Program : **Diploma in Automobile Engineering**	
Course Code : **6059C**	Course Title: **Vehicle Body Reconditioning lab**
Semester : **6**	Credits: **1.5**
Course Category: **Program Elective**	
Periods per week: **3 (L:0, T:0, P:3)**	Periods per semester: **45**

Course Objectives:

- To provide the required level of knowledge and practice in vehicle body repair.
- To outline the procedures related to vehicle body, demonstrate vehicle body refinishing work and know the different tools/ equipment for carrying out the work.

Course Prerequisites:

Topic	Course code	Course name	Semester
Vehicle body repair		Vehicle Body Engineering	6

Course Outcomes:

On completion of the course, the student will be able to:

COn	Description	Duration (Hours)	Cognitive level
CO1	Identify the use of specific tools in vehicle body repair shop and body panels	10	Applying
CO2	Utilize minor body repair	9	Applying
CO3	Organize major body repair	12	Applying
CO4	Utilize finishing process	11	Applying
	Lab Exam	3	

CO – PO Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3			2			
CO2	3						
CO3	3			2		2	2
CO4	3			2		2	2

3-Strongly mapped, 2-Moderately mapped, 1-Weakly mapped

Course Outline:

Module Outcomes	Description	Duration (Hours)	Cognitive Level
CO1	**Identify the use of specific tools in vehicle body repair shop and body panels**		
M1.01	Apply the knowledge of safety practices in vehicle body shop	1	Applying
M1.02	Identify specific tools	1	Applying
M1.03	Make use of vehicle damage measurement tools	1	Applying
M1.04	Apply removing and refitting procedure on body panels -doors, floors, fenders, deck lid and hood	3	Applying
M1.05	Plan removal and installation of the windshield after servicing rubber gasket	2	Applying
M1.06	Make use of window actuating mechanism.	2	Applying
CO2	**Utilize minor body repair**		
M2.01	Demonstrate the basic body repair sequence.	2	Understanding
M2.03	Apply sheet metal straightening techniques	2	Applying
M2.04	Apply the principle of shrinking (relive stress).	3	Applying
M2.05	Make use of application fillers on vehicle body	2	Applying
	Lab Exam – I	1.5	
CO3	**Organize major body repair**		
M3.01	Make use of g gauge measuring system for alignment checking (tram gauges and centering gauge)	3	Applying

M3.02	Make use of universal measuring and computerized measuring system for alignment checking.	2	Applying
M3.03	Utilize e body dimensioning to identify damages on front body, side panel and rear body (using tram bar and measuring tape)	3	Applying
M3.04	Identify different body damages (twist, diamond, crushing, sag and side way)	2	Applying
M3.05	Demonstrate frame straightening equipment	2	Understanding
CO4	**Utilize finishing process**		
M4.01	Plan demonstration of vehicle body painting procedure	2	Understanding
M4.02	Utilize pre- paint preparation steps –mixing and applying body filler, sanding(block), masking and buffing	3	Applying
M4.03	Experiment with spray paint guns(Demonstration - how to disassemble, assemble and clean)	2	Applying
M4.04	Make use of spray painting gun.	4	Applying
	Open ended projects**		Applying
	Lab Exam – II	1.5	

** - Suggested Open Ended Projects

(Not for End Semester Examination but compulsory to be included in Continuous Internal Evaluation. Students can do open ended experiments as a group of 2-3. There is no duplication in experiments between groups. Open ended experiments should include the concepts of arrays, functions and structures)

1. Identify vehicle damage and repair needs
2. Utilize hood latch adjustment.
3. Identify common automotive plastics

Text / Reference:

T/R	Book Title/Author
T1	James E. Duffy – Auto-body Repair Technology
R1	Dennis W. Parks – The complete guide to Auto- body Repair
R2	W. A. Livesey R Robinson – The repair of vehicle bodies
R3	Anil Chhikkara – Automobile Engineering Vol. V (Paint Technology)
R4	Powloski J – Vehicle Body Engineering

Online Resources:

Sl.No	Website Link
1	https://www.youtube.com/watch?v=zSKtwgX8wpc
2	https://www.youtube.com/watch?v=ZPeB4LWV0Vs
3	https://www.youtube.com/watch?v=YmOpr2NmCyk
4	https://www.youtube.com/watch?v=vOmB0yzJ0m8