



**(Auto Collision Technology)**

**Program of Study Scope & Sequence  
with  
Certification Outcomes**

**(47-0603)**

<b>Task #</b>	<b>Task Description</b>	<b>Level/ Marking Pd</b>	<b>Career Path CIP/Soc  (Construction Trades)  19.9999</b>	<b>Career Path CIP/Soc  (Masonry)  46.0101</b>	<b>Career Path CIP/Soc  (Enter Here)</b>	<b>Certification to test for  (Enter Title Here)</b>
101	Safety when using hand tools	1.1	X	X		
102	Use of personal safety devices and clothing.	1.1				
103	Locate and identify fire extinguishers.	1.1				
104	Locate and operate emergency switches.	1.1				
105	Explain fire and tornado drill procedures.	1.1				
106	Demonstrate proper handling of hazardous materials.	1.1				
107	Follow proper chemical disposal techniques.	1.1				
108	Operate shop and spray area ventilation systems.	1.1				

109	Follow rules for care and safe use of hand tools.	1.1				
110	Demonstrate safe and proper use of power tools and equipment.	1.1				
111	Identify the proper methods and options for safely moving vehicles in the shop area.	1.1				
112	Identify information on Safety Data Sheets (SDS).	1.1				
	S/P2 Safety and Pollution Prevention / S/P2 Automotive					Certificates
200	VEHICLE DESIGN AND CONSTRUCTION	2.1				
201	Identify the differences between various vehicle construction types.	2.1				
202	Identify and describe structural and nonstructural panels of a unibody vehicle.	2.1				
203	Determine the various materials used in vehicle construction.	2.1				
	Intro to Tools, Equipment and Attachment Methods I-CAR					
300	Panel Replacement and Alignment					
301	Identify the principles of full or partial panel replacement (bonded, bolted, welded, or riveted).	2.2				
302	Remove, reinstall, and align the bolt on panels.	2.2				
303	Remove and reinstall wheel/tire assembly.	2.2				

304	Aim headlights using mechanical aiming equipment.	2.2				
305	RESERVED					
	Bolted-on Exterior Panels Parts 1 & 2, INTRO TO Vehicle Parts 1 & 2, I-CAR					Certificates
400	Trim and Hardware	2.3				
401	RESERVED					
402	Determine types of fasteners.	2.3				
403	Remove and replace adhesive-held molding and trim.	2.3				
404	Remove and install seats.	2.3				
405	RESERVED					
406	Remove and install interior parts and hardware.	2.3				
407	Remove and install exterior parts and hardware.	2.3				
408	Remove and install exterior trim, moldings, and emblems.	2.3				
	Removing and Installing Hardware and Interior Trim, I-CAR					Certificates
500	Metal Finishing					
501	Select proper metal straightening tools.	1.1				
502	Evaluate stretched metal for repair.	1.1				
503	Demonstrate weld-on nail gun to repair sheet metal.	1.1				
504	Repair metal to meet industry standards.	1.1				

505	Explain the characteristics of aluminum repair and tools required.	1.1				
600	Body Fillers					
601	Select correct body filler and tools.	1.1				
602	Prepare surface for body filler.	1.1				
603	Mix and apply body filler.	1.1				
604	Sand body fillers to correct contour.	1.1				
700	Glass and Hardware	2.1				
701	Remove and reinstall a door window regulator.	2.1				
702	Remove and reinstall moveable door glass.	2.1				
703	Describe the removal and replacement of stationary glass.	2.1				
800	Structural Component Repair and Damage Analysis					
801	Classify the various types of structural damage a vehicle can sustain.	3.1				
802	Interpret body dimension specifications.	3.1				
803	Use a tram gauge to diagnose vehicle length and width damage and X measurements of body or frame.	3.1				

804	Diagnose vehicle height with datum line gauges.	3.1				
805	Identify various measuring systems.	3.1				
806	Identify repair methods for vehicles with diamond damage, twist, sag side swag, or mash.	3.1				
	Intro to Vehicle Construction, I-CAR					Certificates
900	Structural Straightening					
901	Mount and anchor vehicle to a pulling system.	3.2				
902	Measure vehicle structure and analyze data.	3.2				
903	Interpret data to make a structural pull back to factory specs.	3.2				
1000	Corrosion Protection					
1001	Identify corrosion causes and OEM corrosion protection.	1.3				
1002	Apply repair methods for corrosion protection.	1.3				
1003	RESERVED					
1004	Demonstrate the application of seam sealers.	1.3				
	I-CAR Various Levels					Certificates
1100	Welding					
1101	Identify different methods of attaching components (MIG welding, squeeze type resistance spot welding (STRSW), structural adhesive, silicon bronze, etc.)	1.2-1.4				

