

# HEAVY DUTY MECHANICS/DIESEL *Full Year*

## Skilled and Technical Sciences

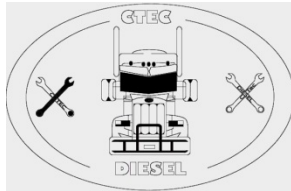


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**PROGRAM DESCRIPTION:** Topics include learning tools for measuring internal and external diesel engine components, complete engine rebuild, 12/24 volt electrical systems, Ohms law in incorporating math into the electrical systems, voltage drop, resistance, wiring, trouble shooting and fuel systems. Students will learn to use power tools and hand tools safely. Students will learn about brakes and air brake systems, arc welding and gas torch use, suspensions on trailers, truck and wheel alignments, transmission, clutch repair, truck preventive maintenance, and differential removal/rebuild. Reading and understanding shop manuals will also be covered. Students will have internship and career opportunities.



**High School Credit:** CTE credit or elective credit: Up to 4 credits

**Concurrent Enrollment:** 8 college credits available. Student is responsible to register and pay for concurrent enrollment classes at SLCC. For more information on these classes, see Appendix.

**Industry Certifications:** ASE Diesel Brakes, ASE Engines, ASE Electrical/Electronic Systems, ASE Suspension/Steering

**Additional Opportunities:** Students may experience youth leadership and service through SkillsUSA.

**Recommended:** Automotive classes and mechanical experience

### COURSE DESCRIPTIONS:

**ASE Diesel Brakes and ASE Diesel Steering & Suspension/Diesel Technician:** This class will cover all aspects of air and hydraulic brake repair and fundamentals of operation. There will be troubleshooting and hands on repair in the shop. This class will cover basic suspension systems and steering systems, troubleshooting, repair, and performance of systems.

**ASE Electrical/Electronics/Diesel Technician:** This course will cover vehicle electrical systems, troubleshooting of systems, and repair of systems. It also covers electronic engine controls, diesel/gas diagnosis, repair, and trouble shooting.

**DST 1045 Basic Diesel:** This course will cover theory and practical experience in disassembly, inspection and reassembly of 4 cycle diesel engines. Subassemblies for different engine systems, running and tuning up engines from different manufacturers are also covered.

**DST 1065 Basic Engine Performance:** This course will cover rebuilding of diesel and gas engines. Identification of parts, engine theory, and rebuilding of individual components are covered.

**Costs/Fees for the 2021-2022 school year:** Pending school board approval.

## Career Possibilities:

Diesel Mechanic  
Tool Sales  
Truck Driver  
Machining

Dealership Management and Sales  
Welder  
Fleet Maintenance and Management



*"I loved learning about all the trucks. We made lots of fun friends and got to try lots of new things."  
Carter North, 2021*

*"I really enjoyed all the projects we had this year and the freedom of starting new projects."  
Logan Arnoldus, 2021*

*"It was so cool having the opportunity to learn about the semi-trucks and the heavy diesel industry. Being in this class has exposed us to all aspects of the diesel truck and has given me a good baseline knowledge to progress my career. Through this program, we have also had opportunities to do job shadows and get hands-on experience in the field. Overall, this class has been an excellent stepping stone to higher education."  
Aspyn Stanley, 2021*

*"This class has been loads of fun and a big learning experience for me. Thanks to the program, I have been able to attend class when my own high school shut down. I have learned all about diesel engines and have even had the opportunity to go on a job shadow to Geneva Rock!"  
Devin Peterson, 2021*