

# HEAVY DUTY MECHANICS/DIESEL *Full Year*

## Skilled and Technical Sciences

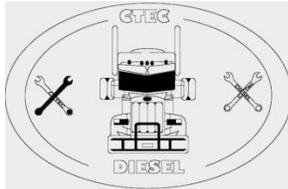


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**PROGRAM DESCRIPTION:** Topics include learning tools for measuring internal and external diesel engine components, complete engine rebuild, 12/24 volt electrical systems, Ohms law in incorporating math into the electrical systems, voltage drop, resistance, 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 took Diesel because it seemed like a fun class. It is a good environment and there are good kids in the class. I love working in a class where the teacher is there to help us all learn and I really like the shop time. I have done one internship at Geneva Rock and it was amazing. Someday I would like to open my own shop. The two are a great combination. Since I am a junior, I plan on taking diesel again." Ammon Wright*

*"I have always loved working on cars and I had heard a lot of good things about CTEC. My sister did the cosmetology program, so I wanted to come here also. I really like learning all the little things that make up the big picture of Diesel Mechanics. I am a hands on learner and this was the perfect place to get those skills. I play soccer but I wanted to learn diesel because it pays more than auto mechanics. I also love math and physics. The other thing I like about CTEC is the new friends I have made here that are from other schools, we are all supercool with each other. I was a little nervous about coming to CTEC, but got more comfortable and now I am excited about it." Parker Brown*