### **AUTOMOTIVE TECHNICIAN**

Certificate Program | Department of Engineering, Physics and Technology

#### **Program Description**

The Automotive Technician program is designed to develop basic automotive skills required for entry-level position in most automotive repair shops. The program integrates automotive theory with an emphasis on shop experience. Upon successful completion of this program, students receive a certificate and are encouraged to complete the requirements for the AAS degree in Automotive Technology.

The Automotive Technician Certificate program is accredited by the ASE Education Foundation (http://www.aseeducation.org/).

# **Learning Outcomes**

Upon successful completion of the Automotive Technician program requirements, students will be able to:

- Demonstrate proper safety procedures, accident prevention and shop procedures in an active garage.
- 2. Demonstrate understanding of fundamental internal combustion engines and be able to perform basic mechanical diagnosis and repair.
- 3. Calculate hydraulic pressures within a drum and disc brake system.
- 4. Demonstrate proficiency in the use of computer diagnostic equipment, such as proper use of a scan tool and oscilloscope.
- 5. Calculate gear ratios and for the purposes of understanding torque multiplication in transmissions.
- **6.** Explain how alignment angles can affect a vehicle's handling performance and tire wear.
- Demonstrate a working knowledge of manifold gauge set readings, and how they relate to air conditioning performance.
- 8. Use wiring schematics and electrical test equipment to diagnose electrical problems.
- 9. Diagnose proper automatic transmission issues including torque converter operation.
- **10.** Recognize the different configurations of hybrid vehicles, and how to interact with them safely.
- 11. Demonstrate emissions diagnostics by utilizing knowledge of 5 gas analyzation, stoichiometry, and interaction with the OBD2 system.

# **AUTOMOTIVE TECHNICIAN CURRICULUM**

30 Credits required for Certificate

**Curriculum Coordinator: Clement Drummond** 

#### **Certificate Requirements**

- ACS 10 Introduction to Automotive Technology (1 Credit)
- · ACS 11 Engine Repair (4 Credits)
- ACS 12 Brake Systems (3 Credits)
- ACS 13 Engine Performance (3 Credits)
- ACS 21 Steering and Suspension (3 Credits)
- ACS 25 Automatic/Manual Transmission and Drive Trains OR ACS 38 Advanced Vehicle Diagnostics (4 Credits)
- ACS 23 Heating and Air-Conditioning (3 Credits)
- ACS 24 Electrical Systems (3 Credits)
- ACS 35 Alternate Fuel Technology OR ACS 36 Hybrid/Electric Vehicles (3 Credits)
- ACS 45 Diesel Technology (3 Credits)

For information regarding gainful employment, please visit: http://www.bcc.cuny.edu/Gainful-Employment-Disclosure/?page2=GedtAM

