

# AST - AUTO SERVICE TECHNICIAN

<p>AST 106 Auto Manual Drive Train/Axles. 2 Credits</p> <p>Term Typically Offered: Fall</p> <p>Includes a study of the basic theory and principles of gearing, and reconditioning of automotive power train components. Components covered include clutches, transmissions, differentials, axles, transaxles, and transfer cases.</p> <p>Lecture Hours 2</p> <p>Department: Transportation - COT</p>	
<p>AST 107 Auto Man Drive Train/Axles Lab. 2 Credits</p> <p>Term Typically Offered: Fall</p> <p>Corequisite(s): AST 106.</p> <p>Provides a study of the service, repair, and reconditioning of automotive power train components. Components covered include clutches, transmissions, differentials, axles, transaxles, and transfer cases.</p> <p>Lab Hours 2</p> <p>Department: Transportation - COT</p>	
<p>AST 114 Automotive Brakes. 2 Credits</p> <p>Term Typically Offered: Spring</p> <p>Provides a study in the design and operation of today's sophisticated braking and related systems. Subject matter includes brake systems fundamentals, safety, master cylinders, power assist units, hydraulic lines and valves, disk and drum brakes, antilock systems, parking brakes, and brake electrical and electronic components.</p> <p>Lecture Hours 2</p> <p>Department: Transportation - COT</p>	
<p>AST 115 Automotive Brakes Lab. 2 Credits</p> <p>Term Typically Offered: Spring</p> <p>Corequisite(s): AST 114.</p> <p>Provides a study in the diagnosis and service of today's sophisticated braking and related systems. Subject matter includes brake system safety, master cylinders, power assist units hydraulic lines and valves, disk and drum brakes, antilock systems, parking brakes, and brake electrical/electronic components.</p> <p>Lab Hours 2</p> <p>Department: Transportation - COT</p>	
<p>AST 162 Automotive Engine Diagnostics. 3 Credits</p> <p>Term Typically Offered: Spring</p> <p>Prerequisite(s): TRID 170 and TRID 180.</p> <p>Studies the theory of fuel systems, emission control systems, ignition systems, and engine mechanical tests. Proper testing with modern diagnostic equipment will also be discussed.</p> <p>Lecture Hours 3</p> <p>Department: Transportation - COT</p>	
<p>AST 163 Auto Engine Diagnostics Lab. 3 Credits</p> <p>Term Typically Offered: Spring</p> <p>Prerequisite(s): TRID 170 &amp; TRID 180.</p> <p>Corequisite(s): AST 162.</p> <p>Examines diagnosis, testing, and repair of fuel systems, emission control systems, ignition systems, and engine mechanical tests. This course provides training on the proper uses of modern engine diagnostic equipment.</p> <p>Lab Hours 3</p> <p>Department: Transportation - COT</p>	
<p>AST 175 Engine Rebuild Lab. 5 Credits</p> <p>Term Typically Offered: Spring</p> <p>Prerequisite(s): TRID 170.</p> <p>Gives an overview of the design, operation, diagnosis, and service procedures of modern automotive engines. Students participate in the disassembly and re-assembly of engine units. Service and technical engine data are presented to prepare the students for practical experience in engine servicing.</p> <p>Lecture Hours 5</p> <p>Department: Transportation - COT</p>	
<p>AST 220 Auto Steering and Suspension. 2 Credits</p> <p>Term Typically Offered: Fall</p> <p>Prerequisite(s): M 111 or equivalent.</p> <p>Provides a study in the design and operation of modern automotive suspension, steering, and related systems.</p> <p>Lecture Hours 2</p> <p>Department: Transportation - COT</p>	
<p>AST 221 Auto Steering/Suspension Lab. 2 Credits</p> <p>Term Typically Offered: Fall</p> <p>Prerequisite(s): M 111 or equivalent.</p> <p>Corequisite(s): AST 220.</p> <p>Provides a practical study in the diagnosis and service of modern automotive suspension, steering, and related systems. Alignments are performed on computerized four-wheel alignment systems. This class is designed to provide the student with the training necessary to perform chassis-related service on automobiles and light trucks.</p> <p>Lab Hours 2</p> <p>Department: Transportation - COT</p>	
<p>AST 230 Elec/Electrnics Sys II. 2 Credits</p> <p>Term Typically Offered: Fall</p> <p>Prerequisite(s): TRID 180.</p> <p>Studies electrical/electronic systems and applications found in today's automotive industry. This course is designed to give the student a strong background in the theory of operation of electrical and electronic systems. Upon completion of this course, the student will have acquired the knowledge necessary to effectively diagnose modern automobiles.</p> <p>Lecture Hours 2</p> <p>Department: Transportation - COT</p>	
<p>AST 231 Elec/Electrnics Sys II Lab. 2 Credits</p> <p>Term Typically Offered: Fall</p> <p>Prerequisite(s): TRID 180.</p> <p>Corequisite(s): AST 230.</p> <p>Studies electrical/electronic systems and applications found in today's automotive industry. This course is designed to give the student a strong background in the operation, diagnosis, and repair of electrical/electronic systems. Upon completion of this course, the student will have acquired the knowledge and developed the skills necessary to effectively diagnose and repair the vehicles and equipment presently used in the industry.</p> <p>Lab Hours 2</p> <p>Department: Transportation - COT</p>	
<p>AST 260 Advanced Auto Diagnostics. 3 Credits</p> <p>Term Typically Offered: Spring</p> <p>Prerequisite(s): TRID 170, TRID 180, AST 162, AST 230.</p> <p>Covers the theory of operation for General Motors, Ford, Chrysler, Toyota, and Bosch computerized systems. The student will obtain the necessary knowledge required to use the specialized test equipment designed for diagnosis and repair of domestic and foreign automotive systems.</p> <p>Lecture Hours 3</p> <p>Department: Transportation - COT</p>	

