

# Career and Technical Education Department

## Automotive and Small Engine Technologies

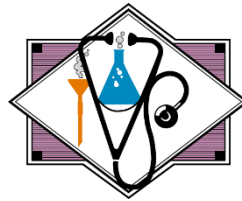
### Senior High School



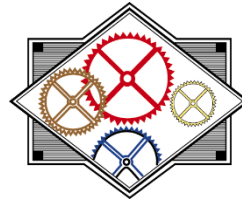
Arts & Communications



Business, Management Marketing & Technology



Health Science



Engineering/Manufacturing & Industrial Technology



Human Services



Natural Resources & Agriscience

VPAA – Meets Visual, Performing & Applied Arts Requirement

OLE – Meets Online Learning Experience Requirement

SMR – Senior Math Related

CP - CTE Completer

21F – Course Available through Section 21F: Expanded Virtual Learning

\*CAREER ZONES - Broad groupings of careers that share similar characteristics and whose employment requirements call for many common interests, strengths, and competencies.

<b>CTE AUTO I</b> (VPAA/SMR) – V435	10, 11, 12	1.0 credit
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SHARED TIME: May require travel to another building

This course integrates classroom theory and laboratory applications in order to develop in students the highly technical skills sought after in the automotive service and repair field. Students will gain competency in safety concepts, equipment operation, tool usage, and precision measurement. This course is designed to expose students to all phases of automotive maintenance and light repair. Auto 1 introduces the student to skills covered in all eight areas of ASE and State licensing. This is done through a series of ASE related tasks: demonstrations, observations, labs, and basic performance-based evaluations. Students are required to complete performance objectives, keep a notebook, and take exams to prepare for success in future automotive training programs. It is highly recommended that students follow this course with CTE Auto in order to obtain industry certification.

*\*Course content may address skills pertaining to these potential Career Zones: Engineering, Manufacturing & Industrial Technology*

<b>CTE ADVANCED AUTO</b> (VPAA/OLE/SMR/CP) – V440	11, 12	2.0 credits
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SHARED TIME: May require travel to another building

PREREQUISITE: CTE Auto I

CTE Auto integrates classroom theory and laboratory applications in order to further develop the technical skills introduced in Auto I. Students are required to complete advanced performance objectives, keep a notebook, and take exams to prepare for success in future automotive training programs. Students will further their understanding of safety concepts, equipment operation, tool usage, and precision measurement. This advanced two-hour course focuses on the hands-on application of skills included in all eight areas of ASE and State of Michigan Certification. These eight areas include Engine Repair, Automatic Transmission/Transaxle, Manual Drivetrain and Axles, Steering and Suspension, Brakes, Electrical/Electronic Systems, Heating and Air Conditioning and Engine Performance. These eight areas are all

encompassed in ASE's Maintenance and Light Repair Certification. All students enrolled in CTE auto are provided the opportunity to earn ASE Student Certification in MLR free of charge. The skills taught in this course are designed to prepare students for both entry level positions and more other post-secondary options. Upon successful completion of this program, the students can qualify for articulated college credit.

*\*Course content may address skills pertaining to these potential Career Zones: Engineering, Manufacturing & Industrial Technology*

**CTE ADVANCED AUTOMOTIVE TECHNOLOGIES CAPSTONE** (VPAA/SMR/CP) – V445 10, 11, 12 1.0 credit

SHARED TIME: May require travel to another building.

PREREQUISITE: CTE Auto I

This course is for students in grades 11 and 12 who have completed Auto 1 and desire to further their automotive skills. This is a capstone course designed to further automotive skills and certifications through continued practice of high-level task.

*\*Course content may address skills pertaining to these potential Career Zones: Engineering, Manufacturing & Industrial Technology*

**STW AUTO TECH INTERN** – N308 11, 12 1.0 credits

PREREQUISITE: School to Work Coordinator approval, and completed or co-enrolled in CTE AUTO I

This course offers students the opportunity to spend a portion of their school day working at an automotive related training site in the community. This employment experience is related to the career goals of the student and is supervised by a school-to-work coordinator. The student will develop workplace skills and leadership traits in their chosen area of specialty. Evaluation of job performance and assessment of coursework is the responsibility of the STW Coordinator with input from the training site supervisor. This program adheres to all federal and state labor laws.

**CTE SMALL ENGINE REPAIR I** (VPAA/SMR) – V485 9, 10, 11, 12 1.0 credit

SHARED TIME: May require travel to Henry Ford II High School

This is a comprehensive course for students interested in learning how to repair small internal combustion engines. Students are taught the use of basic hand tools, engine maintenance (both two and four-cycle), valve grinding, burnishing, theory of compression, carburetion, and magneto electrical system. Engine tear-down, rebuilding, and troubleshooting are done using industrial manuals as guides.

*\*Course content may address skills pertaining to these potential Career Zones: Engineering, Manufacturing & Industrial Technology*

**CTE ADVANCED SMALL ENGINE REPAIR** (VPAA/SMR/CP) – V490 11, 12 2.0 credits

SHARED TIME: May require travel to Henry Ford II High School

PREREQUISITE: Small Engine Repair I

This course is designed to teach job entry skills in the repair of both two and four-stroke small engine equipment and recreational vehicles. The electronic electrical system is studied and compared to the magneto electrical system. Students are put in service-type situation where they are responsible for repair jobs from beginning to end. Students are required to complete performance objectives, keep a notebook and take exams. Upon successful completion of this program, the students can qualify for articulated college credit.

*\*Course content may address skills pertaining to these potential Career Zones: Engineering, Manufacturing & Industrial Technology*

**STW SMALL ENGINE REPAIR INTERN** – N313 11, 12 1.0 credits

PREREQUISITE: School to Work Coordinator approval, and completed or co-enrolled in CTE SMALL ENGINE REPAIR I

This course offers students the opportunity to spend a portion of their school day working at a small engine repair related training site in the community. This employment experience is related to the career goals of the student and is supervised by a school-to-work coordinator. The student will develop workplace skills and leadership traits in their chosen area of specialty. Evaluation of job performance and assessment of coursework is the responsibility of the STW Coordinator with input from the training site supervisor. This program adheres to all federal and state labor laws.