



# Broward Community College

## Course Outline

---

STATUS:   A  

COMMON COURSE NUMBER:   ARR 1010  

COURSE TITLE:   Introduction to Auto Body  

CREDIT HOURS:       3      

CONTACT HOURS BREAKDOWN:

Lecture/Discussion       36      

Lab       36      

Other                   

Contact Hours/Week                   

CATALOG COURSE DESCRIPTION:

Prerequisite: None

Co requisite: None

A course designed to introduce the field of auto body repair. Topics include auto body careers, shop safety, tools and equipment, an overview of materials and processes used in auto body manufacturing, and basic auto body repair and refinishing procedures.

General Education Requirements - Associate of Arts Degree, meets Area(s):  
General Education Requirements - Associate in Science Degree, meets Area(s):

UNIT TITLES:

1. Introduction to Auto Body Repair and Refinishing
2. The Auto Body Repair Shop
3. Auto Body Manufacturing
4. Basic Auto Body Repair
5. Basic Refinishing

## **I. Course Overview:**

Upon successful completion of this course, the students should be able to demonstrate an understanding of the auto body repair career field, shop safety, auto body materials and process, and basic repair and refinishing procedures.

## **II. Units:**

### **Unit 1. Introduction to Auto Body Repair and Refinishing**

#### General Outcome:

- 1.0 The students should be able to discuss the auto body repair career field.

#### Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 1.1 Identify career opportunities in the auto body repair industry.
- 1.2 Identify licensing and certification requirements for the auto body repair field.
- 1.3 Explain requirements for continuing education in auto body repair.
- 1.4 Discuss the legal and ethical ramifications of proper auto body repairs.

## Unit 2. The Auto Body Repair Shop

### General Outcome:

2.0 The students should be able to discuss the auto body shop, shop safety, tools and equipment.

### Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 2.1 Discuss proper shop layout.
- 2.2 Comply with safety rules established by OSHA, NIOSH, EPA and DER regarding chemicals, hazardous materials, tools, equipment and personal clothing.
- 2.3 Identify sources of airborne contamination.
- 2.4 Inspect shop air intake and exhaust systems, including filters and fans.
- 2.5 Utilize appropriate manuals and references.
- 2.6 Identify, describe and use auto body repair hand tools, power tools and equipment.

### Unit 3. The Auto Body Manufacturing

#### General Outcome:

3.0 The students should be able to describe the materials and processes used in the manufacture of automobiles.

#### Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 3.1 Identify and describe the various materials used in automobile construction.
- 3.2 Describe the common automotive construction types including frame, unibody and spaceframe types.
- 3.3 Identify common auto body parts by name, location and function.
- 3.4 Explain the importance of maintaining structural integrity in a vehicle body.
- 3.5 Locate, read and interpret automobile manufacturer's data plates.

## Unit 4. Basic Auto Body Repair

### General Outcome:

4.0 The students should be able to perform basic repair procedures.

### Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 4.1 Demonstrate safe procedures for proper oxyacetylene welding, brazing and cutting.
- 4.2 Demonstrate safe procedures for proper electric welding.
- 4.3 Demonstrate safe procedures for proper MIG welding.
- 4.4 Perform basic metal repairs including shrinking, straightening, smoothing, filing and sanding.
- 4.5 Perform dent and rust repair.
- 4.6 Perform glass, door, water leak and wind noise repairs.
- 4.7 Install body sealers, insulation and weather striping.
- 4.8 Demonstrate proper airbag handling.
- 4.9 Diagnose and analyze damage to determine appropriate methods for overall repair.
- 4.10 Repair fiberglass, thermoplastic, thermosetting plastic, and sheet molded compound (SMC), including plastic welding chemical bonding and using structural adhesives.
- 4.11 Remove and replace interior components and trim.

## Unit 5. Basic Refinishing

### General Outcome:

5.0 The students should be able to perform basic refinishing procedures.

### Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 5.1 Prepare and apply body fillers.
- 5.2 Prepare surfaces for refinishing, including removing trim dirt and wax, and protective coatings, sanding and masking.
- 5.3 Identify surfaces types and finishes, mix and apply suitable treatments, primers, surfaces and sealers.
- 5.4 Identify automotive paint types and list the characteristics of each one.
- 5.5 Identify, prepare, use and clean spray equipment, including siphon feed, pressure feed, gravity feed, HVLP and other low VOC equipment.
- 5.6 Discuss the use and maintenance of spray booths.
- 5.7 Measure and prepare automotive paints.
- 5.8 Apply automotive paints, including acrylic enamel, acrylic lacquer, polyurethane enamel and alkyd enamel.
- 5.9 Identify paint defects, including causes and cures.
- 5.10 Determine the need for and perform detailing, cleaning and polishing.