AUTOMOTIVE FUNDAMENTALS, CERTIFICATE - AUT7

The Automotive Fundamentals Certificate provides a fundamental understanding of diagnosis and repair service for the engine, automatic transmission, brake, heating and air conditioning, suspension and steering and electrical systems. The certificate will provide the first step towards the completion of an Associate in Applied Science with a major in Automotive Technology. The courses will be assessed using applicable ASE Education Foundation metrics.

Important Notes:

- *New students must obtain all tools on the list of required tools.*
- *An Automotive Technician is largely responsible for diagnosing and repairing vehicle engine systems. A valid state driver's license for conducting test drives and other diagnostic procedures is highly recommended for the Automotive Technology program.*

Requirements

Courses	Course Title	Credit Hours
Required Course Information		
AUT 101	Engine Fundamentals	3
AUT 102	Engine Repair	4
AUT 112	Braking Systems	4
AUT 116	Manual Transmission and Axle	4
AUT 122	Suspension and Alignment	4
AUT 132	Automotive Electricity	4
AUT 141	Introduction to Heating and Air Conditioning	4
AUT 145	Engine Performance	3
AUT 152	Automatic Transmission	4
Subtotal		34
Total Hours		**34**

Graduation Plan

Fall Start

Course	Title	Hours
First Year		
Fall Semester		
AUT 101	Engine Fundamentals	3
AUT 112	Braking Systems	4
AUT 122	Suspension and Alignment	4
AUT 132	Automotive Electricity	4
	Hours	**15**
Spring Semester		
AUT 102	Engine Repair	4
AUT 116	Manual Transmission and Axle	4
AUT 152	Automatic Transmission	4
	Hours	**12**
Summer Semester		
AUT 141	Introduction to Heating and Air Conditioning	4
AUT 145	Engine Performance	3
	Hours	**7**
	Total Hours	**34**

Spring Start

Course	Title	Hours
First Year		
Spring Semester		
AUT 102	Engine Repair	4
AUT 116	Manual Transmission and Axle	4
AUT 152	Automatic Transmission	4
	Hours	**12**
Summer Semester		
AUT 141	Introduction to Heating and Air Conditioning	4
AUT 145	Engine Performance	3
	Hours	**7**
Fall Semester		
AUT 101	Engine Fundamentals	3
AUT 112	Braking Systems	4
AUT 122	Suspension and Alignment	4
AUT 132	Automotive Electricity	4
	Hours	**15**
	Total Hours	**34**

Application and Advising

If you are ready to start your education, there are a few simple steps involved in enrolling at Piedmont Technical College.

Get Started Today (https://www.ptc.edu/admissions/new-students/)

Advising Information

The following information provides a guide for advisors who are helping students enroll in this program.

Program Notes

The best time to start the Automotive Technology program is Fall. New students interested in starting in the Summer or Spring term should talk with Gerald Sartin or Bill King about experience level before enrolling in AUT courses. Reading comprehension skills are very important for success in this program.

Tools for the hands-on portion in the lab are mandatory for competency completion and will cost a minimum of $1200-$1800 with some students choosing to spend as much as $4000-$5000. Tools that the students purchase are an investment in their future and necessary to be employable. Click here for the list of required tools (https://

www.ptc.edu/sites/default/files/documents/academics/automotive/Automotive_Technology_Tool_List.pdf). Students are required to purchase safety glasses and wear coveralls/shop approved uniform for lab activities. Advise students to call or e-mail Gerald Sartin if they have specific questions.

All courses count toward the AUT3 associate degree.

Notes About Individual Classes

AUT courses are offered during days and evenings.

Program Student Learning Outcomes

Purpose Statement

The purpose of the Automotive Fundamentals Certificate is to provide a fundamental understanding of diagnosis and repair service for the engine, automatic transmission, brake, heating and air conditioning, suspension and steering and electrical systems. The certificate will provide the first step towards the completion of an Associate in Applied Science with a Major in Automotive Technology. The courses will be assessed using applicable ASE Education Foundation metrics.

Student Learning Outcomes

1. Diagnose and repair vehicle engine and engine operating systems. Assess using ASE Education Foundation Task list for Engine Repair metrics. Student must achieve at least 3 out of 4 to show competency completion.
2. Diagnose and repair automatic and manual drive trains and operating systems. Assess using ASE Education Foundation Task list for Automatic Transmission/transaxle and manual drive train and axle's metrics. Student must achieve at least 3 out of 4 to show competency completion.
3. Diagnose and repair vehicle HVAC and operating systems. Assess using ASE Education Foundation Task list for Heating and Air Conditioning metrics. Student must achieve at least 3 out of 4 to show competency completion.
4. Diagnose and repair steering and suspension systems. Perform a 4 wheel alignment on a vehicle. Assess using ASE Education Foundation Task list for Suspension and Steering metrics. Student must achieve at least 3 out of 4 to show competency completion.
5. Diagnose and repair vehicle brake systems. Perform a 4 wheel brake service. Assess using ASE Education Foundation Task list for Brakes metrics. Student must achieve at least 3 out of 4 to show competency completion.
6. Diagnose and repair engine performance and drivability concerns. Assess using ASE Education Foundation Task list for Engine Performance metrics. Student must achieve at least 3 out of 4 to show competency completion.
7. Diagnose and repair vehicle electrical and electronic systems. Assess using ASE Education Foundation Task list for Electrical/electronic metrics. Student must achieve at least 3 out of 4 to show competency completion.
8. Follow automotive shop safety practices applicable to industry standards. Assess using Safety Quizzes and Exams. Student must achieve an 100% on Safety Exam.