



Engineering Program

Specialization	Automobile Maintenance
Course Number	20211241
Course Title	Painting and body repair workshop
Credit Hours	2
Theoretical Hours	0
Practical Hours	6



Brief Course Description:

Theory:

Paint types and components, sand techniques, preparing bar metal for painting, use of primers, masking techniques, painting equipments, paint types.

Types of welding, electric- arc welding, MIG welding, oxy-acetylene welding, basic chassis, car body maintenance equipments.

Course Objectives:

Upon the completion of this course, the student will be able to:

1. Explain and describe the painting process.
2. Classify the painting methods and paint materials.
3. Explain and describe the bar metal preparation.
4. Explain and describe the body repair process.
5. Explain and describe the chassis repair and alignment process.



Detailed Course Outline:

Unit Number	Unit Title	Unit Content	Time Needed
1.	Introduction for painting	<ul style="list-style-type: none"> ▪ Paint identification ▪ Paint usage ▪ Painting importance ▪ Painting equipments and materials 	
2.	Paint techniques	<ul style="list-style-type: none"> ▪ Main painting methods ▪ Coating layers ▪ Bar metal preparation (sanding, grinding, sandblasting.....etc) ▪ Paint preparation ▪ Color choosing ▪ Painting process 	
3.	Painting finishing	<ul style="list-style-type: none"> ▪ Color matching ▪ Polishing ▪ Retouch ▪ Quality testing 	
4.	Paint problems	<ul style="list-style-type: none"> ▪ Bleeding ▪ Blistering ▪ Chipping ▪ Blushing ▪ Chalking ▪ Chemical straining ▪ Cracking ▪ crazing 	
5.	Welding	<ul style="list-style-type: none"> ▪ Types of welding ▪ MIG welding ▪ Oxi-acetylene welding ▪ Spot welding 	
6.	Introduction for body repair	<ul style="list-style-type: none"> ▪ Vehicle exterior components ▪ Body damage classifications ▪ Body damage estimation ▪ The body shop tools and equipments ▪ Vehicle body repair techniques ▪ Vehicle chassis repair techniques 	

7.	Body repair	<ul style="list-style-type: none">▪ Doors and glass▪ Trim and accessories▪ Exterior lights and molding and emblem removal and installation▪ Light damage repair▪ Medium damage repair▪ Roof panel	
8.	Chassis repair	<ul style="list-style-type: none">▪ Chassis dimensions measurements▪ Car – o – liner▪ Ciliate bench▪ Jig rail▪ Chassis repair techniques	

Practical

Brief Course Description:

Old paint removal, sanding, preparing bar metal for painting, preparing the paint, painting, polishing, applications in different types of welding (electric arc, MIG, oxy-acetylene) , change or reform the side doors, replace the windshield glass, chassis reforming

Course Objectives:

Upon the completion of this course, the student will be able to:

1. Preparing and mixing the paint.
2. Prepare the bar metal for painting.
3. Painting the car by using paint spray booth.
4. Repair light vehicles body damages.
5. Make chassis alignment.



Detailed Course Outline:

	Unit Title	Unit Content	Time Needed
	Painting basics	<ul style="list-style-type: none">Painting tools and equipmentsPaint materials	6 hrs
	Painting techniques	<ul style="list-style-type: none">Spray gunBar metal preparationPainting process	15 hrs
	Painting finishing	<ul style="list-style-type: none">PolishingPaint testing	6 hrs
	Paint problems	<ul style="list-style-type: none">Paint repair	9 hrs
	welding	<ul style="list-style-type: none">MIG weldingOxi-acetylene weldingSpot welding	12 hrs
	Body repair basics	<ul style="list-style-type: none">Body shop tools and equipments	3 hrs
	Body repair	<ul style="list-style-type: none">Remove and install body partsLight damage repairMedium damage repair	15 hrs
	Chassis repair	<ul style="list-style-type: none">Chassis alignmentLight chassis repair	12 hrs

References & Text Book

1. The Korea chamber of commerce and industry publishers.

