORM

Curriculum Committee Chair	Randy Van Wagnen	RVmh	2-7-22
Assessment Committee Chair	StanDoen		0.11.32
Vice President for Instruction	Kimberly Hurns	Anh	2/10/22
Do not write in shad	ed area. Entered in: Banner	C&A/Database Log Fil	e de la companya de l

Reviewed by C&A Committees 1/27/22

## Manufacturing & Automotive

## **Transportation Technologies (APOETT)**

## Associate in Applied Science Degree Program Effective Term: Fall 2022

High Demand Occupation High Skill Occupation High Wage Occupation

In this AAS degree, students have a choice to follow any of three different specialty tracks that will prepare them for employment in the transportation industry. This option can be selected if an associate's degree is required for employment or advancement in a field. Each track features a variety of application level classes where students perform lab-oriented practice for the required skills in the automotive service related, auto body repair or motorcycle service fields. Students will learn using the latest technology, methods and tooling in their area of concentration.

Students will select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Service, Auto Body or Motorcycle Service. The program prepares the student for the State of Michigan Mechanics Certification tests as well as the National Institute for Automotive Service Excellence (ASE) Certification Exams. Meet with a divisional advisor or faculty.

#### **Program Admission Requirements:**

Academic Reading and Writing Levels of 6; Academic Math Level 3

#### Minimum Concentration Credits Required for the Program:

60

Select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Service, Auto Body or Motorcycle Service.

<b>Auto Body (AB</b>	DY) (6	0 credits)
First Semester	· · · · · · · · · · · · · · · · · · ·	6 credits)
ABR 111	Introduction to Auto Body Repair	4
ABR 112	Introduction to Automotive Refinishing	4
ABR 114	Applied Auto Body Welding	2
Elective	Writing Elective(s)	3
Elective	Math Elective(s)	3
Second Semes	ter (1	6 credits)
ABR 113	Estimating and Shop Operations	4
ABR 119	The Art of Metal Shaping	2
ABR 123	Technical Auto Body Repair	4
ABR 124	Technical Automotive Refinishing	4
	Restricted Elective(s): Select a minimum of 2 credits from ABR 116, ABR 130, ABR 231, MST 106, or MST 230.	2
Third Semeste		6 credits)
ABR 140	Aluminum Welding for Automotive Applications	4
ABR 135 or	Collision-Related Mechanical and Electrical Repairs	_
ASV 130	Automotive Maintenance	4
	Restricted Elective(s): Select a minimum of 2 credits from ABR 116, ABR 130, ABR 231, MST 106, or MST 230.	
Elective	Speech/Comp. Elective(s)	3
Elective	Arts/Human. Elective(s)	3
<b>Fourth Semest</b>	er (1	2 credits)
ABR 201	Lightweighting Composite Repair	4
	Restricted Elective(s): Select a minimum of 2 credits from ABR 116, ABR 130, ABR 231, MST 106, or MST 230.	2
Elective	Nat. Sci. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Minimum Cred	its Required for the Concentration or Option: 60	

