



# Classic Car Restoration Technology



This comprehensive program focuses on engine and drive train restoration, ignition, fuel and exhaust systems, metalworking, upholstery and trim restoration, welding, damage repair, suspension and chassis restoration, painting and refinishing. Students are prepared for entry level positions as restoration technician, auto body/collision repair and refinishing technician, fabricator, service writer, service and parts manager, service manager, specialty shop technician, repair business owner and welder.

<u>Course</u>	<u>Course Title</u>	<u>Clock Hours</u>	<u>Weeks</u>	<u>Quarter Credit Hours</u>
RES-101	Restoration Fundamentals	150	6	9.00
RES-102	Metalworking I and Welding	150	6	8.50
RES-103	Metalworking II	150	6	8.50
RES-104	Nonstructural Repair	150	6	8.50
RES-105	Paint and Refinish I	150	6	9.00
RES-106	Paint and Refinish II	150	6	8.50
RES-107	Engine & Drive Train	150	6	8.50
RES-108	Electrical	150	6	9.00
RES-109	Frame and Drive Train	150	6	9.00
RES-110	Steering, Suspension and Brakes	150	6	8.50
RES-111	Trim & Upholstery	150	6	8.50
RES-112	Final Assembly	<u>150</u>	<u>6</u>	<u>9.00</u>
		1800	72	104.50

## **RES-101 Restoration Fundamentals**

Students will begin this program by learning about the history and evolution of the automobile. They will be introduced to shop safety and the shop equipment used in a restoration facility. Students will learn the different phases and levels of restoration as well as how to evaluate a vehicle undergoing restoration, research originality and locate required restoration materials.

## **RES-102 Metalworking I and Welding**

Students will be trained in the proper use of structural welding according to industry standards. They will learn about the use of oxy-acetylene heating and cutting techniques, MIG welding, TIG welding, resistance spot welding and plasma arc cutting. Students will be introduced to the identification of metals and the art of steel straightening.

## **RES-103 Metalworking II**

Students will understand metalworking techniques and machinery safety procedures. Students will train on the English wheel, shrinking, stretching, hammer forming, metal finishing, body solder and other techniques for shaping and forming metal for body panel repair on classic automobiles.

## **RES-104 Nonstructural Repair**

### **150 Clock Hours/ 8.50 QCH**

Students will learn to repair, replace, adjust, fit and align sheet metal and similar body components on classic vehicles. Students will be introduced to nonstructural damage repair to the body of classic vehicles using various methods. Students will also learn the proper techniques to repair plastics, fiberglass and composite materials to industry standards.

## **RES-105 Paint & Refinish I**

### **150 Clock Hours/ 9.00 QCH**

Students will be introduced to the proper safety and equipment for painting and refinishing. They will learn the different types of spray guns, technical terminology, paint mixing, spraying and storage area preparations, fundamentals of painting and refinishing, determining types of paints, primers and corrosion protection methods.



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## **RES-106 Paint & Refinish II**

Students will learn about paint application, material thickness, application of single stage, basecoat/clearcoat and enamel. Students will also learn the maintenance of paint equipment, color matching, effects of spray methods on color, refinishing problems/ defects and exterior detailing.

## **RES-107 Engine & Drive Train**

Students will be trained in the basics of automotive engine restoration. They will learn the principles of basic engines and related systems, disassembly procedures, diagnosis of mechanical malfunctions, evaluating engine conditions and engine rebuilding techniques.

## **RES-108 Electrical**

Students will be introduced to the fundamentals of electricity and learn about utilizing Ohm's Law, as well as how to read schematics, understanding both terms and symbols. They will then be trained in the proper use of DVOM's and how to take proper readings. Battery composition and service will be covered, followed by the inspection, diagnosis, repair and restoration of starting, charging, ignition systems and lighting systems.

## **RES-109 Frame and Drive Train**

Students will learn the appropriate condition analysis and repair techniques for unibody and full frame vehicles. Students will learn procedures for measuring, pulling and repairing vehicles to factory specifications. They will also learn how to diagnose and evaluate transmissions final drive conditions and differential rebuilding techniques and procedures.

## **RES-110- Steering, Suspension and Brakes**

Principles of operation, inspection, diagnosis, repair and restoration of chassis, steering and suspension systems are the basis for this course. Students will learn types of suspension, steering linkage, drum brake and disc brake systems. Students will also become proficient in the use tire and wheel balancing equipment.

## **RES-111- Trim and Upholstery**

Students will learn the fundamentals of automotive trim and upholstery restoration. They will learn the techniques, tools and materials to restore and install seats, side panels, carpets, other interior trim related components and convertible tops on classic vehicles.

## **RES-112- Final Assembly**

Students will train on the assembly of restored automotive components for final delivery. They will learn how to restore stainless steel moldings and brass parts, wood graining, pin striping, and other fine detailed processes of restoring classic vehicles. Students will learn standards for vehicle delivery, as well as proper safety inspections, road testing, final tuning and cleanup.

Courses applicable to both Diploma or Associate of Applied Science Degree Programs