

# Automotive

---

## *Automotive Body and Repair*

### **Program Description**

This program is designed to prepare the student for employment as a body repair and paint apprentice in privately owned repair shops or automotive dealerships. A student could be self-employed from the training after completing the program.

### **Certificate of Achievement and Associate Degree in Science**

A Certificate of Achievement can be obtained by completing the 46-unit major below. The Associate in Science Degree can be obtained by completing 67 units, including the major and the general education requirements. All courses in the major must be completed with a grade of C or better or a P if the course is taken on a Pass/No Pass basis.

### **Program Outcomes**

Students who complete the Certificate of Achievement/ Associate Degree will be able to:

1. Demonstrate knowledge of metal joining and straightening methods.
2. Inspect, remove, install, align panels, doors and trim to meet shop standards
3. Determine type of paint; plan refinishing system; remove, prepare, seal and mask; apply coatings to vehicle.
4. Demonstrate correct use of chemicals within the shop environment.
5. Work safely and responsibly within all safety and environmental guideline standards for a shop.
6. Identify and strategize career plans for employment in the auto collision field.

<b>REQUIRED COURSES</b>	<b>Units</b>
AUTB 100 Fundamentals of Auto Body Repair . . . . .	10
AUTB 101 Spray Paint Theory and Techniques . . . . .	10
AUTB 102 Automotive Body Panels and Frame Straightening . . . . .	10
AUTB 103 Advanced Auto Body Repair and Painting . .	10
IT 140 Industrial Materials . . . . .	3
IT 150 Industrial Processes . . . . .	3
<b>Total Units</b> . . . . .	<b>46</b>

### **Recommended Electives**

- BUS 005 Introduction to Business
- DRFT 079 Blueprint Reading
- IT 110 Modern Welding
- OCED 090 Occupational Work Experience
- OCED 091 General Work Experience

**Some courses may not be offered. Please contact the Dean of Career and Technical Education for alternate courses if necessary.**

# Automotive

## Automotive Technician

### Program Description

This program is designed to prepare graduates for employment in the automotive industry as apprentice mechanics, parts people, service station attendants or specialists in one of the many areas in, or jobs related to, the automotive industry.

### Certificate of Achievement and Associate of Science Degree

A Certificate of Achievement can be obtained by completing the 40-unit major below. The Associate in Science Degree can be obtained upon completion of 61 units, including the major, and the general education requirements. All courses in the major must be completed with a grade of C or better or a P if the course is taken on a Pass/No Pass basis.

### Program Outcomes

Students who complete the Certificate of Achievement/Associate Degree will be technically proficient in entry level skills as defined by the National Automotive Technicians Education Foundation. (NATEF) by demonstrating:

1. 85 percent of the tasks established by NATEF.
2. Proper service and repair procedures of the following systems:
  - Engine Repair
  - Automatic Transaxles/Transmissions
  - Manual Drivetrain
  - Suspension, Steering and Alignment
  - Brakes
  - Electrical Systems
  - Heating and Air Conditioning
  - Engine Performance
3. Proper safety procedures and techniques.
4. Efficient oral and written communication.
5. The ability to apply fundamental automotive technology principles.
6. Skills for successful employment in the field of Automotive Mechanics Repair Technology.

REQUIRED COURSES	Units
ATEC 130 Automotive Systems	10
ATEC 131 Automotive Electrical Systems	10
ATEC 132 Automotive Brakes and Suspension Systems	10
ATEC 133 Internal Combustion Engines and Power Transmission	10
<b>Total Units</b>	<b>40</b>

Recommended Electives
BUS 005 Introduction to Business
IT 110 Modern Welding
IT 140 Industrial Materials
OCED 090 Occupational Work Experience
OCED 091 General Work Experience

## Automotive Technician

(For additional listings see "Industrial Education" section of this catalog.)

