

HEAVY-DUTY TRUCK TECHNICIAN (TTEC)

QUICK FACTS: TTEC COURSES

- **Instructional School:** Industry, Engineering, and Trades
- **Department:** Powersports and Diesel Technology

TTEC 102 Foundation and Safety

(4 Credits, Fall)

Introduction to heavy-duty commercial vehicle terminology, design, and classification. Includes S/P2 Safety certification, shop safety, personal protective equipment requirements and application, basic first aid, fire extinguisher procedures, and appropriate situational action. Also includes proper use of shop and hand tools, basic oxyacetylene torch, plasma cutting, arc welding, lifting requirements, and hoisting equipment usage. Students will identify careers, employability skills, and common workplace practices within the industry. PREREQ: Program orientation and successful completion of any two general education courses, or PERM/CHAIR. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 106 Electrical and Electronic Systems

(4 Credits, Fall)

Introduction to electrical terminology, fundamental principles, and testing and servicing of heavy-duty truck electrical systems. Includes the use of a multimeter to test battery, starting, charging, and lighting circuits on the truck along with the aid of wiring diagrams. PREREQ: TTEC 102. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 110 Engines/Engine Controls

(4 Credits, Fall)

This course introduces the student to common engine systems theory and operations. During the five weeks, students will learn to disassemble, inspect for reuse, and reassemble a 12 to 15-liter heavy-duty diesel engine to a running condition. Team operation and clear concise reporting on daily activities will also be targeted as an essential technician trait. Students will learn access and manipulation of the original equipment manufacturer's online service information systems and the specifications contained in them. Team building and soft skills are required throughout the five weeks as students use multiple common tools and work with a lab partner, sharing common grades for team activities. The skills students will learn have been identified by our industry as critical to safe and effective performance on the job. PREREQ: TTEC 102. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 120 Suspension, Steering, and Brakes

(4 Credits, Spring)

Fundamental principles and basic service of suspension, steering, and braking systems. PREREQ: TTEC 102, TTEC 106, and TTEC 110. COREQ: TTEC 130 and TTEC 140. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 130 Drivetrains

(4 Credits, Spring)

Introduction to power transmission devices including theory and maintenance procedures on clutches, transmissions, drivelines, and differentials. PREREQ: TTEC 102, TTEC 106, and TTEC 110. COREQ: TTEC 120 and TTEC 140. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 140 Preventive Maintenance/HVAC

(4 Credits, Spring)

Fundamentals of vehicle maintenance and vehicle pre-delivery inspection. Includes terminology, fundamental operating principles, and basic service techniques associated with mobile equipment HVAC systems. PREREQ: TTEC 102, TTEC 106, and TTEC 110. COREQ: TTEC 120 and TTEC 130. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 155 Truck Driving Skills

(1 Credit, Summer)

This course provides students with the driving time needed to develop the operator skills necessary to successfully attain a Commercial Driver's License (CDL). Students are required to obtain instructor verification of the following prior to registration: completion of Federal Motor Carrier Safety Administration (FMCSA) 30-hour theory, valid Idaho Commercial Driver Learners Permit, and valid Division of Transportation (DOT) physical examination. PREREQ: TTEC 120, TTEC 130, TTEC 140, and PERM/INST. (0 lecture hours, 3 lab hours, 1 credits)

TTEC 199 Heavy-Duty Truck Technician Special Topics

(1-5 Credits, Varies)

This course is designed to permit the offering of special topics appropriate to a student's program. Regular or frequently recurring topics are not offered under this title. The course may be repeated as new topics are presented. (1 lecture hours, 0 lab hours, 1 credits)

TTEC 220 Advanced Electrical Systems

(4 Credits, Fall)

Advanced system theory with diagnostic procedures on simulators and actual equipment. PREREQ: TTEC 106, TTEC 120, TTEC 130, and TTEC 140. COREQ: TTEC 230 and TTEC 240. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 230 Advanced Engine/Engine Controls

(4 Credits, Fall)

Advanced system theory with diagnostic procedures on simulators and actual equipment. PREREQ: TTEC 110, TTEC 120, TTEC 130, and TTEC 140. COREQ: TTEC 220 and TTEC 240. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 240 Advanced Drivetrains

(4 Credits, Fall)

Advanced drivetrain system theory with diagnostic procedures on simulators and actual equipment. PREREQ: TTEC 120, TTEC 130, and TTEC 140. COREQ: TTEC 220 and TTEC 230. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 250 Advanced Suspension, Steering, and Braking Systems

(4 Credits, Spring)

Advanced suspension, steering, and braking system theory and maintenance with diagnostic procedures on simulators and actual equipment. PREREQ: TTEC 120, TTEC 220, TTEC 230, TTEC 240, and completion of a GEM 1 (or GEM 2), GEM 3, and GEM 6 (or GE Elective) course. COREQ: TTEC 260 and TTEC 290. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 260 Advanced Preventive Maintenance/HVAC

(4 Credits, Spring)

Preventive maintenance inspections on medium/heavy-duty trucks. HVAC electrical control systems and system diagnostics. PREREQ: TTEC 140, TTEC 220, TTEC 230, TTEC 240, and completion of a GEM 1 (or GEM 2), GEM 3, and GEM 6 (or GE Elective) course. COREQ: TTEC 250 and TTEC 290. (2 lecture hours, 6 lab hours, 4 credits)

TTEC 290 Heavy-Duty Truck Technician Capstone

(4 Credits, Spring)

Supervised application of coursework. Capstone projects will be assigned by instructor and may take place within a lab or industrial setting. PREREQ: TTEC 220, TTEC 230, TTEC 240, and completion of a GEM 1 (or GEM 2), GEM 3, and GEM 6 (or GE Elective) course. COREQ: TTEC 250 and TTEC 260. (0 lecture hours, 12 lab hours, 4 credits)

Refer to [How to Read Course Descriptions](#) for an explanation of elements found in the course descriptions above.