Butler Tech Diesel Truck - Equipment Technology
Essential Skills Profile

This profile provides an outline of the skills required for the successful completion of this career program. Additional information is located on the Butler Tech website at: https://www.butlertech.org/high-school/ and selecting the corresponding career programs.

Skills

Repairing	Repairing machines or systems using the needed tools.
Troubleshooting	Determining causes of operating errors and deciding what to do about it.
Operation Monitoring	Watching gauges, dials, or other indicators to make sure a machine is working properly.

Knowledge Required in Diesel Truck - Equipment Technology

Mechanical	Knowledge of machines and tools, including their designs, uses, repair and maintenance.
Customer and Personal Service	Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services and evaluation of customer satisfaction.
Computers and Electronics	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.

Available Certifications

ASE Student Certification (3 Points each) There are up to 10 Certifications available.	Brakes, Steering and Suspension, Engine Repair, Engine Performance, Automotive HVAC, Electrical, Manual Transmissions and Transaxles, Automatic Transmissions, Automotive Service Technology, and Maintenance and Light Repair.

Possible Career Pathways

Automotive Technician	Diagnostician
Master Mechanic	Service Manager

Diesel Truck - Equipment Technology Activities

- Test drive vehicles and test components and systems, using equipment such as infrared engine analyzers, compression gauges, and computerized diagnostic devices.
- Inspect vehicles for damage and record findings so that necessary repairs can be made.
- Test and adjust repaired systems to meet manufacturers' performance specifications.
- Repair, reline, replace, and adjust brakes.
- Review work orders and discuss work with supervisors.
- Estimate costs of vehicle repair.
- Troubleshoot fuel, ignition, and emissions control systems, using electronic testing equipment.
- Confer with customers to obtain descriptions of vehicle problems and to discuss work to be performed and future repair requirements.
- Align vehicles' front ends.
- Test electronic computer components in automobiles to ensure proper operation.
- Tear down, repair, and rebuild faulty assemblies, such as power systems, steering systems, and linkages.
- Perform routine and scheduled maintenance services, such as oil changes, lubrications, and tune-ups.
- Follow checklists to ensure all-important parts are examined, including belts, hoses, steering systems,spark plugs, brake and fuel systems, wheel bearings, and other potentially troublesome areas.
- Plan work procedures, using charts, technical manuals, and experience.
- Maintain cleanliness of the work area.
- Align wheels, axles, frames, torsion bars, and steering mechanisms of automobiles, using special alignment equipment and wheel-balancing machines.
- Tune automobile engines to ensure proper and efficient functioning.
- Repair, replace, or adjust defective fuel injectors, carburetor parts, and gasoline filters.
- Repair and service air conditioning, heating, engine cooling, and electrical systems.
- Disassemble units and inspect parts for wear, using micrometers, calipers, and gauges.
- Change spark plugs, fuel filters, air filters, and batteries in hybrid electric vehicles.
- Rebuild parts, such as crankshafts and cylinder blocks.
- Overhaul or replace carburetors, blowers, generators, distributors, starters, and pumps. Conduct visual inspections of compressed natural gas fuel systems to identify cracks, gouges, abrasions, discoloration, broken fibers, loose brackets, damaged gaskets, or other problems.
- Repair or replace parts such as pistons, rods, gears, valves, and bearings.
- Diagnose and replace or repair engine management systems or related sensors for flexible fuel vehicles (FFVs) with ignition timing, fuel rate, alcohol concentration, or air-to-fuel ratio malfunctions.
- Rewire ignition systems, lights, and instrument panels.
- Install, adjust, or repair hydraulic or electromagnetic automatic lift mechanisms used to raise and lower automobile windows, seats, and tops.

Possible College Credits

College Credit Plus in English, Math, Social Studies, or Science	Must be preapproved. Must pass a college course at an Ohio college or College Credit Plus class at Butler Tech.
Career Technical Credit Transfer	The Ohio Transfer to Degree Guarantee helps career and technical students transfer credits earned in high school to community college or four-year degree programs. The credit can be used at any Ohio public college or university: • If you successfully completed your career-technical program and passed certain required assessments. • If you attend a similar program at a public Ohio college or university. For more information, go to www.transfercredit.ohio.gov
Articulated Credit	Butler Tech has agreements with certain colleges; if you attend one of those colleges you can get credit toward a specific degree.

*Additional college or post-secondary education may be required in this field