AST 261 Advanced Auto Diagnostics Lab. Term Typically Offered: Spring Prerequisite(s): TRID 170, TRID 180, AST 162, AST 230. Corequisite(s): AST 260. Covers operation and testing for General Motors, Ford, Chrysler, Toyota, and Bosch computerized systems during practical exercises. This course focuses on the diagnosis and repair of computerized engine control systems. The student will obtain the necessary hands-on training required to use the specialized test equipment to diagnose and repair domestic and foreign automotive systems. Lab Hours 3 Department: Transportation - COT	3 Credits	AST 298 Internship/Cooperative Educ. Term Typically Offered: Fall, Spring, Summer (45 hours/credit) Provides university credit for a sophomore work experience in the area of Automotive Technology, supervised by faculty. Learning agreement must be completed prior to registration (restricted). Department: Transportation - COT	1-9 Credits
AST 270 Auto Transmissions/Transaxles. Term Typically Offered: Spring Prerequisite(s): AST 106, TRID 180. Covers automatic transmissions including theory of operation, design, and construction for the purpose of understanding the functions, servicing, and trouble-shooting procedures of modern automatic transmissions and transaxles. Lecture Hours 3 Department: Transportation - COT	3 Credits		
AST 271 Auto Transmissns/Transxls Lab. Term Typically Offered: Spring Prerequisite(s): AST 106, TRID 180. Corequisite(s): AST 270. Covers automatic transmissions including demonstration and student participation in disassembly and re-assembly of selected transmissions for the purpose of understanding function, construction, operation, servicing, and trouble-shooting procedures of modern automatic transmissions and transaxles. Lab Hours 3 Department: Transportation - COT	3 Credits		
AST 280 Applied Lab Exp/Light Repair. Term Typically Offered: Spring Prerequisite(s): TRID 150, TRID 152, TRID 170, TRID 180, AST 106, AST 114, AST 220, AST 162, AST 230. Provides in-depth, practical analysis and repair of components related to engine, chassis, power trains systems, and standard power trains systems. This course simulates service department operations as found in industry. Lab Hours 4 Department: Transportation - COT	4 Credits		
AST 285 ASE Exam Prep: Section One. Term Typically Offered: Fall, Spring Prerequisite(s): TRID 170, TRID 150, TRID 180, AST 106, AST 162, AST 175, or consent of instructor. Prepares students for automotive technician ASE exams in the Automobile/Light Truck Test Series including eight certification areas: Engine Repair (A1), Automatic Transmission/Transaxle (A2), Manual Drive Train and Axles (A3), Suspension and Steering (A4), Brakes (A5), Electrical/Electronic Systems (A6), Heating and Air Conditioning (A7), and Engine Performance (A8). Emphasis of certification areas covered will be determined by the general make up of the student body per semester (i.e., if all students are registering for A5-Brakes, the course content will use examples from the brakes area). At the conclusion of this course, students will take four of the automotive technician ASE certification exams. Lecture Hours 1 Department: Transportation - COT	1 Credit		
AST 292 Independent Study. Department: Transportation - COT	1-5 Credits		
AST 294 Seminar/Workshop. Provides students an opportunity to investigate intensively topics pertinent to the field of automotive technology. Department: Transportation - COT	0.5-6 Credits		