

## **AUTT – Automotive Technology**

AUTT 1010 - Automotive Technology Introduction  
2.000 Credits

Introduces basic concepts and practices necessary for safe and effective automotive shop operations. Topics include safety procedures; legal/ethical responsibilities; general service; hand tools; shop organization, management, and work flow systems.

AUTT 1020 - Automotive Electrical Systems  
7.000 Credits

Prerequisites: AUTT 1010

Introduces automotive electricity, emphasizes the basic principles, diagnosis, and service/repair of batteries, starting systems, starting system components, alternators and regulators, lighting system, gauges, horn, wiper/washer, and accessories.

AUTT 1030 - Automotive Brake Systems  
4.000 Credits

Prerequisites: AUTT 1010; AUTT 1020

Introduces brake systems theory and its application to automotive systems and anti-lock brake system (ABS) to include ABS components and ABS operation, testing, and diagnosis. Topics include hydraulic system diagnosis and repair; drum brake diagnosis and repair; disc brake diagnosis and repair; power assist units diagnosis and repair; miscellaneous brake components (wheel bearings, parking brakes, electrical, etc.) diagnosis and repair; test, diagnose, and service electronic brake control system.

**AUTT 1040 - Automotive Engine Performance**  
7.000 Credits

Prerequisites: AUTT 1010; AUTT 1020

Introduces basic engine performance systems that support and control four stroke gasoline engine operations and reduce emissions. Topics include general engine diagnosis, computerized engine controls and diagnosis, ignition system diagnosis and repair, fuel and air induction, exhaust systems, emission control systems diagnosis and repair, and other related engine service.

**AUTT 1050 - Automotive Suspension and Steering Systems**  
4.000 Credits

Prerequisites: AUTT 1010; AUTT 1020

Introduces students to principles of steering, suspension, wheel alignment, electronic steering, and electronic active suspension. Topics include general suspension and steering systems diagnosis; steering systems diagnosis and repair; suspension systems diagnosis and repair; related suspension and steering service; wheel alignment diagnosis, adjustment and repair; and wheel and tire diagnosis and repair.

**AUTT 1060 - Automotive Climate Control System**  
5.000 Credits

Prerequisites: AUTT 1010; AUTT 1020

Introduces the theory and operation of automotive heating and air conditioning systems. Students attain proficiency in inspection, testing, service, and repair of heating and air conditioning systems and related components. Topics include a/c system diagnosis and repair; refrigeration system component diagnosis and repair; heating, ventilation, and engine cooling systems diagnosis and repair; operating systems and related controls diagnosis and repair; refrigerant recovery, recycling, and handling.

**AUTT 1070 - Automotive Technology Internship**  
4.000 Credits

Prerequisites: AUTT 1010; AUTT 1020; AUTT 1030

This elective course will provide the student with an opportunity to relate what they have learned in the classroom and lab to a real world situation either at a place of business or at a technical college. Under the supervision of an experienced ASE certified automotive technician or their instructor, the student will obtain a greater admiration and appreciation of the material learned in the classroom and lab. The internship will also serve the function of bridging the lessons learned at school and applying that to real world situations. The suitability of the work setting will be determined by having a conference with the automotive instructor and the prospective employer. The student will have the option to take the internship program at an approved place of employment or at the college if he or she wishes and perform all the live work duties of the service writer, parts department personnel, and technician to include writing the repair order, ordering parts (if applicable) and repairing the vehicle. Student must work a minimum of 150 hours during the semester to receive credit for this course.

**AUTT 2010 - Automotive Engine Repair**  
6.000 Credits

Prerequisites: AUTT 1010; AUTT 1020

This course introduces the student to automotive engine theory and repair, placing emphasis on inspection, testing, and diagnostic techniques for both 2 cycle and 4 cycle internal combustion engines. Topics include general engine diagnosis, removal and reinstallation, cylinder heads and valve trains diagnosis and repair, engine blocks assembly diagnosis and repair, and lubrication and cooling systems diagnosis and repair.

**AUTT 2020 - Automotive Manual Drive Train Axles**  
4.000 Credits

Prerequisites: AUTT 1010; AUTT 1020

This course introduces basics of rear-wheel drive, front-wheel drive, and four-wheel drive line related operation, diagnosis, service and related electronic controls. Topics include drive shaft and half shaft, universal and constant-velocity (CV) joint diagnosis and repair; ring and pinion gears and differential case assembly; limited slip differential; drive axle shaft; four-wheel drive/all-wheel drive component diagnosis and repair. Introduces basics of front- and rear-wheel drive. Clutch operation, diagnosis and service is included. Electronic controls related to transmission/transaxles operation are discussed. Topics include clutch diagnosis and repair and transmission/transaxles diagnosis and repair.

**AUTT 2030 - Automotive Automatic Transmissions and Transaxles**

5.000 Credits

Prerequisites: AUTT 1010; AUTT 1020

Introduces students to basic automatic transmission/transaxle theory, operation, inspection, service, and repair procedures as well as electronic diagnosis and repair. Topics include general automatic transmission and transaxle diagnosis; in vehicle and off vehicle transmission and transaxle maintenance, adjustment, and repair.

**AUTT 2100 - Automotive Alternative Fuel Vehicles**  
4.000 Credits

Prerequisites: AUTT 1010; AUTT 1020

This course will give students the basic knowledge to understand Electric Drive Vehicles, Hybrid Electric Vehicles, and Alternative Fuel Vehicles. The course will cover components, operation, precautions, and diagnostics of BEV, HEV, Fuel Cell Vehicles, and other fuel vehicles. The student will become familiar with the unique hybrid systems and repair procedures on various hybrid vehicles.