



South Central College
Program Design

AAS 3417 Automotive Service

Program Information

Instructional Level Associate Degree

Career Cluster Engineering, Manufacturing & Technology

Description

Learners graduating with an A.A.S. degree in Automotive Service receive intense training and experience in the diagnosis, repair and service of contemporary vehicles.

Program Student Learning Outcomes

- 1 Diagnose and repair engines
- 2 Diagnose and repair automatic transmissions and transaxles
- 3 Diagnose and repair manual drive trains and axles
- 4 Diagnose and repair suspension and steering
- 5 Diagnose and repair brake systems
- 6 Diagnose and repair electrical and electronic systems
- 7 Diagnose and repair heating and air conditioning
- 8 Demonstrate engine performance diagnosis
- 9 Describe professional and courteous customer service practices

Program Configurations

Fall semester start

Credits

Technical Course	57
Liberal Arts & Sciences	15
Elective	
Total Credits	72

Semester One

Course #	Course Title	Credits	Function
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AST 1112	Introduction to Auto Service	2	Technical Course
AST 1212	Basic Electrical	2	Technical Course
AST 1222	Advanced Electrical	2	Technical Course
AST 1311	Engine Diagnosis	1	Technical Course
AST 1323	Lower Engine Service	3	Technical Course
AST 1332	Upper Engine	2	Technical Course
AST 1341	Engine Lab	1	Technical Course
AST 1714	Introduction to Engine Operation	2	Technical Course
AST 2911	Auto Lab 1	1	Technical Course
	MNTC - LAS course		Liberal Arts & Sciences

Semester Two

Course #	Course Title	Credits	Function
AST 1130	Introduction to Hybrid Electric Vehicles	1	Technical Course
AST 1233	Starting and Charging Systems	3	Technical Course
AST 2723	Fuel Systems I	3	Technical Course
AST 2733	Introduction to Automotive Computers	3	Technical Course
AST 2743	Fuel Systems II	3	Technical Course
AST 2752	Engine Performance and Drivability	2	Technical Course
	MNTC - LAS course		Liberal Arts & Sciences
AST 2921	Auto Lab 2	1	Technical Course

Semester Three

Course #	Course Title	Credits	Function
AST 1613	Brakes	3	Technical Course
AST 1622	Advanced Brakes	2	Technical Course
AST 1412	Clutch and Driveline	2	Technical Course
AST 2442	Automatic Transmission I	2	Technical Course
AST 2452	Automatic Transmission II	2	Technical Course
AST 2462	Automatic Transmission III	2	Technical Course
AST 2931	Auto Lab 3	1	Technical Course
AST2961	AST2961 Cooperative Occupational Education		Elective
	MNTC - LAS course		Liberal Arts & Sciences

Semester Four

Course #	Course Title	Credits	Function
AST 2432	Rear Axle/Differential	2	Technical Course
AST 1423	Manual Transmission/Transaxle and 4x4	3	Technical Course
AST 1513	Suspension/Steering/Alignment	3	Technical Course
AST 2812	Basic Air Conditioning	2	Technical Course
AST2961	AST2961 Cooperative Occupational Education		Elective
	MNTC - LAS course		Liberal Arts & Sciences
AST 2941	Auto Lab IV	1	Technical Course

LAS Courses

Course #	Course Title	Credits	Function
	MN Transferable Liberal Arts and Sciences courses from three goal areas	15	Liberal Arts & Sciences

Spring semester start

Credits

Technical Course	57
Liberal Arts & Sciences	15
Elective	
Total Credits	72

Semester one

Course #	Course Title	Credits	Function
AST 1112	Introduction to Auto Service	2	Technical Course
AST 2432	Rear Axle/Differential	2	Technical Course
AST 1423	Manual Transmission/Transaxle and 4x4	3	Technical Course
AST 1513	Suspension/Steering/Alignment	3	Technical Course
AST 2812	Basic Air Conditioning	2	Technical Course
	MNTC - LAS course		Liberal Arts & Sciences
AST 2941	Auto Lab IV	1	Technical Course

Semester two

Course #	Course Title	Credits	Function
AST 1212	Basic Electrical	2	Technical Course

