

INSERT DISTRICT NAME

AUTO BODY REPAIR I and II

CBEDS Codes: 5663

JOB TITLES

Auto Body Painter
Auto Body Repairer

DOT NO.

845.381.014
807.381.030

Course description:

Auto Body Repair I: This course is designed to offer students an opportunity to experience the fundamental procedures and operations involved in the repair and maintenance of automobile bodies, including paint and upholstery.

Auto Body Repair II: This course is designed to provide students the opportunity to obtain apprentice level skills in auto body repair and painting. Student's will be able to finish a roughed-out" metal dent, match original contour, remove and replace bolt & weld panels, assure proper alignment, replace door assemblies, weld and fill plastic seams as necessary. Student's will forge weld torn or ripped auto metal/plastic panels, upholstery, glass, trim and weather-strip or electrical. Align headlamps, spot paint or completely paint, use paint equipment, sand, mask, paint and detail finished product.

Recommended Prerequisites: None

DURATION: up to 360 total hours (for each course)

CREDIT: 5-10 Units/Semester per course

RECOMMENDED GRADE LEVEL: 11-12, Adult

MEETS GRADUATION REQUIREMENTS IN: MEETS UNIVERSITY OF CALIFORNIA ENTRANCE

REQUIREMENTS: No

MEETS CALIFORNIA STATE UNIVERSITY REQUIREMENTS: No

Instructional Content

Instruction will include:

Student Outcomes

At the end of instruction, the student will be able to:

Hours

CL=Classroom
CC=Comm. Class.

1. Auto Body Orientation: 1. Review desirable personal traits. 2. Review skills needed for employment in field. 3. Review possible careers in field. 4. Employment outlook within the automotive field. 5. Visit a local automotive firm and observe employees at work. 6. Explore areas or levels of education in which opportunities are available in automotive technology. 7. Review "Help Wanted" columns in the daily newspaper for a week. 8. Review the role of small engine mechanic in industry.	Goal: The student will understand career pathways and strategies for obtaining employment in their chosen fields. A. Identify personal traits (strengths, values and weaknesses). B. Demonstrate an understanding of the role of an auto body repair mechanic in industry. C. Visit a local auto body repair business and observe employees at work. D. Explore higher education as it pertains to the Automotive industry.	CTE	Anchor/ CR 3.0-3.9 5.4 7.0- 7.8 8.0- 8.7 9.0- 9.7 11.2 CR 3 and 11	CL- I On-going	CC	CL- II On-going	CC:
2. Safety and shop practices 1. Review district's safety program 2. Administer shop safety tests and explain shop safety. 3. Appropriate site maintenance practices, and appropriate storing and stacking of materials.	Goal: The student will demonstrate safe personal skills and the safe operation of equipment avoiding injury and financial loss. A. Satisfactorily complete the district's safety program. B. Passes shop safety tests and demonstrate shop safety. C. Follow cleanup and storage procedures.	B1.0- B1.6 B2.0 B2.2	6.0-6.7 5.2 5.4 7.7 7.2 8.0-8.7 CR 7,5, and 11	15		On-going	
3. Tools 1. Proper and safe use of power and hand tools used to perform specific jobs.	Goal: The student will identify and select the proper tool for a specific application A. Identify hand and power tools by their proper names and explain their proper use. B. Identify and correctly use special body repair tools as specified. <ul style="list-style-type: none"> • Body Hammers • Dolly Blocks • Spall Irons • Body Files • Driving tools, etc. 	B2.0- B2.2	6.3 10.1 7.7 5.4 11.1 11.2 CR 1,2,5, and 11			On-going	
4. Welding 1. Review welding materials 2. Discuss wire size and amperage 3. Demonstrate weld type 4. Define gas pressures 5. Demonstrate welding/spot welding 6. Demonstrate heating metal-cutting sheet metal. 7. Demonstrate resistance welding 8. Demonstrate aluminum welding	Goal: The student will understand welding procedures, protection of sensitive components, and weld selection. A. Identify welding materials B. Select the correct wire size, amperage and weld type C. Adjust gas pressures D. Determine lines of fusion E. Demonstrate rod plasma torch F. Demonstrate heating metal – cutting sheet metal.	C4.0- C4.3 B3.3 B7.3	4.3 5.0-5.4 6.0-6.7 11.11,2 CR 1,5 and 11	10		45	

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5. Unibody Inspection, Measurement and Repair 1. Measurement 2. Repair of damaged components of an automobile. 3. Use of manufacturer specifications manual to complete work.	Goal: The student will understand inspection, measurement and repair procedures for unibody construction as required by I-CAR. A. Measure damaged vehicles. B. Compare measurements to specifications. C. Repair damaged components D. Align openings to specifications of I-CAR and the manufacturer	CTE B2.1 B3.0- B3.4 B5.0- B5.3 B7.0- B7.6	Anchor/ CR 5.0-B.4 6.3 6.6 7.4 8.1 11.1 2.3 11.2 10.0- 10.4 CR 1,2,4, 5 and 11	CL-I 5	CC	CL-II	CC
6. Outer-Body Panel Repairs 1. Discuss major body panels of an automobile. 2. Proper removal, repair and replacement of body panels 3. Identify manufacturer specifications	Goal: The student will understand techniques used in outer-body panel repairs, replacements, and adjustments. A. Identify major body panels of an automobile. B. Remove, repair and replace steel and aluminum body panels Top Panels Hood Panels Rocker Panels Door Panels Quarter Panels Cowl Panels Fender Panels Deck Lid Panels C. Demonstrate proper manufacturer specifications to complete job.	B7.0- B7.6 B5.0- B5.3 B2.1	5.0-5.4 10.0- 10.4 11.1 11.2 6.6 7.4 CR 1,5, and 11	5		60	
7. Hardware and Trim	Goal: The students will understand diagnostic and repair procedures for hardware and trim. A. Removal and repair of common trim fasteners and retainers B. Removal and repair of door trim panels C. Removal and replacement of door handles and cylinder locks.	B7.2 B2.1	5.0-5.4 10.0- 10.4 11.0- 11.2 6.6 7.4 CR 1,5, 11 and 4	10		30	
8. Metal finishing 1. Basic metal straightening 2. Metal finishing 3. Dollying 4. Rough-out procedures 5. Metal shrinking 6. Power fender grinders	Goal: The student will understand the techniques of metal finishing. A. Demonstrate body repair hammering B. Demonstrate picking methods C. Demonstrate filling techniques D. Demonstrate dollying techniques E. Demonstrate production metal finishing F. Demonstrate rough out procedures G. Demonstrate metal straightening H. Demonstrate metal forging I. Identify sheet metal that is stretched J. Identify the causes stretched metal	B7.4 B7.5 B7.6 B2.1	5.0-5.4 10.0- 10.4 11.0- 11.2 6.6 7.4 CR 1,5, 11 and 4	25		50	

