**Automotive: Advanced Engine Performance**

**Business Division**

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.

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| **Course No.** | **Title** | **Credits** |
| ATP\*H100 | Integrated Automotive Systems | 3 |
| ATP\*H120 | Engine Repair | 3 |
| ATP\*H110 | Automotive Electrical Systems | 3 |
| ATP\*H210 | Engine Performance | 3 |
| ATP\*H220 | Automotive Emissions | 3 |
| ATP\*H291 | Cooperative Work Experience ll | 3 |
|  | Total Credit Hours | 18 |

To ensure appropriate placement, placement test results and course prerequisites should be reviewed with the Program Coordinator and/or advisor.

Program Outcomes

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

1. Perform mathematics related to the occupation, including but not limited to: algebraic expressions, arithmetic, decimals and graphs.
2. 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.
3. 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.
4. Apply knowledge of theory and safety to accomplish certain tasks related to the occupation.
5. Identify and use appropriate tools, testing and measurement equipment to accomplish certain tasks related to the occupation.
6. Use current reference and training materials from accepted industry publications and standards to accomplish certain tasks related to the occupation.
7. 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.
8. Apply knowledge of general electrical/electronic systems, including but not limited to: starting, charging, lighting, wiring, accessories, diagnosis and repair.
9. 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.