Auto Service (	(SVC)	61 credits)
First Semester		16 credits)
ASV 130	Automotive Maintenance	4
ASV 131	Automotive Electrical	4
	Restricted Electives: Select a minimum of 2 credits from ABR 111, ABR 114, ASV 174, ASV 270, ASV 27 ASV 279, CST 185, MST 110, MTT 102, or WAF 105.	
Elective	Math Elective(s)	3
Elective	Writing Elective(s)	3
Second Semest	er (	17 credits)
ASV 132	Automotive Engines	4
ASV 133	Automotive Fuel Systems	4
ASV 134	Automotive Transmissions	4
ASV 135	Facility Operations Restricted Elective(s): Select a minimum of 2 credits from ABR 140 or WAF 103.	3 2
Third Semester	•	16 credits)
ASV 254	Suspension and Steering	2
ASV 255	Brakes	2
ASV 256	Electrical and Electronic Systems	4
ASV 258	Engine Drivability	2
Elective	Speech/Comp Elective(s)	3
Elective	Arts/Human Elective(s)	3
Fourth Semeste	ar (	12 credits)
ASV 251	Engine Diagnosis and Repair	2
ASV 257	Heating and Air Conditioning Systems	2
ASV 266	Advanced Transmissions	2
Elective	Nat. Sci. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Motorcycle Ser	ts Required for the Concentration or Option: 61 vice (MSVC)	60 credits)
First Semester		
First Semester MST 110	Motorcycle Service Technology I	<b>16 credits)</b> 4
		16 credits)
MST 110	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or MST 106,	<b>16 credits)</b> 4
MST 110 ABR 114 or WAF 105	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112.	16 credits) 4 2 ST 4
MST 110 ABR 114 or WAF 105 Elective	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or M: 112. Writing Elective(s)	16 credits) 4 ST 4
MST 110 ABR 114 or WAF 105	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112.	16 credits) 4 2 ST 4
MST 110 ABR 114 or WAF 105  Elective Elective Second Semest	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or M: 112. Writing Elective(s) Math Elective(s)  Were	16 credits) 4 2 ST 4 3 3 14 credits)
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or M: 112. Writing Elective(s) Math Elective(s)  Mer Motorcycle Service Technology II	16 credits) 4 2 ST 4 3 3 14 credits)
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112. Writing Elective(s) Math Elective(s)  Wer Motorcycle Service Technology II Motorcycle Service Technology III	16 credits) 4 2 ST 4 3 3 14 credits)
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112. Writing Elective(s) Math Elective(s)  Wer  Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies	16 credits) 4 2 ST 4 3 3 14 credits) 4
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112. Writing Elective(s) Math Elective(s)  Wer Motorcycle Service Technology II Motorcycle Service Technology III	16 credits) 4 ST 4 3 3 4 14 credits) 4 4
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or M: 112. Writing Elective(s) Math Elective(s)  er Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or M: 112.	16 credits) 4 ST 4 3 3 4 14 credits) 4 4
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or MST 230	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or M: 112. Writing Elective(s) Math Elective(s)  Wer  Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or M:	16 credits) 4 ST 4 3 3 4 14 credits) 4 4
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112. Writing Elective(s) Math Elective(s)  Per Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112. Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding	16 credits) 4 2 ST 4 3 3 14 credits) 4 4 ST 2
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or M: 112. Writing Elective(s) Math Elective(s)  Wer Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or M: 112. Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding	16 credits) 4 2 ST 4 3 3 14 credits) 4 4 2 ST 2
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112. Writing Elective(s) Math Elective(s)  Per  Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112. Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV	16 credits) 4 2 ST 4 3 3 3 14 credits) 4 4 2 ST 2 16 credits)
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or M: 112. Writing Elective(s) Math Elective(s)  Wer Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or M: 112. Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding	16 credits) 4 2 ST 4 3 3 14 credits) 4 4 2 ST 2 16 credits) 4 4
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112. Writing Elective(s) Math Elective(s)	16 credits) 4 2 ST 4 3 3 14 credits) 4 4 2 ST 2 16 credits) 4 4
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140 MST 220	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112. Writing Elective(s) Math Elective(s)  Were  Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112. Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV Dynamometer Operations Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112.  Motorcycle Service Technology IV Dynamometer Operations Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or MS 112.	16 credits) 4 2 ST 4 3 3 14 credits) 4 4 ST 2 16 credits) 4 4 5T 2
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140 MST 220  Elective	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or Ms 112. Writing Elective(s) Math Elective(s)  Math Elective(s)  Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or Ms 112. Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV Dynamometer Operations Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or Ms 112. Speech/Comp. Elective(s) Arts/Human. Elective(s)	16 credits) 4 2 ST 4 3 3 14 credits) 4 4 ST 2 2 16 credits) 4 4 ST 2
MST 110 ABR 114 or WAF 105  Elective Elective  Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140 MST 220  Elective Elective	Motorcycle Service Technology I Applied Auto Body Welding Introduction to Welding Processes Restricted Elective(s): Select a minimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or Ms 112. Writing Elective(s) Math Elective(s)  Math Elective(s)  Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or Ms 112. Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV Dynamometer Operations Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or Ms 112. Speech/Comp. Elective(s) Arts/Human. Elective(s)	16 credits) 4 ST 4  14 credits) 4 4 ST 2 ST 2  16 credits) 4 ST 3 3

