

AUTOMOTIVE TECHNOLOGY, A.A.S. - AUT3

With concern for automotive efficiency, the cost of fuel, vehicle repairs and service growing yearly, the role of the automotive technician increases in importance.

The student is trained to perform quality maintenance, diagnosis and repair of complex modern vehicles. Classrooms and shop areas are equipped with the latest tools and equipment for automotive diagnosis and repair.

Students will train in eight areas of automotive service: engine repair, engine performance, electrical and electronic systems, manual drive train and axles, automatic transmission/transaxles, suspension and steering systems, brakes and heating and air conditioning. Maintenance and repair experience will duplicate those skills needed upon employment. Upon completion of 63 credit hours, a graduate will be awarded an Associate in Applied Science with a major in Automotive Technology.

Note: *New students must obtain all tools on the list of required tools.*

Requirements

Courses	Course Title	Credit Hours
General Education Courses		
ENG 165 or ENG 101	Professional Communications English Composition I	3
MAT 170	Algebra, Geometry and Trigonometry I	3
SPC 205	Public Speaking	3
	Elective Social/Behavioral Sciences (https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/)	3
	Elective Humanities/Fine Arts (https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/)	3
	Subtotal	15
Required Core Subject Areas		
AUT 101	Engine Fundamentals	3
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
	Subtotal	23
Other Courses Required for Graduation		
AUT 102	Engine Repair	4
AUT 145	Engine Performance	3
AUT 152	Automatic Transmission	4
AUT 156	Automotive Diagnosis and Repair	4
AUT 157	Shop Mngmt and Supervision	3
AUT 231	Automotive Electronics	4
AUT 275	Alternate Technology Vehicles	3

Subtotal	25
Total Hours	63

Graduation Plans

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
ENG 165	Professional Communications	3
	Elective Humanities/Fine Arts (https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/)	3
	Hours	14

Summer Semester

AUT 141	Introduction to Heating and Air Conditioning	4
AUT 145	Engine Performance	3
AUT 275	Alternate Technology Vehicles	3
	Hours	10

Second Year

Fall Semester

AUT 157	Shop Mngmt and Supervision	3
AUT 231	Automotive Electronics	4
SPC 205	Public Speaking	3
MAT 170	Algebra, Geometry and Trigonometry I	3
	Hours	13

Spring Semester

AUT 152	Automatic Transmission	4
AUT 156	Automotive Diagnosis and Repair	4
	Elective Behavioral Science (https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/)	3
	Hours	11
	Total Hours	63

Spring Start

Course	Title	Hours
First Year		
Spring Semester		
AUT 112	Braking Systems	4
AUT 116	Manual Transmission and Axle	4
AUT 132	Automotive Electricity	4

ENG 165	Professional Communications	3
	Hours	15
Summer Semester		
AUT 141	Introduction to Heating and Air Conditioning	4
AUT 145	Engine Performance	3
AUT 275	Alternate Technology Vehicles	3
	Hours	10
Fall Semester		
AUT 101	Engine Fundamentals	3
AUT 122	Suspension and Alignment	4
AUT 157	Shop Mngmt and Supervision	3
AUT 231	Automotive Electronics	4
	Hours	14
Second Year		
Spring Semester		
AUT 102	Engine Repair	4
AUT 152	Automatic Transmission	4
AUT 156	Automotive Diagnosis and Repair	4
MAT 170	Algebra, Geometry and Trigonometry I	3
	Hours	15
Summer Semester		
SPC 205	Public Speaking	3
	Elective Humanities/Fine Arts (https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/)	3
	Elective Behavioral Science (https://catalog.ptc.edu/student-handbook/advising-registration/general-education-courses/)	3
	Hours	9
	Total Hours	63

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. Completing developmental coursework, if needed, or general education courses is a good option before entering the program fully in the fall. 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 or Bill King if they have specific questions.

Notes About Individual Classes

The English required for this program is ENG 165. Students will follow this progression, with their starting point being determined by their placement test scores: ENG 032/012 and/or RDG 032/012 (or RWR 032/012) > ENG 100 and/or RDG 100 (or RWR 100) > ENG 165. AUT courses are offered during days and evenings.

The math required for this program is MAT 170. Students will follow this progression, with their starting point being determined by their placement test scores: MAT 032/012 > MAT 170. MAT 171 is also required.

Accreditation Information

The Automotive Technology program is accredited by:

ASE Education Foundation
1503 Edwards Ferry Rd., NE, Suite 401
Leesburg, VA 20176
(703) 669-6650 or (703) 669-6677
(<http://www.aseeducationfoundation.org> (<http://www.aseeducationfoundation.org/>))

Program Student Learning Outcomes

Purpose Statement

The purpose of the Automotive Technology Program is to train students to perform quality maintenance, diagnosis and repair of complex modern vehicles.

Program 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 100% on Safety Exam.