

Technical Certificate Light Duty Diesel Option

The following advisement plan is a recommended course of study. An academic advisor may alter course sequence to meet individual student needs. In addition, an academic advisor may recommend additional or different courses depending upon student career plans and/or requirements of the college or university to which the student plans to transfer.

First Semester Credit Hours

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|---|----|
| ATT 1124 Basic Electrical/Electronic Systems..... | 4 |
| ATT 1213 Brakes | 3 |
| ATT 1811 Safety and Employability Skills..... | 1 |
| ATT 2614 Manual Drive | 4 |
| SSP 1002 Smart Start Pathway..... | 2 |
| Total Hours..... | 14 |

Second Semester Credit Hours

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| ATT 1134 Advanced Electrical/Electronics | 4 |
| ATT 1425 Engine Performance I | 5 |
| ATT 1715 Engine Repair..... | 5 |
| ATT 2334 Steering & Suspension..... | 3 |
| Total Hours..... | 17 |

Third Semester Credit Hours

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| ATT 2112 Intro to Light Duty Diesel Tech, Tools & Safety..... | 2 |
| ATT 2125 Light Duty Diesel Engine Repair..... | 4 |
| ATT 2214 Light Duty Diesel Engine Performance | 4 |
| ATT 2224 Light Duty Diesel Electrical | 3 |
| Total Hours..... | 13 |

AUTOMOTIVE TECHNOLOGY

ATT 1124 – Basic Electrical/Electronics Systems - This is a course designed to provide advanced skills and knowledge related to all components of the vehicle electrical system including lights, battery, and charging components. Five semester credit hours: Two hours lecture and six hours lab.

ATT 1134 – Advanced Electrical/Electronics Systems – This is a course designed to provide advanced skills and knowledge related to all components of the vehicle electrical system including gauges, driver information systems, horn, wiper/wiper systems, and accessories. Four semester credit hours: Two hours lecture and four hours lab.

ATT 1213 – Brakes - This is a course designed to provide advanced skills and knowledge related to the repair and maintenance of brake systems on automobiles. It includes instruction and practice in diagnosis of braking systems problems and the repair of brake systems. Three semester credit hours: One hour lecture and four hours lab.

ATT 1314 – Manual Drive Transmission/Transaxle – This is a course designed to provide advanced skills and knowledge related to the maintenance and repair of manual transmissions, transaxles, and drive train components. It includes instruction in the diagnosis of drive train problems, and the repair and maintenance of transmissions, transaxles, clutches, CV joints, differentials, and other components. Four semester credit hours: Two hours lecture and four hours lab.

ATT 1425 – Engine Performance I – This is a course designed to provide advanced skills and knowledge related to the maintenance and adjustment of gasoline engines for optimum performance. It includes instruction, diagnosis, and correction of problems associated within these areas. Four semester credit hours: Three hours lecture and four hours lab.

ATT 1715 – Engine Repair – This is a course designed to provide advanced skills and knowledge related to the repair and rebuilding of automotive engines. It includes instruction and practice in the diagnosis and repair of engine components including valve trains, blocks, pistons and connecting rods, crankshafts, and oil pumps. Five semester credit hours: Two hours lecture and six hours lab.

ATT 1811 – Introduction, Safety, and Employability Skills - This is a course designed to provide knowledge of classroom and lab policies and procedures. Safety practices and procedures associated with the automotive program and automotive industry. One semester credit hour: One hour lecture.

ATT 2112 – Introduction to Light Duty Diesel Technology, Tools, and Safety – This course introduces basic knowledge and skills the student must have to succeed in the Diesel Equipment Technology field. Topics include an overview of diesel powered vehicles, diesel technology safety skills, basic tools and equipment, reference materials, measuring instruments, shop operation, mechanical fasteners, welding safety, and basic welding skills. Classroom and lab experiences on safety, precision measuring, and basic shop practices are highly emphasized. Two semester credit hours: One hour lecture and two hours lab.

ATT 2125 – Light Duty Diesel Engine Repair – This course covers the theory, construction, inspection, diagnosis, and repair of internal combustion engines and related systems to light duty diesel. Topics include fundamental operating principles of engines and diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis, measurement and repair of light duty diesel engines using appropriate tools, equipment, procedures, and service information. Five semester credit hours: Two hours lecture and six hours lab.

ATT 2214 – Light Duty Diesel Engine Performance – This course covers terminology, theory and operation of air induction and boost technologies, exhaust, and emission controls used in light-duty diesel engines. Topics include component identification, operation, diagnosis and repair of air delivery systems including turbochargers, diesel particulate filters and other exhaust catalysts. Upon completion, students should be able to demonstrate skills necessary to research service information, and inspect, test, and repair induction, boost, and after-treatment components. Four semester credit hours: Two hours lecture and four hours lab.

ATT 2224 – Light Duty Diesel Electrical – This course covers the theory and operation of electric-drive diesel vehicles. Topics include maintenance, diagnosis, repair and safety procedures for electrically propelled diesel vehicles. Upon completion, students should be able to perform diagnostics, maintenance and repairs on electric and hybrid diesel vehicles. Four semester credit hours: Two hours lecture and four hours lab.

ATT 2324 – Automatic Transmission/Transaxle - This is a course designed to provide skills and knowledge related to the diagnosis of automatic transmissions and transaxles. Includes instruction and practice of testing, inspecting, and repair of these devices. Four semester credit hours: Two hours lecture and four hours lab.

ATT 2334– Steering and Suspension Systems – This is a course designed to provide advanced skills and knowledge related to the inspection and repair of steering and suspension systems of automobiles. Includes instruction and practice in the diagnosis of steering system problems and the repair/replacement of steering components. Five semester credit hours: Two hours lecture and six hours lab.

ATT 2435 – Engine Performance II – This is a course designed to provide advanced skills and knowledge related to the ignition system, fuel, air induction, and exhaust systems. It includes instruction, diagnosis, and correction of problems associated within these areas. Four semester credit hours: Three hours lecture and four hours lab.

ATT 2445 – Engine Performance III – This is a course designed to provide advanced skills and knowledge related to the emissions control systems and engine related service. It includes instruction, diagnosis, and correction of problems associated within these areas. Five semester credit hours: Three hours lecture and four hours lab.

ATT 2614 – Heating and Air Conditioning – This course is designed to provide advanced skills and knowledge associated with the maintenance and repair of automotive heating and air conditioning systems. It includes instruction and practice in the diagnosis and repair of heating and air conditioning system components, and control systems. Four semester credit hours: Two hours lecture and four hours lab.

ATT 2913 – Special Problems in Automotive Technology – A course to provide students with an opportunity to utilize skills and knowledge gained in other automotive technology courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. Three semester credit hours: One hour lecture and four hours lab.