Minimum Cr	edits Required for the Program:		60
Minimum Cr	edits Required for the Concentrat	tion or Option: 60	
Elective Elective	Nat. Sci. Elective(s) Soc. Sci. Elective(s)		3
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## Manufacturing & Automotive

## **Transportation Technologies (APOETT)**

Associate in Applied Science Degree
Program Effective Term: Fall 2020

High Demand Occupation High Skill Occupation High Wage Occupation

In this AAS degree, students have a choice to follow any of three different specialty tracks that will prepare them for employment in the transportation industry. This option can be selected if an associate's degree is required for employment or advancement in a field. Each track features a variety of application level classes where students perform lab-oriented practice for the required skills in the automotive service related, auto body repair or motorcycle service fields. Students will learn using the latest technology, methods and tooling in their area of concentration.

Students will select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Service, Auto Body or Motorcycle Service. The program prepares the student for the State of Michigan Mechanics Certification tests as well as the National Institute for Automotive Service Excellence (ASE) Certification Exams. Meet with a divisional advisor or faculty.

#### **Program Admission Requirements:**

Academic Reading and Writing Levels of 6; Academic Math Level 3

#### **Minimum Concentration Credits Required for the Program:**

60

Select a specialized track in one of the following areas, each of which has its own associated certificated program(s): Auto Service, Auto Body or Motorcycle Service.

Auto Body (AB	DY)	(60 credits)
First Semester		(16 credits)
ABR 111	Introduction to Auto Body Repair	4
ABR 112	Introduction to Automotive Refinishing	4
ABR 114	Applied Auto Body Welding	2
Elective	Writing Elective(s)	2
Elective	Math Elective(s)	3
Second Semest	ter	(16 credits)
ABR 113	Estimating and Shop Operations	4
ABR 119	The Art of Metal Shaping	2
ABR 123	Technical Auto Body Repair	4
ABR 124	Technical Automotive Refinishing	4
	Restricted Elective(s): Select a minimum of 2 credits from ABR 116, ABR 130, ABR 231, MST 106, or N 230.	MST 2
Third Semester		(16 credits)
ABR 140	Aluminum Welding for Automotive Applications	4
ABR 135 or	Collision-Related Mechanical and Electrical Repairs	
ASV 130	Automotive Maintenance	4
	Restricted Elective(s): Select a minimum of 2 credits from ABR 116, ABR 130, ABR 231, MST 106, or N 230.	MST 2
Elective	Speech/Comp. Elective(s)	3
Elective	Arts/Human. Elective(s)	3
Fourth Semeste	er	(12 credits)
ABR 201	Lightweighting Composite Repair	4
	Restricted Elective(s): Select a minimum of 2 credits from ABR 116, ABR 130, ABR 231, MST 106, or N 230.	MST 2
Elective	Nat. Sci. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Minimum Credi	its Required for the Concentration or Option: 60	