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9. Heat Shrinking	Goal: The student will understand the process of heat shrinking	CTE	Anchor/CR	CL-I	CC	CL-II	CC
1. Demonstrate oxy-occ shrinking 2. Demonstrate friction shrinking 3. Demonstrate resistance shrinking	A. Identify tools, equipment and material necessary for hot shrinking. B. Identify steps for hot shrinking C. Demonstrate satisfactory results in hot shrinking. D. Demonstrate grinding techniques	B4.1 B3.3 B2.4	5.0-5.4 10.0-10.4 11.0-11.2 6.6 7.4 CR 1,5, 11 and 4	10		30	
10. Metal Filling 1. Surface preparation and application 2. Finishing procedures 3. Clean-up and storage of materials in accordance to industry standards	Goal: The student will understand the techniques of metal filling. A. Prepare surface B. Perform application and clean-up C. Perform finishing procedures		3.0-3.9 5.4 7.0- 7.8 8.0- 8.7 9.0- 9.7 11.2 CR 1,5, 11 and 4	10		50	
11. Moveable Glass and Hardware 1. Power accessories 2. Window glass and hardware 3. Industry standards as they pertain to moveable glass and hardware 4. Glass as it pertains to in structural integrity of a vehicle.	Goal: The student will understand diagnostic and repair procedures for moveable glass and hardware. A. Inspect, adjust and repair or replace all power accessories, window glass and hardware in accordance with industry standards. B. Explain the importance of glass to the structural integrity of a vehicle.	B7.2	5.0-5.4 10.0-10.4 11.0-11.2 6.6 7.4 CR 1,5, 11 and 4	10		30	
12. Preparation of Surfaces and Refinishing 1. Removal of paint. 2. Surface preparation. 3. Manufacturer's specifications. 4. Surface Evaluation.	Goal: Students will understand paint-removal techniques. A. Remove paint chemically and mechanically. B. Prepare surface for refinishing. C. Demonstrate manufacturer's specifications.	B7.4 B9.0 B9.2 B1.4 B2.1	5.0-5.4 10.0-10.4 10.4 11.0-11.2 6.0 6.7 7.4 CR 1,5, 11 and 4	10		20	
13. Paint Mixing & the Operation of Paint Guns 1. Color-matching. 2. Color mixing. 3. Application of paint. 4. Proper operation of paint gun. 5. Spray Paint patterns.	Goal: The student will understand paint matching, paint mixing, and paint-gun operations A. Demonstrate color-match, mix, reduce and apply paint. B. Use proper air pressure C. Demonstrate spray patterns	B9.0 B9.5 B1.4 B7.4	5.0-5.4 10.0-10.4 11.0-11.2 6.0-6.7 7.4 4.1-4.3 CR 1,4,5,11	20		30	

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<p>14. Paint Application and Finish Defects 1. Paint application problems. 2. Repair and repaint in accordance with I-CAR and industry standards.</p>	<p>Goal: The student will understand the cause-and-effect relationship between paint and surface blemishes. A. Inspection of paint problems. B. Identification of paint problems. C. Repair or repaint following I-CAR and industry standards.</p>	<p>CTE B9.6 B9.3 B9.4</p>	<p>Anchor/ CR 4.1-4.3 5.0-5.4 11.0-11.2 6.0-6.7 7.4 4.1-4.3 CR 1,5, 11 and 4</p>	<p>CL-I 20</p>	<p>CC</p>	<p>CL-II 30</p>	
<p>15. Analyzing Mechanical, Electrical, Electronic Components 1. Demonstrate Drive train Repairs. 2. Discuss Suspension & Steering systems. 3. Identify Brake Systems. 4. Discuss Cooling Systems. 5. Identify Air conditioning and heater. 6. Define Emission control systems. 7. Demonstrate Electrical problems.</p>	<p>Goal: The students will understand basic auto mechanics as it applies to Auto Body Repair A. Inspect and replace damaged components of a drive train. B. Demonstrate knowledge of Suspension and Steering Systems. C. Steering systems. D. Identify Brake Systems E. Identify Cooling Systems F. Identify Air Conditioning and Heater. G. Define Emission Control Systems. H. Knowledge of Electrical problems.</p>	<p>B8.0 B8.6 B7.4</p>	<p>4.1-4.3 5.0-5.4 10.0-10.4 11.0-11.2 6.0-6.7 7.4 CR 1,5, 11 and 4</p>	<p>10</p>		<p>20</p>	