**ATEC 070 3 Units**

### Automotive Fundamentals

**Course Advisory:** SCC minimum English and Math standards. The study of automotive fundamentals including hazardous waste handling, automotive safety, automotive careers, automotive information systems, tools and equipment, fasteners, automotive measurements and measuring devices, bearings and sealants, engine systems and operation, drivelines, suspension and steering, brakes, and auxiliary systems. *Two hours lecture, three hours lab.*

**ATEC 130 10 Units**

### Automotive Systems

**Course Advisory:** SCC minimum English standard. A study of the theory and practice of automotive repair, maintenance and diagnosis including safety, hand and power tools, test equipment and service, and design principles of all automotive systems. A broad overview providing the knowledge and skills necessary to meet the specific requirements of ATEC 131, 132, and 133. Testing and manipulative skills based on industry standards. *Five hours lecture, fifteen hours lab.*

# Automotive

---

**ATEC 131 10 Units**  
**Automotive Electrical Systems**  
*Prerequisite: ATEC 130. Course Advisory: SCC minimum English standard.* Presents the theory and repair of automotive electrical systems. Includes the study of electricity principles, conventional and electronic ignition systems, charging systems, starting systems and electrical accessories. Provides the student with knowledge and skills in systems diagnosis, repair and testing necessary for entry into the trade. Testing and manipulative skills based on industry standards. *Five hours lecture, fifteen hours lab.*

**ATEC 132 10 Units**  
**Automotive Brakes and Suspension**  
*Prerequisite: ATEC 131. Course Advisory: SCC minimum English standard.* Study of automotive brakes, suspension systems, and wheel alignment theory and service procedures. Includes skills development in the use of wheel alignment machines and brake reconditioning equipment. Provides the student with knowledge and skills in diagnosis repair and testing necessary for entry into the trade. Testing and manipulative skills based on industry standards. *Five hours lecture, fifteen hours lab.*

**ATEC 133 10 Units**  
**Internal Combustion Engines and Power Transmission**  
*Prerequisite: ATEC 132. Course Advisory: SCC minimum English standard.* A study of internal combustion engines, transmissions, differentials, and support systems. Provides the student with the knowledge and skills in engine and power transmission theory and overhaul procedures necessary for entry into the trade. Testing and manipulative skills based on industry standards. *Five hours lecture, fifteen hours lab.*

**Automotive Body and Repair**  
(For additional listings see "Industrial Education" section of this catalog).

**AUTB 100 10 Units**  
**Fundamentals of Auto Body Repair**  
*Course Advisory: SCC minimum English standard.* Acquaints the student with the basic skills and fundamental principles of auto body repair. Learned skills are verified through manipulative and written tests. *Five hours lecture, fifteen hours lab.*

**AUTB 101 10 Units**  
**Spray Paint Theory and Techniques**  
*Prerequisite: AUTB 100. Course Advisory: SCC minimum English standard.* Acquaints the student with the basic principles and techniques of automotive refinishing. Skills acquired are verified through manipulative projects and written tests. *Five hours lecture, fifteen hours lab.*

**AUTB 102 10 Units**  
**Automotive Body Panels and Frame Straightening**  
*Prerequisite: AUTB 100.* Students will learn to repair and replace body panels. Includes unibody and frame straightening. Learned skills are verified through manipulative projects and written exams. *Five hours lecture, fifteen hours lab.*

**AUTB 103 10 Units**  
**Advanced Auto Body Repair and Painting**  
*Prerequisite: AUTB 101, 102.* Students are exposed to the fine details of automotive body repair. Excellence and precision of skills are refined and quality work is emphasized. Students demonstrate their achievements through manipulative projects and written tests. *Five hours lecture, fifteen hours lab.*

**AUTB 110 3 Units**  
**Special Projects**  
*Prerequisite: AUTB 103.* Advanced projects undertaken by students in their field of specialization, under supervision of the instructor. *Two hours lecture, three hours lab.*