Auto Service (A	SVC)	(61 credits)
First Semester		(16 credits)
ASV 130	Automotive Maintenance	4
ASV 130 ASV 131	Automotive Electrical	4
M2A 121	Restricted Electrical  Restricted Electrical  Restricted Electrical  Restricted Electrical	
		270, 2
Elective	ASV 277, ASV 279, CST 185, MST 110, MTT 102, or WAF 105.	3
	Math Elective(s)	3
Elective	Writing Elective(s)	3
Second Semest	er e	(17 credits)
ASV 132	Automotive Engines	4
ASV 133	Automotive Fuel Systems	4
ASV 134	Automotive Transmissions	4
ASV 135	Facility Operations	3
	Restricted Elective(s): Select a minimum of 2 credits from ABR 140 or WAF 103.	2
Third Semester		(16 anodita)
ASV 254	Suspension and Steering	( <b>16 credits</b> )
ASV 254 ASV 255	Brakes	2
ASV 255	Electrical and Electronic Systems	
ASV 258	Engine Drivability	4 2
Elective	Speech/Comp Elective(s)	
		3
Elective	Arts/Human Elective(s)	3
Fourth Semeste	er	(12 credits)
ASV 251	Engine Diagnosis and Repair	2
ASV 257	Heating and Air Conditioning Systems	2
ASV 266	Advanced Transmissions	2
Elective	Nat. Sci. Elective(s)	2 3
Elective	Soc. Sci. Elective(s)	3
	3331 3311 2.3311 3(3)	
Minimum Credi	ts Required for the Concentration or Option: 61	
Motorcycle Ser	vice (MSVC)	(60 credits)
First Semester		(16 credits)
MST 110	Motorcycle Service Technology I	4
ABR 114 or	Applied Auto Body Welding	_
WAF 105	Introduction to Welding Processes	2
	Restricted Elective(s): Select a mimimum of 4 credits from ABR 119, ABR 201, ASV 130, MST 106, or	
Elective	112.	MST 4
	Writing Elective(s)	MST 4 3
Elective		MST 4
	Writing Elective(s) Math Elective(s)	MST 4 3 3
Second Semest	Writing Elective(s) Math Elective(s) er	MST 4 3 3 (14 credits)
Second Semest MST 120	Writing Elective(s) Math Elective(s)  er  Motorcycle Service Technology II	MST 4 3 3 (14 credits) 4
Second Semest MST 120 MST 130	Writing Elective(s) Math Elective(s)  er  Motorcycle Service Technology II Motorcycle Service Technology III	MST 4 3 3 (14 credits)
Second Semest MST 120 MST 130 MTT 102 or	Writing Elective(s) Math Elective(s)  er  Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies	MST 4 3 3 (14 credits) 4 4
Second Semest MST 120 MST 130	Writing Elective(s)  Math Elective(s)  er  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication	MST 4 3 3 (14 credits) 4 4
Second Semest MST 120 MST 130 MTT 102 or	Writing Elective(s)  Math Elective(s)  er  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or Machining for the Technologies	MST 4 3 3 (14 credits) 4 4
Second Semest MST 120 MST 130 MTT 102 or MST 230	Writing Elective(s)  Math Elective(s)  er  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.	MST 4 3 3 (14 credits) 4 4
Second Semest MST 120 MST 130 MTT 102 or MST 230 ABR 140 or	Writing Elective(s)  Math Elective(s)  er  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.  Aluminum Welding for Automotive Applications	MST 4  3 3 (14 credits) 4 4  WST 2
Second Semest MST 120 MST 130 MTT 102 or MST 230	Writing Elective(s)  Math Elective(s)  er  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.	MST 4 3 3 (14 credits) 4 4
Second Semest MST 120 MST 130 MTT 102 or MST 230 ABR 140 or WAF 103	Writing Elective(s)  Math Elective(s)  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.  Aluminum Welding for Automotive Applications  Introduction to Gas Tungsten Arc Welding	MST 4  3 3 (14 credits) 4 4 MST 2  MST 2
Second Semest MST 120 MST 130 MTT 102 or MST 230 ABR 140 or WAF 103	Writing Elective(s)  Math Elective(s)  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.  Aluminum Welding for Automotive Applications  Introduction to Gas Tungsten Arc Welding	MST 4  3 3 (14 credits) 4 4  WST 2
Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140	Writing Elective(s)  Math Elective(s)  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.  Aluminum Welding for Automotive Applications  Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV	MST 4  3 3 (14 credits) 4 4  MST 2  MST 2  (16 credits) 4
Second Semest MST 120 MST 130 MTT 102 or MST 230 ABR 140 or WAF 103	Writing Elective(s) Math Elective(s)  er  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.  Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV  Dynamometer Operations	MST 4  3 3 (14 credits) 4 4  MST 2  MST 2  (16 credits) 4 4
Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140	Writing Elective(s)  Math Elective(s)  er  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.  Aluminum Welding for Automotive Applications  Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV  Dynamometer Operations  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 110, or	MST 4  3 3 (14 credits) 4 4  MST 2  MST 2  (16 credits) 4 4
Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140 MST 220	Writing Elective(s)  Math Elective(s)  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.  Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV  Dynamometer Operations  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.	MST 4  3 3 3  (14 credits) 4 4  MST 2  (16 credits) 4  MST 2
Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140 MST 220  Elective	Writing Elective(s)  Math Elective(s)  er  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.  Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV  Dynamometer Operations  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.  Speech/Comp. Elective(s)	MST 4  3 3 (14 credits) 4 4  MST 2  (16 credits) 4 4  MST 2 3
Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140 MST 220	Writing Elective(s)  Math Elective(s)  Motorcycle Service Technology II  Motorcycle Service Technology III  Machining for the Technologies  Advanced Motorcycle Fabrication  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.  Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV  Dynamometer Operations  Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112.	MST 4  3 3 3  (14 credits) 4 4  MST 2  (16 credits) 4  MST 2
Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140 MST 220  Elective	Writing Elective(s) Math Elective(s)  Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112. Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV Dynamometer Operations Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112. Speech/Comp. Elective(s) Arts/Human. Elective(s)	MST 4  3 3 (14 credits) 4 4  MST 2  (16 credits) 4 4  MST 2 3
Second Semest MST 120 MST 130 MTT 102 or MST 230  ABR 140 or WAF 103  Third Semester MST 140 MST 220  Elective Elective	Writing Elective(s) Math Elective(s)  Motorcycle Service Technology II Motorcycle Service Technology III Machining for the Technologies Advanced Motorcycle Fabrication Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112. Aluminum Welding for Automotive Applications Introduction to Gas Tungsten Arc Welding  Motorcycle Service Technology IV Dynamometer Operations Restricted Elective(s): Select a minimum of 2 credits from ABR 119, ABR 201, ASV 130, MST 106, or N 112. Speech/Comp. Elective(s) Arts/Human. Elective(s)	MST 4  3 3 3  (14 credits) 4 4  MST 2  (16 credits) 4  MST 2  3 3 3

