



**Automotive Systems Technology**  
**Credential: Certificate in**  
**Automotive Systems Technology**  
**C60160**

This curriculum prepares individuals for employment as automotive service technicians. It provides an introduction to automotive careers and enhances the student's awareness of having to meet the challenges of this fast and ever-changing field. Courses include both classroom and lab experiences. Emphasis is placed on theory, servicing and operation of electrical/electronic systems. Upon completion of this curriculum, students should be prepared for ASE electrical certification and be ready for full-time employment in dealerships and repair shops in the automotive service industry.

Program Length: 2 semesters

Career Pathway Options: Associate in Applied Science Degree in Automotive Systems Technology (Higher entrance standards required); Diploma in Automotive Systems Technology (Higher entrance standards required); Certificate in Automotive Systems Technology

Program Sites: Lee Campus - Evening Program

**Course Requirements for Automotive Systems Technology Certificate**

A. Required Subject Areas (8 SHC)	C-L-SHC
AUT 161 Basic Auto Electricity	4-3-5
AUT 181 Engine Performance I	2-3-3

B. Other Major Hours Required for Graduation (8 SHC)	
AUT 163 Advanced Auto Electricity	2-3-3
AUT 163A Advanced Auto Electricity Lab	0-3-1
AUT 181A Engine Performance I Lab	0-3-1
AUT 283 Advanced Auto Electronics	2-2-3

Total Semester Hours Credit required for graduation: 16

**Semester Curriculum for Automotive Systems Technology Certificate**

1st Semester (Fall)	C-L-SHC
AUT 161 Basic Auto Electricity	<u>4-3-5</u> 4-3-5

2nd Semester (Spring)	
AUT 163 Advanced Auto Electricity	2-3-3
AUT 163A Advanced Auto Electricity Lab	0-3-1
AUT 181 Engine Performance I	2-3-3
AUT 181A Engine Performance I Lab	0-3-1
AUT 283 Advanced Auto Electronics	<u>2-2-3</u> 6-14-11

Total Semester Hours Credit: 16

**COURSE DESCRIPTIONS**

**161 Basic Auto Electricity** 4-3-5  
 This course covers basic electrical theory and wiring diagrams, test equipment, and diagnosis/repair/replacement of batteries, starters, alternators, and basic electrical accessories. Topics include diagnosis and repair of battery, starting, charging, lighting, and basic accessory systems problems. Upon completion, students should be able to diagnose, test, and repair the basic electrical components of an automobile.

**AUT 163 Adv Auto Electricity** 2-3-3  
*Corequisites: AUT 161*  
 This course covers electronic theory, wiring diagrams, test equipment, and diagnosis, repair, and replacement of electronics, lighting, gauges, horn, wiper, accessories, and body modules. Topics include networking and module communication, circuit construction, wiring diagrams, circuit testing, and troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair wiring, lighting, gauges, accessories, modules, and electronic concerns.

**AUT 163A Adv Auto Electricity Lab** 0-3-1  
*Corequisite: AUT 163*  
 This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include networking and module communication, circuit construction, wiring diagrams, circuit testing, troubleshooting and emerging electrical/electronic systems technologies. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair wiring, lighting, gauges, accessories, modules, and electronic concerns.

**AUT 181 Engine Performance I** 2-3-3  
 This course covers the introduction, theory of operation, and basic diagnostic procedures required to restore engine performance to vehicles equipped with complex engine control systems. Topics include an overview of engine operation, ignition components and systems, fuel delivery, injection components and systems, and emission control devices. Upon completion, students should be able to describe operation and diagnose/repair basic ignition, fuel, and emission-related drivability problems using appropriate test equipment/service information.

**AUT 181A Engine Performance I Lab** 0-3-1  
*Corequisite: AUT 181*  
 This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include overviews of engine operation, ignition components and systems, fuel delivery, injection components and systems, and emission control devices and emerging engine performance technologies. Upon completion, students should be able to describe operation and diagnose/repair basic ignition, fuel and emission related drivability problems using appropriate test equipment/service information.

**AUT 283 Advanced Automotive Electronics** 2-2-3  
*Prerequisite: AUT 161*  
 This course covers advanced electronic systems on automobiles. Topics include microcontrollers, on-board communications, telematics, hybrid systems, navigation, collision avoidance, and electronic accessories. Upon completion, students should be able to diagnose electronic systems using appropriate service information, procedures, and equipment and remove/replace/reprogram controllers, sensors, and actuators.