



**South Central College
Program Design**

DIP 3416 Automotive Service

Program Information

Instructional Level Technical Diploma

Career Cluster Engineering, Manufacturing & Technology

Description

Learners graduating with a diploma in Automotive Service receive intense training and experience in the diagnosis, repair and service of contemporary vehicles.

Accreditation Information

Automotive Service Excellence Education Foundation Accredited Program

Program Admission Dates (Fall and/or Spring)

Program Admission Dates - Fall and Spring

Program Location (North Mankato and/or Faribault)

North Mankato

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

Total Credits**64****Semester One**

Course #	Course Title	Credits	Function
AST 1112	Introduction to Auto Service	2	Technical Course
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 or readiness course		Liberal Arts & Sciences

Semester Two

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
AST1130	Introduction to Hybrid Electric Vehicles	1	Technical Course
	MNTC - LAS or readiness 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 if needed		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 if needed		Liberal Arts & Sciences
	Technical Elective Course		
AST 2941	Auto Lab IV	1	Technical Course

Technical elective course

Course #	Course Title	Credits	Function
	One credit of a technical elective course is required	1	Elective

Liberal Arts and Sciences

Course #	Course Title	Credits	Function
	MN Transferable Liberal Arts and Science courses	6	Liberal Arts & Sciences

Spring semester start

Credits

Technical Course	57
Liberal Arts & Sciences	6
Elective	1
Total Credits	64

Semester one

Course #	Course Title	Credits	Function
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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 or readiness course		Liberal Arts & Sciences
	Technical Elective Course		Elective
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 or readiness 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 if needed		
AST 2921	Auto Lab 2	1	Technical Course

Semester four

Course #	Course Title	Credits	Function
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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 if needed		Liberal Arts & Sciences

Technical elective course

Course #	Course Title	Credits	Function
	One credit of a technical elective course is required	1	Elective

LAS courses

Course #	Course Title	Credits	Function
	MN Transferable Liberal Arts and Science courses	6	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.