Elective	Nat. Sci. Elective(s)		3
Elective	Soc. Sci. Elective(s)		3
Minimum Cree	dits Required for the Concentration	or Option: 60	
riiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	ants Required for the concentration	i oi option. Vo	
Minimum Cred	dits Required for the Program:		60

## PROGRAM PROPOSAL FORM

- **X** Preliminary Approval Check here when using this form for preliminary approval of a program proposal, and respond to the items in general terms.
- Final Approval Check here when completing this form after the Vice President for Instruction has given preliminary approval to a program proposal. For final approval, complete information must be provided for each item.

Program Name:	Transportation Technologies (APOETT)	Program	
Division and Department:	ATP Division - Transportation Technologies	Code:	
Type of Award:	□ AA □AS X AAS	APOETT	
Effective Term/Year:	☐ Cert. ☐ Adv. Cert. ☐ Post-Assoc. Cert. ☐ Cert. of Comp.	CIP	
Initiator:	Transportation Technologies Faculty (Allen Day, Robert Lowing, Shawn Deron)	Code: 47.0604	
Program Features Program's purpose and its goals.	This program is intended to allow for a degree path for the newly combined/formed Transportation Technologies Department.		
Criteria for entry into the program, along with projected enrollment figures.  Connection to other WCC programs, as well as accrediting agencies or professional			
organizations.  Special features of the program.	Students will select a specialized track in one of the following areas which currently has its own certificate programs.	, each of	
	Automotive Service (CTASVT, CVASV2) Auto Body Repair (CTAUBR) Motorcycle Service Technology (CTMST1, CVMST2)		
Need for the program with evidence to support the stated need.	Employers in the transportation sectors are experiencing a gap between supply of skilled workers and the demand for job ready employees. currently lists over 80,000 job openings around the United States in and over 2,000 in Michigan. The Bureau of labor statistics anticipate average projected growth (4-9%) between 2018-2028. The median 2019 was \$15.00-\$24.50 hourly or \$36,790 to \$47,350 annually. This program is the combination of several existing programs that have expected academic year. This program proposal (APOETT) will be accountly academic year. This program proposal (APOETT) will be accountly program updates(CTAUBR, CTASVT) and proposal (CVASV2) streamline a student's chosen concentration within the Transportation Technologies Department. All of the proposed programs and program focus on a guided pathway for students to complete certificates and for their selected concentrations. These proposals and updates are produce a better prepared student for employment opportunities and increased completion rate.	Indeed.com these fields es an salary in is degree existed iduates ompanied to align and on am updates degrees intended to	