AST 1222	Advanced Electrical	2	Technical Course
AST 1714	Introduction to Engine Operation	2	Technical Course
AST 1311	Engine Diagnosis	1	Technical Course
AST 1323	Lower Engine Service	3	Technical Course
AST 1332	Upper Engine	2	Technical Course
AST 1341	Engine Lab	1	Technical Course
AST 2911	Auto Lab 1	1	Technical Course
	MNTC - LAS course		Liberal Arts & Sciences

Semester three

Course #	Course Title	Credits	Function
AST 1233	Starting and Charging Systems	3	Technical Course
AST 2723	Fuel Systems I	3	Technical Course
AST 2733	Introduction to Automotive Computers	3	Technical Course
AST 2743	Fuel Systems II	3	Technical Course
AST 2752	Engine Performance and Drivability	2	Technical Course
AST 1130	Introduction to Hybrid Electric Vehicles	1	Technical Course
AST2961	AST2961 Cooperative Occupational Education		Elective
	MNTC - LAS course		Liberal Arts & Sciences
AST 2921	Auto Lab 2	1	Technical Course

Semester four

Course #	Course Title	Credits	Function
AST 1613	Brakes	3	Technical Course
AST 1622	Advanced Brakes	2	Technical Course
AST 1412	Clutch and Driveline	2	Technical Course
AST 2442	Automatic Transmission I	2	Technical Course
AST 2452	Automatic Transmission II	2	Technical Course
AST 2462	Automatic Transmission III	2	Technical Course
AST 2931	Auto Lab 3	1	Technical Course
AST2961	AST2961 Cooperative Occupational Education		Elective
	MNTC - LAS course		Liberal Arts & Sciences

LAS Courses

Course #	Course Title	Credits	Function
	15 Credits of MN Transferable Liberal Arts and Science courses from three goal areas	15	Liberal Arts & Sciences

Program Course List

Number	Title	Credits	Pre/Corequisites
AST 1121	Service Management	1	Admission into the Automotive Service program
AST 1112	Introduction to Auto Service	2	Admission to the Automotive Service program
AST 1130	Introduction to Hybrid Electric Vehicles	1	Admission to the Automotive Service program
AST 1212	Basic Electrical	2	Admission to the Automotive Service program
AST 1222	Advanced Electrical	2	Admission to the Automotive Service program
AST 1233	Starting and Charging Systems	3	Admission to the Automotive Service program
AST 1311	Engine Diagnosis	1	Admission to the Automotive Service program
AST 1323	Lower Engine Service	3	Admission into the Automotive Service program
AST 1332	Upper Engine	2	Admission into the Automotive Service program
AST 1341	Engine Lab	1	Admission into the Automotive Service program
AST 1412	Clutch and Driveline	2	Admission into the Automotive Service program
AST 1423	Manual Transmission/Transaxle and 4x4	3	Admission into the Automotive Service program
AST 1513	Suspension/Steering/Alignment	3	Admission into the Automotive Service program
AST 1613	Brakes	3	Admission into the Automotive Service program
AST 1622	Advanced Brakes	2	Admission into the Automotive Service program
AST 1712	Basic Tune Up	2	Admission into the Automotive Service program
AST 1714	Introduction to Engine Operation	2	Admission to the Automotive Service program
AST 2432	Rear Axle/Differential	2	Admission into the Automotive Service program

AST 2442	Automatic Transmission I	2	Admission into the Automotive Service program.
AST 2452	Automatic Transmission II	2	Admission into the Automotive Service program.
AST 2462	Automatic Transmission III	2	Admission into the Automotive Service program
AST 2723	Fuel Systems I	3	Admission into the Automotive Service program
AST 2733	Introduction to Automotive Computers	3	Admission into the Automotive Service program
AST 2743	Fuel Systems II	3	Admission to the Automotive Service program
AST 2752	Engine Performance and Drivability	2	Admission to the Automotive Service program
AST 2812	Basic Air Conditioning	2	Admission into the Automotive Service program
AST 2822	Heating & Advanced A/C	2	Admission into the Automotive Service program
AST 2911	Auto Lab 1	1	Admission to the Automotive Service program
AST 2921	Auto Lab 2	1	Admission to the Automotive Service program
AST 2931	Auto Lab 3	1	Admission into the Automotive Service program.
AST 2941	Auto Lab IV	1	Admission to the Automotive Service program
AST2961	AST2961 Cooperative Occupational Education		Admission into the Automotive Service program. The learner is required to have one year completed in a NATEF approved automotive technicians program for eligibility in Cooperative Occupational Education.