1102	Demonstrate personal safety practices.	1.3-1.4				
1103	Set up and tune the MIG welder.	1.3-1.4				
1104	Complete a butt joint with backing in various welding positions.	1.3-1.4				
1105	Complete an overlap weld in various positions.	1.3-1.4				
1106	Complete a plug weld in various positions.	1.3-1.4				
1107	Define protection of adjacent panels, glass, vehicle interior, etc. from welding and cutting operations.	1.3-1.4				
1200	Cutting Processes					
1201	Identify cutting processes.	1.3				
1202	Demonstrate sheet metal cutting processes.	1.3				
1300	Refinishing and Equipment Safety					
1301	Explain various environmental regulations.	1.2				
1302	Locate hazardous warning information.	1.2				
1303	Select and inspect personal protection equipment (PPE).	1.2				
1304	Demonstrate safe painting practices.	1.2				
1305	Identify personal health and safety hazards.	1.2				
1400	Automotive Finishes					

1401	Describe the difference between paint systems (water borne, solvent, multi-stage).	1.2				
1402	Describe causes and cures of paint defects.	1.2				
1403	Identify various undercoats.	1.2				
1404	Identify various topcoats (single stage, basecoat/clearcoat, tricoat, quadcoat).	1.2				
1500	Surface Preparation	1.2				
1501	Demonstrate proper steps to pre-wash the entire vehicle.	1.2				
1502	Use wax and grease remover.	1.1				
1503	Demonstrate proper use of sanding and feather edging techniques.	1.2				
1504	Wet, sand, and featheredge.	1.2				
1505	RESERVED					
1506	Locate and obtain the vehicle paint code.	1.3				
1507	Apply undercoats.	1.2				
1508	Prepare panels for blending.	1.3				
1509	RESERVED					
1510	Identify masking materials.	1.3				
1511	Perform masking.	1.3				
1512	Select the appropriate abrasive.	1.2				
	Surface Preparation and Masking, I-CAR					Certificate

1600	Refinishing Equipment and Paint Area	1.2				
1601	Operate the spray booth.	1.2				
1602	Maintain the paint mixing area.	1.2				
1603	Set up, test, and adjust spray guns.	1.2				
1604	Inspect, clean, and determine conditions of spray guns and equipment.	1.2				
1605	Select and use the National Institution of Safety and Health (NIOSH) approved personal painting/refinishing respirator system.	1.2				
	Refinishing Equipment, Hazardous Material Storage & Disposal, Hazardous Airborne Pollutant Reduction, I-CAR					Certificate
1700	Refinishing Operations	1.3				
1701	Prepare surface for topcoat system (degrease and tack).	1.3				
1702	Apply primer-sealer.	1.3				
1703	Apply single-stage finish.	1.3				
1704	Apply basecoat/clearcoat finish.	1.3				
1705	Describe the application of stone chip-resistant coating to lower body areas.	1.3				
1706	Demonstrate paint manufacturer's mixing ratio when preparing paint products.	1.3				
	Intro to Refinishing and Corrosion Protection Parts 1 & 2					Certificate
1800	Blending Operations					



1801	RESERVED					
1802	Blend basecoat/clearcoat finish.	1.3				
1803	Tint and blend color coat.	1.3				
1900	Detailing					
1901	Remove overspray.	3.1				
1902	Clean exterior of vehicle.	3.1				
1903	Clean interior of vehicle.	3.1				
1904	Apply decals and stripes.	3.1				
1905	Demonstrate color sanding and polishing techniques.	3.1				
1906	Clean body openings.	3.1				
1907	Clean exterior and interior glass surfaces.	3.1				
2000	Estimating Damage Analysis					
2001	Identify vehicles by vehicle identification number (VIN).	3.3				
2002	Collect vehicle and customer data.	3.3				
2003	Use collision estimating guides/estimating software.	3.3				
2004	Identify different types of vehicle damage (direct and indirect).	3.3				
2005	Indicate repair and replace decisions.	3.3				

2006	Prepare an estimate/repair and sequence/calculate repair costs/supplements.	3.3				
2007	Explain the need for a pre-repair scan and post-repair scan of the vehicle computer.	3.3				
2100	Plastic Repair					
2101	Identify plastic to make repair decisions.	3.2				
2102	Use plastic repair methods (adhesives and welding).	3.2				
2103	Repair plastics with two-part adhesives, with and without reinforcement.	3.2				
2104	Research recommended repair processes for bumper cover repair on Advanced Driver Assistance System (ADAS) vehicles.	3.2				
2200	Restraint Systems					
2201	Research auto manufacturers' recommended safety procedures to prevent accidental deployment of supplemental restraint systems.	2.3				
2202	Identify supplemental restraint systems.	2.3				
2203	Remove and reinstall seat belt components.	2.3				
2300	Advanced Technology					
2301	Explain function and components of the Advanced Driver Assistance System (ADAS).	3.3				

2302	Describe precautions required when working on high voltage vehicles.	3.3				