#### Program Outcomes/Assessment

State the knowledge to be gained, skills to be learned, and attitudes to be developed by students in the program.

Include assessment methods that will be used to determine the effectiveness of the program.

#### **Outcomes**

concentration.

Other

- 1. Demonstrate the mastery of skills related to the student's technical concentration.
- 2. Apply critical thinking skills to solve an identified problem in the student's technical concentration.
- 3. Demonstrate and apply required industry related safety standards.

#### Assessmentmethod

- 1. Technical artifacts embedded in the certificate capstone courses within the chosen concentration.
- 2.Technical artifacts embedded in the certificate capstone courses within the chosen concentration.
- 3.Technical artifacts embedded in the certificate capstone courses within the chosen concentration.

#### Curriculum

List the courses in the program as they should appear in the catalog. List minimum credits required. Include any notes that should appear below the course list,

Associate degree programs must provide a semester by semester program layout.

## Budget

Specify program costs in the following areas, per academic year:

 All of the programs that are involved are already established and currently have an existing budget. The ongoing coast are already forecast into the current budget.

	STAR	START-UP COSTS		ONGOING COSTS	
Faculty	\$	•	\$		
Training/Travel		•			
Materials/Resources		X.*			
Facilities/Equipment	<del></del>	NS)	<del> </del>		

Please see the attached spreadsheet for the semester breakdown for each

## Program Description for Catalog and Web site

In this AAS Degree, students have a choice to follow any of three different specialty tracks that will prepare them for employment in the transportation industry. This option can be selected if an associate's degree is required for employment or advancement in a field. Each track features a variety of application level classes where students perform lab-oriented practice for the required skills in the automotive service related, auto body repair or motorcycle service fields. Students will learn using the latest technology, methods and tooling in their area of concentration.

Students will select a specialized track in one of the following areas, each of which has its own Associated Certificate Program(s).

- Auto Service
- Auto Body
- Motorcycle Service

TOTALS:

The program prepares the student for the State of Michigan Mechanics Certification tests as well as the National Institute for Automotive Service Excellence (ASE) Certification Exams. Meet with a divisional advisor or faculty

\$

	advisor for assistance in developing a concentration of study. An advisor can help determine career interests and educational goals, as well as provide transfer and career information.
Program Information	Accreditation/Licensure -
	Advisors - Allen Day, Justin Morningstar, Bob Lowing, Tim VanSchoick, Shawn Deron, Niki Lee
	Advisory Committee - Automotive - Auto Body
	Admission requirements - College entry scores in Math (3), Reading (6) and Writing(6)
	Articulation agreements - None
	Continuing eligibility requirements -

Assessment plan:

