

# DIESEL TECHNOLOGY (DIE)

## Course Descriptions

### **DIE 100. Introduction to Diesel Technology. 3 Credit Hours.**

Introduction to Diesel Technology introduces the student to current shop and personal safety, tools and equipment, chemicals and adhesives, and repair/information systems used in the industry. Emphasis will be on computer-based service information systems; identification and proper use of tools and equipment used in the industry; training for safety and pollution; measurement in both metric and U.S. systems; identification of fasteners, threads, pitches, sizes and proper applications; and adhesive and chemical usage. (Credit is only allowed for either DIE 100 or DIE 104.)

Prerequisites: MTH 020 with a grade of "C" or better or satisfactory score on placement test and Reading Proficiency

### **DIE 101. Diesel Engine Operation and Repair. 3 Credit Hours.**

Diesel Engine Operation and Repair is the study of the theories of operation, construction, maintenance, diagnosis, disassembly, and assembly of the diesel engine and its supporting systems, including lubrication system, cooling system, and engine brakes. (Credit is only allowed for either DIE 101 or AUT 505.)

Prerequisites: DIE 100 with a minimum grade of "C" and Reading Proficiency

### **DIE 102. Medium/Heavy Truck Suspension and Steering. 3 Credit Hours.**

Medium/Heavy Truck Suspension and Steering is the study of the types of suspension and steering systems found on medium and heavy trucks. Emphasis will be in areas of steering gears and columns, power steering systems, suspension system types and components, wheel alignment diagnosis, wheel and tire diagnosis and repair, truck frame types and repair, and trailer connection devices.

Prerequisites: DIE 100 with a minimum grade of "C" and Reading Proficiency

### **DIE 103. Medium/Heavy Truck Electricity. 3 Credit Hours.**

Medium/Heavy Truck Electricity examines through practical application the theories of basic electricity and the diagnostic equipment used to perform general electrical system diagnosis of medium and heavy trucks. Subsystems covered include batteries, charging systems, lighting systems, starting systems, and wiring. (Credit is only allowed for either DIE 103 or AUT 506.)

Prerequisites: Reading Proficiency

Corequisites: DIE 100

### **DIE 105. Diesel Fuel Systems. 3 Credit Hours.**

Diesel Fuel Systems is the study of the theories of operation, construction, maintenance, and service of diesel engine fuel systems, including air induction, exhaust systems, mechanical fuel injection systems, and electronic fuel injection systems.

Prerequisites: DIE 100, DIE 101, and DIE 107 with minimum grades of "C"; and Reading Proficiency

### **DIE 106. Medium/Heavy Truck Brakes. 3 Credit Hours.**

Medium/Heavy Truck Brakes is the study of the types of brake systems found on medium and heavy trucks. Emphasis will be in areas of air brakes, hydraulic brakes, foundation brakes, parking brakes, anti-lock brakes, and power brakes.

Prerequisites: DIE 100 with a minimum grade of "C" and Reading Proficiency

### **DIE 107. Medium/Heavy Truck Electronics. 3 Credit Hours.**

Medium/Heavy Truck Electronics examines through practical application the theories of electronics and diagnostic equipment used to perform general electronic system diagnosis and repair of medium and heavy truck gauge and warning devices, electronic fuel injection, and electrical accessories.

Prerequisites: DIE 103 with a minimum grade of "C" and Reading Proficiency

### **DIE 201. Preventive Maintenance Inspection. 3 Credit Hours.**

Preventive Maintenance Inspection examines through practical application the areas of inspection and maintenance on medium and heavy trucks to include engine, fuel system, cooling system, lubrication system, cab and hood, electrical, drive train, brakes, and tires and wheels.

Prerequisites: DIE 100 with a minimum grade of "C" and Reading Proficiency

### **DIE 202. Co-op Work Experience I-Diesel Technology. 3 Credit Hours.**

Co-op Work Experience I-Diesel Technology is a cooperative education work experience at a truck or bus repair facility which allows students to apply skills learned in diesel technology courses. Students will also learn new skills and explore employment possibilities while supervised by employer. The course requires a minimum of 150 hours of working.

Prerequisites: DIE 102, DIE 106, and DIE 107 with minimum grades of "C"; and Reading Proficiency

Corequisites: DIE 205

### **DIE 203. Truck Heating, Ventilation, and Air Conditioning. 3 Credit Hours.**

Truck Heating, Ventilation, and Air Conditioning is the study of the types of air conditioning, heating, and ventilation systems found on medium and heavy trucks. Emphasis will be in the areas of system diagnosis, component repair, refrigerant recovery, recycling, and handling.

Prerequisites: DIE 100 with a minimum grade of "C" and Reading Proficiency

### **DIE 204. Service and Parts Management. 3 Credit Hours.**

Service and Parts Management introduces the student to current management practices of parts and service departments in modern truck repair shops. Shop operations, design, equipment, and safety will also be emphasized. Workplace employability skills will be emphasized.

Prerequisites: Reading Proficiency

### **DIE 205. Co-op Work Experience II - Diesel Technology. 3 Credit Hours.**

Co-op Work Experience II- Diesel Technology is a cooperative education work experience at a truck or bus repair facility which allows students to apply skills learned in diesel technology courses. Students will also learn new skills and explore employment possibilities while supervised by employer. The course requires a minimum of 150 hours of working.

Prerequisites: Reading Proficiency

Corequisites: DIE 202

### **DIE 206. Medium/Heavy Truck Drivetrains. 3 Credit Hours.**

Medium/Heavy Truck Drivetrains examines through practical application the types of manual and automatic transmission drivetrains found on medium and heavy trucks to include the repair of clutches, drive shafts, universal joints, and drive axles.

Prerequisites: DIE 100 with a minimum grade of "C" and Reading Proficiency