

Automotive Technology



Develop advanced diagnostic skills to repair cars with complex, computer-driven operating systems



Students learn to maintain, diagnose and repair passenger vehicles. Students identify mechanical and electronic/computer issues that affect vehicle performance and safety. Students utilize computer-based diagnostic equipment as a source of vehicle analysis.

Units of Study

- Shop Orientation and Safety (S/P2)
- Suspension and Steering
- Brakes
- Electrical/Electronic Systems
- Engine Performance
- Engine Repair
- Heating, Ventilation and Air Conditioning
- Automatic Transmissions and Transaxles
- Manual Transmissions and Drivetrains
- Basic Technician Skills, Financial management
- Welding - Oxyacetylene, MIG, and TIG

Integrated Academics

- English
- Math

Licensing / Industry- Based Certifications

Automotive Service of Excellence (ASE)

College Credits

MCC Dual Enrollment -
ATP 100: Auto Services

Work-Based Learning

CTE programs bring students into the workplace for real life experiences. Businesses that support our Automotive Technology program:

- Bob Johnson Auto
- DeCarolis
- West Herr Automotive Group
- Mercedes Benz of Rochester
- Prolift
- Titan Motorworks
- Toyota Dealers of Rochester
- Websmart Auto
- West Herr

Articulation Agreements

- Alfred State
- MCC
- University of Northwestern Ohio
- SUNY Canton
- SUNY Morrisville



Career Paths

All CTE programs correlate to many career paths.

↓ *Start Here*

- Auto Service Tech
- Parts Associate

Go Here ↓

with more education & experience

- Service Advisor
- Master Mechanic
- Automotive Machinist

Explore more:

<https://www.careerzone.ny.gov/>
<https://www.onetonline.org/find/>



WEMOCO Career & Technical Education Center
Monroe 2-Orleans Board of Cooperative Educational Services
Monroe2BOCES.org/cte 585-352-2471
3589 Big Ridge Road, Spencerport, New York 14559



Automotive Technology

Employability Profile

Work-Related Skills

Productivity and Accountability

Follows procedures to meet expectations and deadlines

Displays consistent work performance and quality of work

Flexibility and Adaptability

Works effectively in varied roles and responsibilities

Responds well to and implements feedback

Initiative and Self-Direction

Identifies, prioritizes, and completes tasks without direct oversight

Seeks to learn and develop new knowledge and skills

Leadership and Responsibility

Leverages strengths of others to accomplish a goal

Takes ownership of one's work, performance, behavior, and actions

Communication

Articulates thoughts and ideas clearly and effectively through speaking and writing

Practices active listening skills

Collaboration

Works effectively with others

Open and responsive to new and diverse perspectives

Critical Thinking and Problem Solving

Asks questions to lead to better solutions

Identifies possible options and their outcomes

Engine Repair

Inspect engine for leaks

Perform engine mechanical tests

Inspect the exhaust system for leaks and damage

Check and adjust valve lash

Inspect and replace timing belt

Automatic Transmission/Transaxle

Check and adjust transmission fluid levels

Inspect for fluid leaks

Inspect and adjust transmission linkage

Inspect powertrain mounts

Manual Drive Train & Axles

Bleed a hydraulic clutch system

Inspect and service front wheel drive half shafts

Inspect the differential and refill with the correct lubricant

Check locking hub assemblies

Electrical/Electronic Systems

Perform voltage, amperage, and resistance tests

Interpret and use wiring diagrams

Diagnose circuit faults

Test circuit protection devices

Perform wiring repairs

Test relay operation and relay circuits

Perform a battery inspection

Perform battery services

Diagnose starting system concerns

Test starter current draw and starting system voltage drops

Remove and replace a starter motor

Inspect the charging system

Test generator output

Perform charging system voltage drops

Remove and replace a generator

Inspect and service interior and exterior lighting components

Remove and reinstall a door panel

Suspension & Steering

Perform mounting and balancing

Rotate tires per the manufacturer's specification

Check and adjust tire air pressure

Service components of the tire pressure monitoring system

Service wheel bearings

Disable and enable the supplemental restraint system

Remove and replace a driver's side air bag

Inspect, remove and replace steering linkage components

Determine proper power steering fluid type; inspect fluid level and condition

Flush the power steering system

Perform suspension system component inspections

Diagnose suspension system concerns

Service components of the suspension system

Perform a prealignment inspection

Heating & Air Conditioning

Replace a cabin air filter

Service, drain, flush, refill, and bleed cooling system

Engine Performance

Replace fuel filter

Remove and replace spark plugs

Service components of the positive crankcase ventilation (PCV) system

Retrieve OBD-11 diagnostic trouble codes

Welding

Adjust the pressures and light a torch in a safe manner

Demonstrate proper torch manipulation in making a straight line cut

Demonstrate proper torch manipulation in making a straight line cut using MIG, and TIG

Safety/OSHA 10

Show the use of personal protective equipment

Locate & show material safety data sheets

Implement safe operation of vehicles in the shop

Examine fire hazards, fire extinguishers, and show fire extinguisher use

Brakes

Inspect and service brake lines, hoses, and fittings

Flush and bleed the brake hydraulic system

Remove, inspect, and install brake shoes and hardware

Inspect and replace wheel cylinders

Inspect and measure brake drums

Set up, machine, a rotor and a drum on a brake lathe

Inspect drum parking brake components and operation

Remove, inspect, and replace a disc brake caliper, rotor, and pads

Retract a rear caliper piston with an integrated rear disc parking brake caliper

Service antilock brake system