

# AUTOMOTIVE TECHNOLOGY: ADVANCED ENGINE PERFORMANCE CERTIFICATE

**Program code:** AUTO-CC-AEP

**Location:** Naugatuck Valley

## Program Description

The Advanced Engine Performance program enables a practicing automotive technician to develop the technical knowledge and skills associated with the advanced computer/electronic diagnostic systems and emission systems of today's automobile.

**Purpose:**

- To provide an understanding of automobile engine operation and repair.
- To provide an understanding of advanced electronic diagnosis and automotive emissions.
- To provide an understanding of the relationship between scientific principles and their application in the automobile.

**Target Population:**

- Individuals seeking employment opportunities in the automotive service field.
- Individuals seeking to upgrade their technical skills.
- Individuals preparing for career advancement opportunities in the automotive service field.

## Learning Outcomes

Upon successful completion of all program requirements, graduates will be able to:

1. Use scientific methods and critical thinking to solve problems in science related to the occupation, including but not limited to: electricity, chemical reactions, heat, motion, and hydraulics.
2. Demonstrate workplace skills related to the occupation including but not limited to: preparing a resume, seeking employment, maintaining a safe and healthy workplace environment, demonstrating workplace ethics and teamwork.
3. Apply knowledge of theory and safety to accomplish certain tasks related to the occupation.
4. Identify and use appropriate tools, testing and measurement equipment to accomplish certain tasks related to the occupation.
5. Use current reference and training materials from accepted industry publications and standards to accomplish certain tasks related to the occupation.
6. Apply knowledge of general engine diagnosis and repair: including but not limited to: the engine's: cylinder heads, valve train, block, lubrication, and cooling system.
7. Apply knowledge of general electrical/electronic systems, including but not limited to: starting, charging, lighting, wiring, accessories, diagnosis and repair.

8. Apply knowledge of general engine performance, including but not limited to: computer controls, ignition, fuel, exhaust, and emission systems, and their maintenance, diagnosis, adjustments, and repair.

The courses in this program are accredited by Automotive Service Excellence Education Foundation (A.S.E.).

This Certificate will prepare students for the Automotive Service Excellence Education Foundation (A.S.E.) G1, A1, A6, A8, L1 exams as well as additional automotive elective area selected.

## Certificate Requirements

Code	Title	Credits
<b>Required Courses</b>		
AUTO 1030	Automotive Maintenance and Light Repair	3
AUTO 1033	Electrical/Electronics Systems	3
AUTO 1031	Engine Repair	3
AUTO 1037	Engine Performance	3
AUTO 2038	Advanced Engine Performance	3
	Automotive Elective	3
<b>Total Credits</b>		<b>18</b>

The Automotive Technology curriculum offers four degree options. Students may not complete more than one associate's degree in this area but additional certificates may be earned.

- Automotive Technology: Automotive Management, AS
- Automotive Technology: Comprehensive Automotive Repair and Service (CARS) Certificate
- Automotive Technology: Comprehensive Automotive Repair and Service (CARS), AS
- Automotive Technology: Electric Vehicle Technician Certificate
- Automotive Technology: Fundamentals Certificate
- Automotive Technology: General Auto Service Certificate
- Automotive Technology: General Motors Automotive Service Certificate
- Automotive Technology: General Motors Automotive Service Education Program (ASEP), AAS
- Automotive Technology: Honda Express Technician Certificate
- Automotive Technology: Honda Professional Auto Career Training (PACT) Auto Service Certificate
- Automotive Technology: Honda Professional Automotive Career Training (PACT), AAS