

Certificate in Alternative Fuels & Emissions

Program Details

The Alternative Fuels and Emissions certificate program prepares students for careers as bus and truck mechanics and diesel engine specialists with the basic skills needed to operate, diagnose, repair, and overhaul buses and trucks, including maintaining all types of diesel engines in the transportation, construction, and agricultural industry sectors. This short-term certificate is designed to provide accessible training opportunities for individuals facing employment barriers, including unemployed, underemployed, low-income, justice-involved individuals and Veterans. The program provides an accelerated pathway to a post-secondary credential and employment in a high-demand field.

Program Outcomes

At the successful completion of the program curriculum, students will be able to:

- Follow safety standards related to the safe functioning in a heavy-equipment shop environment.
- Apply theory and principles for proper maintenance, diagnosis, and repair of systems and components related to the construction, agricultural, marine, and transportation industries.
- Recognize potentially hazardous situations in the industrial workplace.
- Troubleshoot and resolve equipment malfunctions.
- Apply a logical assembly/repair process to repair projects.
- Disassemble and assemble various components used in the diesel industry to manufacturer standards.
- Diagnose and repair electrical components and wiring used in the diesel industry.
- Use manufacturers' manuals in the performance of assigned work.
- Determine the status of parts for reuse using manufacturer's guidelines.

Academic Map

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A minimum of 8 classes and 24 credits is required. At least 12 credits of your program must be taken at Massasoit. Note: Each course completed and passed can only fulfill one program requirement. The same course cannot be used to satisfy multiple program requirements.

Semester 1

3 Credits in DIES 107
Engine Principles I
3 Credits in DIES 108
Electrical Systems
3 Credits in DIES 122
Fuel Systems
3 Credits in DIES 123
Truck Components I

Semester 2

3 Credits in DIES 124
Truck Components II
3 Credits in DIES 222
Electronic Engine Diagnostics
3 Credits in DIES 223
Compressed Natural Gas Engines
3 Credits in DIES 226
Hydraulics

This academic map is a suggested semester-by-semester guide to keep you on a clear path to program completion. Please note that some classes are offered only in certain semesters, have prerequisites, or minimum passing grades. Winter and/or Summer Session classes may be available for some classes. Your [academic advisor](#) will provide you with clear direction needed to stay on course and discuss scheduling options with you. Taking courses not reflected on this map may result in courses not counting toward the completion of your requirements.