



Heavy Equipment/Diesel Mechanics

2-Year Program

Plattsburgh Learning Hub

Students will learn the basic theory, operation, and safety practices related to heavy equipment. This program is designed to meet entry-level needs in the field of diesel technologies and repair of agricultural equipment, construction equipment, and class 6-8 "on-highway" vehicles. This course covers four-cycle engine theory, operation, troubleshooting and repair, and preventive maintenance of diesel-powered equipment. The course also covers basic hydraulic theory and principles, fuel systems, basic electrical and electronic systems, Tier IV emissions theory, brake systems, hydraulic/air systems, on-board diagnostic procedures, and an introduction to internet-based information systems used by today's equipment manufacturers.



Program Highlights

- Machine Operation/Maintenance
- Truck Maintenance
- Tool and Parts Counter
- Management
- Welding
- Equipment Restoration
- Engine Repair
- Tire Work
- Brake Work

Career Connections

- Diesel Mechanic
- Bus Fleet Mechanic
- Farm Equipment Mechanic
- Machine Restoration
- Heavy Equipment Mechanic
- Tool Crib Technician
- Service Department Mechanic

Articulation Agreements

- Clinton Community College
- Lincoln Technical Institute
- Nashville Auto Diesel College
- SUNY Canton
- University of N.W. Ohio
- UTI, Proficiency Credit or \$1000 tuition
- Wyotech, Scholarship Available

Certifications

- ASE Certification Preparation
- Auto Lift Institute
- NWRC/21st Century Skills

Course of Study

Tool Counter/Tool Crib

Associate

- Safety
- Tool Management
- Tool and Part Recognition Ability
- Tool and Material Care
- Record Keeping
- Inventory Control
- Ordering of Materials
- Ability to Use Reference Materials
- WEB-based information systems

Equipment Renovation/Repair

- Safety
- Use and Handling of Equipment
- Proper Tool Selection
- Use of Oxyacetylene Equipment
- SMAW (Stick) Welding Basics
- MIG (Wire Feed) Welding Basics
- Plasma cutting
- Paint Prep
- Painting
- Cutting and Grinding
- Clean, neat, orderly work area

Tire/Brake Mechanic

- Safety
- Tire Identification
- Rotation Theory and Practice
- Change Small Tires
- Repair Small and Large Tires
- Balancer
- Balance with Hunter
- Work with hydraulic brake components
- Familiarization with air brake adjustment, repair
- Perform annual DOT brake inspection

Maintenance Mechanic Helper

- Safety
- Hoist operation, jacking safety placement, stands
- Brake adjustment (air, hydraulic)
- Electrical work (bulbs, fuses, motors, etc.)
- Lubrication (grease, oil change, disposal, etc.)
- Cooling system maintenance
- Fuel system maintenance (filters, etc.)
- Air system maintenance (filters, etc.)
- Machine operation (basics for mechanic)
- Basic winch operation/safety

Heavy Equipment Mechanic

- General shop and field safety
- Basic electrical: charging systems
- Basic electrical: starting systems
- Basic computerized diagnostics & electronics
- Diesel theory
- Diesel diagnostics
- Diesel service
- Engine disassembly, repair, return to service
- Fuel line maintenance
- Valve adjustment
- Brake adjust, air and hydraulic
- Suspension
- Seals, bearing replacement, repair
- Writing work orders-manual/electronic
- DOT inspection
- Cold starting