Program outcomes to be assessed	Assessment tool	When assessment will take place	Courses/other populations	Number of students to be assessed
Demonstrate the mastery of skills related to the students technical concentration.	MST 140 Capstone course project MST 225 capstone course project ABR 123 capstone course project ASV 256 capstone course project ASV 258 capstone course project	Fall 2024	All Sections of MST 140 and MST 225 All Sections of ABR 123 All Sections of ASV 256 and 258	All Students
Apply critical thinking skills to solve an identified problem in the students technical concentration.	MST 140 Capstone course project MST 225 capstone course project ABR 123 capstone course project ASV 256 capstone course project ASV 258 capstone course project	Fall 2024	All Sections of MST 140 and MST 225 All Sections of ABR 123 All Sections of ASV 256 and 258	All Students
Demonstrate and apply required industry related safety standards.	MST 140 Capstone course project MST 225 capstone course project ABR 201 capstone course project ASV 256 capstone course project ASV 258 capstone course project	Fall 2024	All Sections of MST 140 and MST 225 All Sections of ABR 201 All Sections of ASV 256 and 258	All Students

## Scoring and analysis plan:

Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally-developed 1. rubric, external evaluation, other). Attach the rubric.

All outcomes will be scored using a departmentally developed rubric(s)

Indicate the standard of success to be used for this assessment.

On all outcomes 70% of all students will score 70% or higher on the outcome related rubric items.

3, Indicate who will score and analyze the data.

Department Faculty.

REVIEWER	PRINT NAME	SIGNATURE	DATE
Department Chair/Area Director	Augn Day Morangelar	aux)/	12/12/2019
Dean	Brandon Tude	MS	idalic
Curriculum Committee Chair	Hisaveascy	Lisalream	1/30/20
Once reviewed by the approp	Kimberly Hurns	Curriculum and Assessment (SC 257 will secure the signature of the VPI ar	2 /3 / 2020
<ul><li>☐ Approved for Development</li><li>☐ Final Approval</li></ul>		Tormit	2/3/000
President	Rose Bellanca	her B. Bulene	5/20/20
Board Approval			4/28/20

Reviewed by C+A Committees
1/23/20
Program Proposal

	ASV OET	Т			MST OET	Т			ABR O	ETT	
1st Semester		3rd Semester		1st Semester		3rd Semester		1st Semester		3rd Semester	
ASV 130	4	ASV 254	2	MST 110	4	MST 140	4	ABR 111	4	ABR 135 or ASV 130	4
ASV 131	4	ASV 255	2	Restrictied Electives 2	4	MST 220	4	ABR 112	4	ABR 140	4
Restrictied Electives 1	3	ASV 256	4	ABR 114 or WAF 105	2	Restrictied Electives 2	2	ABR 114	2	Restrictied Electives 3	2
Math	3	ASV 258	2	Math	3	Arts/Humanity	3	Math	3	Arts/Humanity	3
Writing/Composisiton	2	Arts/Humanity	3	Writing/Composisiton	3	Writing/Composisiton	3	Writing/Composisiton	3	Writing/Composisiton	3
Total	16	Writing/Composisiton	3	Total	16	Total	16	Total	16	Total	16
		Total	16								
2nd Semester		4th Semester		2nd Semester		4th Semester		2nd Semester		4th Semester	
ASV 135	2	ASV 257	2	MST 120	4	MST 225	4	ABR 123	1	ABR 201	4
ASV 132	1	ASV 264	2	MST 130	4	MST 210	4	ABR 124	4	Restrictied Electives 3	2
ASV 132 ASV 133	4	ASV 251	2	MTT 102 or MST 230	2	Natual Sciences	3	ABR 113	4	Natual Sciences	3
ASV 134	4	Natual Sciences	3	Restrictied Electives 2	2	Social/Behavorial	3	ABR 119	2	Social/Behavorial	3
Restrictied Electives 4	2	Social/Behavorial	3	ABR 140 or WAF 103	2	Total	14	Restrictied Electives 3	2	Total	12
Total	16	Total	12	Total	14	Total		Total	16	Total	
		Total	60			Total	60			Total	60
<u></u>		Total	00		++	Total	00			Total	00
RE list 1 - ASV 174, AS\	/ 269, ASV 2	70, ASV 277, ASV 279,		RE list 2 - ABR 119, ABI	R 201, ASV 1	30, MST 106, MST 112		RE list 3 - ABR 116, AB	R 130,ABF	R 231, MST 106, MST 230	
RE list 4 - ABR 140, WA	F 400		<b>!</b>								