

Diesel and Heavy Equipment Technology (DHET)

DHET 100 Essentials of Mechanics **5 credits | REEL**

Quarter(s): F

Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventative/predictive maintenance. This is an introductory course for beginning students of Automotive or Diesel Technology. Course can be waived if student has completed principles of technology and auto program in high school.

Prerequisite: None

DHET 104 Electrical Systems

15 credits | REEL

Quarter(s): W

Introduces the basics of electricity through the electrical schematic use and basic troubleshooting and repair. Emphasizes the measurement of volts, amperes, and ohms in various types of circuits using a digital multimeter. Covers application and testing of various circuit components such as switches, relays and circuit protection devices. Presents theory, diagnosis and repair of vehicle electrical systems, including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories (e.g. power windows, power seats), computer operation and circuit analysis.

Prerequisites: None

DHET 105 Vehicle Climate Control

5 credits | REEL

Quarter(s): S, Sp

Introduces the theory of operation, design, diagnosis and repair of both manual and automatic heating, ventilation and air conditioning systems (HVAC) used in automobiles, trucks and heavy equipment. Emphasizes component identifications, performance testing, recovering, evacuation and recharging. Covers materials necessary to pass ASE (A7) test.

Prerequisite: AMTC 104 or DHET 104 or Instructor Permission

DHET 114 Heavy Duty Brakes and Chassis**15 credits | REEL****Quarter(s): Sp**

Covers the theory and repair of air and hydraulic braking systems commonly found on trucks equipment, cranes and winches. Emphasis will be placed on truck S-cam braking systems. Also covered is the repair, maintenance and diagnosis of truck and equipment chassis and undercarriage.

Prerequisites: None

DHET 141 Hydraulics I**4 credits | REEL****Quarter(s): F**

Presents the basic principles, operation, and maintenance of mobile hydraulic systems. Topics include component function, application, testing, and troubleshooting.

Prerequisites: None. Concurrent requirements: DHET 142 or instructor permission.

DHET 142 Hydraulics II**6 credits | REEL****Quarter(s): F**

Provides a more in-depth look at hydraulic pumps, valves, and actuators in mobile hydraulic systems. Emphasizes testing, diagnosis and the repair of hydraulic systems.

Prerequisite: DHET 141 or MFG 140 or concurrent enrollment.

DHET 210 Diesel Engine Rebuild**15 credits | REEL****Quarter(s): W**

Presents the operation, maintenance, repair and overhaul of diesel engines used in heavy equipment.

Prerequisites: None

DHET 215 Heavy Duty Engine Performance**15 credits | REEL****Quarter(s): F**

Studies factors and components that affect diesel engine performance, fuel economy, and exhaust emissions. Includes fuel system and valve train problem diagnosis, maintenance, repair, and adjustment.

Prerequisite: DHET 104 or instructor permission.

DHET 220 Heavy Duty Power Trains**10 credits | REEL****Quarter(s): Sp**

Provides study of the principles of operation, maintenance, problem diagnosis, and repair of clutch systems, manual transmission, automatic transmission, power take-off, transfer cases, drive lines, differential assemblies and final drives used in trucks and heavy equipment.

Prerequisite: None

DHET 228 Commercial Driving**4 credits | REEL****Quarter(s): S, F, W, Sp**

Prepares students for the Washington State Class A commercial driver's license exam.

Prerequisites: None

DHET 229 Commercial Truck Driving Operation**6 credits | REEL****Quarter(s): S, F, W, Sp**

Provides the required 120 hours of truck driving skill development to prepare students for the Washington State Class A commercial driver's license exam.

Prerequisites: DHET 228. Student must have DOT physical and pass the DOT alcohol and substance abuse test. Student must have a commercial learner's permit.

DHET 230 Advanced Shop Practices**5 credits | REEL****Quarter(s): Sp**

Provides a review of key skills learned in previous Diesel program courses and will reinforce industry shop practices.

Emphasis will be placed on time management and documentation.

Designed as a course for Diesel AAS students.

Prerequisite: Completion of 60 DHET credits.

DHET 240 Fluid Power/Electrical Theory and Design**5 credits | REEL****Quarter(s): F**

Explores the theory and design principles of fluid power and electrical systems.

Various mathematical formulas will be used to help students understand the how and why systems perform as they do. Students will be taken through the design process for a task of their choosing. This process will include force estimation and measurement, calculating component specifications and schematic drawing.

Prerequisites: Math 078/079

DHET 288 Cooperative Work Experience**1-15 credits**

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission

Concurrent requirements: COLL 289 or BUS 294 must be taken prior to or concurrent with this course.

DHET 299 Independent Study**1-10 credits**

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.