

# DIESEL MECHANIC TECHNOLOGY (DS)

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## **DS110 Heavy Duty Brakes** 12 credits (3 lec, 18 lec lab hrs/wk)

Prerequisite(s): Instructor consent

Examines concepts in medium/heavy duty truck brake system. Operation, diagnosis, testing and repair. Covers air brake systems, hydraulic brake systems, truck foundation brake, antilock brakes and preventive maintenance schedules and procedures in on and off highway heavy-duty equipment.

This course may be taken 1 time for credit.

Course classification: CTE

## **DS111 Heavy Duty Hydraulics** 12 credits (3 lec, 18 lec lab hrs/wk)

Prerequisite(s): Instructor consent

Covers theory and operation of hydraulic systems on heavy equipment, farm machinery and other equipment. This includes introductions to hydraulics and safety system components; reservoirs, seals, filters, pumps, accumulators, oil coolers, pressure, flow, and directional control valves, linear and rotary actuators, connectors, conduits, circuits, ANSE and ISO symbols and schematics, electronically controlled hydraulic systems, pilot controlled hydraulic systems, manually controlled hydraulic systems as used on heavy equipment.

This course may be taken 0 times for credit.

Course classification: CTE

## **DS112 Heavy Duty Powertrains And Chassis** 12 credits (3 lec, 18 lec lab hrs/wk)

Prerequisite(s): Instructor consent

Operation, diagnosing, testing and repair of heavy equipment chassis and power trains. Prepares student to confidently work on frames; suspensions; conventional steering systems; final drives and steering mechanisms; clutches; torque converters; standard transmissions; powershift transmissions; drive lines; front- and rear - drive units; heavy duty tires, wheels, rims, and wheel hubs.

This course may be taken 1 time for credit.

Course classification: CTE

## **DS220 Diesel and Auxiliary Fuel Systems** 12 credits (3 lec, 18 lec lab hrs/wk)

Prerequisite(s): Instructor consent

Operation diagnosis, testing, and repair of diesel and auxiliary fuel systems. Covers fuel injection pumps and their applications fuel system diagnosis and repair. Prepares students to confidently diagnose and repair fuel injection pumps, governors and electronics in an industrial environment. Emphasizes safety, correct industry procedures, correct tool usage, and diagnosis of common fuel-related problems.

This course may be taken 1 time for credit.

Course classification: CTE

## **DS221 Diesel Electrical System** 12 credits (3 lec, 18 lec lab hrs/wk)

Prerequisite(s): Instructor consent

This course provides introduction to electrical fundamentals and safety, vehicle, system components, batteries and battery banks, alternators and charging system, electrical circuits, switches, relay, solenoids, lighting, electrical accessories, electronic control systems, schematics, wiring harnesses and HVAC systems as they are used on heavy duty trucks and equipment.

This course may be taken 1 time for credit.

Course classification: CTE

## **DS222 Diesel Engines and Engine Overhaul** 12 credits (3 lec, 18 lec lab hrs/wk)

Prerequisite(s): Instructor consent

This course provides diesel engines theory and hands-on experience in rebuilding and servicing diesel engines, including, testing, diagnosis, measurement and repair. Emphasizes safety and use of service manuals and textbooks. Prepares students to confidently diagnose and tune up a diesel engine in an industrial environment. Covers preventive maintenance inspection (PMI) of vehicles, Department of Transportation (DOT) out of service criteria, PM scheduling, and lubricants.

This course may be taken 1 time for credit.

Course classification: CTE