

Midwest Diesel Tech Academy

SIOUX CITY, IOWA

2020: Curriculum Overview

1. SAFETY AND INTRODUCTION TO INDUSTRY

This course covers shop maintenance as it relates to safety, PPE equipment, first aid, hand and power tool safety, fire prevention, OSHA shop safety procedures, hazmat, hazardous communications, and shop management practices.

2. EQUIPMENT SERVICE

Instruction in the service and inspection of equipment relating to the trucking industry. This includes DOT and PMI inspections, oil and filter service, transmission and drive axle service, and suspension service.

3. HEAVY DUTY ELECTRICAL MODULE I

Module I is an introduction to the basic electricity and electronic principles that apply to diesel-powered equipment. Systems and components covered include: starting, charging, lighting, wiring, instrumentation, DVOM operation, 12- and 24-volt systems and accessories.

4. HEATING AND AIR CONDITIONING

Training on basic heating and air conditioning theory and design. Emphasis will be placed on various system controls, service operations troubleshooting and repair.

5. AIR SYSTEMS AND BRAKES

This course covers the operation and repair of the complete air system and brakes including troubleshooting and repair of air systems, foundation brakes, valving, compressors, antilock, traction control and stability management systems used on trucks and trailers. The regulation of the air brake safety standards set by the DOT is included.

6. DIESEL ENGINES AND FUEL SYSTEMS MODULE I

Course I begins with diesel engine construction, design and theory. Included are disassembly, inspection, measuring and reassembly of the engine and its components. Special attention will be given to diesel engine systems troubleshooting, parts failure analysis, and fuel systems.

7. INTERNSHIP

Trainee will work as an entry-level technician at a Midwest Peterbilt Group shop location. Trainee will apply information learned in conjunction with training modules at the Midwest Diesel Tech Academy and have the opportunity to experience the diesel repair industry from the inside as an intern. Trainee will be supervised by a lead technician and shop manager at the shop location. Trainee will complete 20 weeks (800 hours) of internship during their training program with proper documentation and weekly evaluation. Students will "earn while you learn" during the internship.

8. DIESEL ENGINES AND FUEL SYSTEMS MODULE II

Course Module II is a continuation of Module I after student has some internship experience.

9. HEAVY DUTY ELECTRICAL MODULE II

Course Module II is a continuation of Module I after student has some internship experience.

10. ELECTRONIC SYSTEMS AND CONTROLS MODULE I

Module I explains the components and controls of electronic-controlled diesel engines. Includes study of electronic control modules (ECM), sensors, and electronic unit injectors (EUI). This course concentrates on theory, troubleshooting, repair and parameter changes of electronic-controlled systems.

11. ELECTRONIC SYSTEMS AND CONTROLS MODULE II

Course II is a continuation of Course I after the student has some internship experience.

12. SUSPENSION SYSTEMS

This instruction is designed to provide the necessary knowledge required to be able to: identify, service, troubleshoot, remove, disassemble, inspect, reassemble, and install steering assemblies and suspensions. Lubrication, manual and remote controls for tag/lift axles, frame repair, cab suspension, failure analysis and parts evaluation are included.

13. DRIVETRAINS

This course is designed to provide the necessary knowledge required to be able to identify, service, troubleshoot, remove, disassemble, inspect, reassemble and install rear axle assemblies, drive lines, drive shafts, hanger bearings and U-joints. Lubrication, drive line angles, failure analysis and parts evaluation are included.

14. TRANSMISSIONS

This training is designed to provide the necessary knowledge required to be able to identify, service, troubleshoot, remove, disassemble, inspect, reassemble and install manual, automated and automatic transmissions. Lubrication, clutch operation and adjustment, transmission and clutch failure analysis, air and electric systems, and parts evaluation are included.

15. HYDRAULICS AND WELDING

The study of basic mobile hydraulics, vehicle hydraulic brake and steering systems. Introduces principles, components, fluid systems and circuits of hydraulic systems. This course provides the student with a basic understanding of fluid power as used in the trucking industry. Basic welding theory and machine set up are discussed. Skills will be developed in oxy-acetylene flame cutting and brazing and shielded metal arc welding. Safety is emphasized.

*Contact instructor Dennis Wallace
at dwallace@pbtruck.com*

